

Air Force Civil Engineer Center



Draft Final Decision Document

**No Further Response Action
Planned at Rifle Range and No
Further Action Area Munitions
Response Sites at the
Otis Gun Club Munitions
Response Area**

**Joint Base Cape Cod
Cleanup Team Meeting**

13 Nov 2024



Overview



- **Background**
 - **Otis Gun Club Munitions Response Area (MRA)**
- **Investigation/Results**
- **Proposed No Further Response Action Planned (NFRAP) Decision**



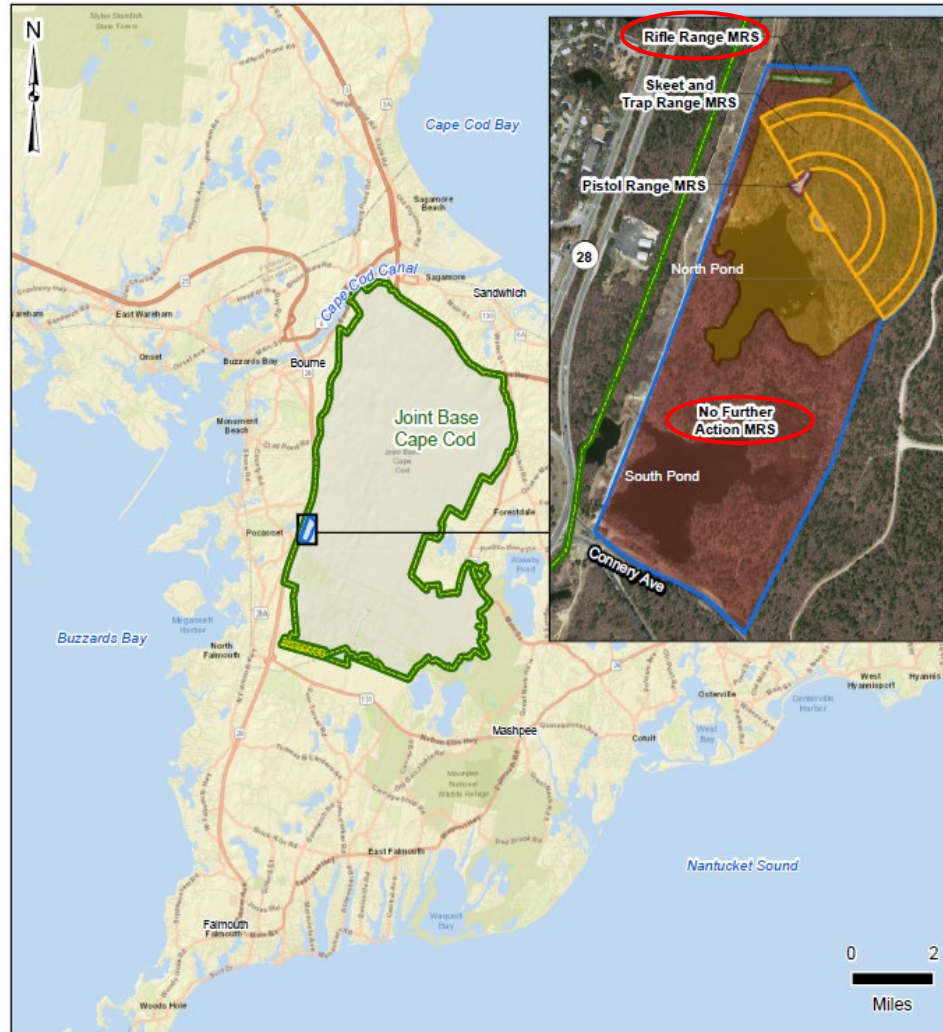
Otis Gun Club

Munitions Response Area (MRA)










- Located at western edge of JBCC near the Otis Rotary
- Started operation in 1950s by the Air Force for recreation
- Closed in 1972 and re-started in 1975 by Otis Fish and Game Club (private club)
 - Skeet and Trap Range
 - Pistol Range
 - Rifle Range
- Periodically operated until 2005
 - Lead shot use ended in the 1990s

Site Location



Legend

-  Installation Boundary
-  Otis Gun Club MRA Boundary
-  Rifle Range MRS Boundary
-  Pistol Range MRS Boundary
-  Skeet and Trap Range Fan
-  Skeet and Trap Range MRS Boundary
-  No Further Action MRS Boundary

MRA = Munition Response Area
MRS = Munitions Response Site

References
ESRI Street Map, 2016
AFCEC, 2018, Final CSE Phase II Report for
Joint Base Cape Cod, Massachusetts, February.



Otis Gun Club

Munitions Response Area (MRA)



- Otis Gun Club MRA Total Acreage = 78.2 acres
- Divided into four Munitions Response Sites (MRS)
 - Skeet and Trap Range MRS (32.92 acres)
 - Pistol Range MRS (0.17 acres)
 - Rifle Range MRS (0.38 acres)
 - No Further Action (NFA) Area MRS (44.74 acres)
- Subject Decision Document is only for the Rifle Range and NFA Area MRSs
- The Skeet and Trap Range and Pistol Range MRSs are at the RI/FS stage. Proposed Plan to be issued for public comment in 2025.



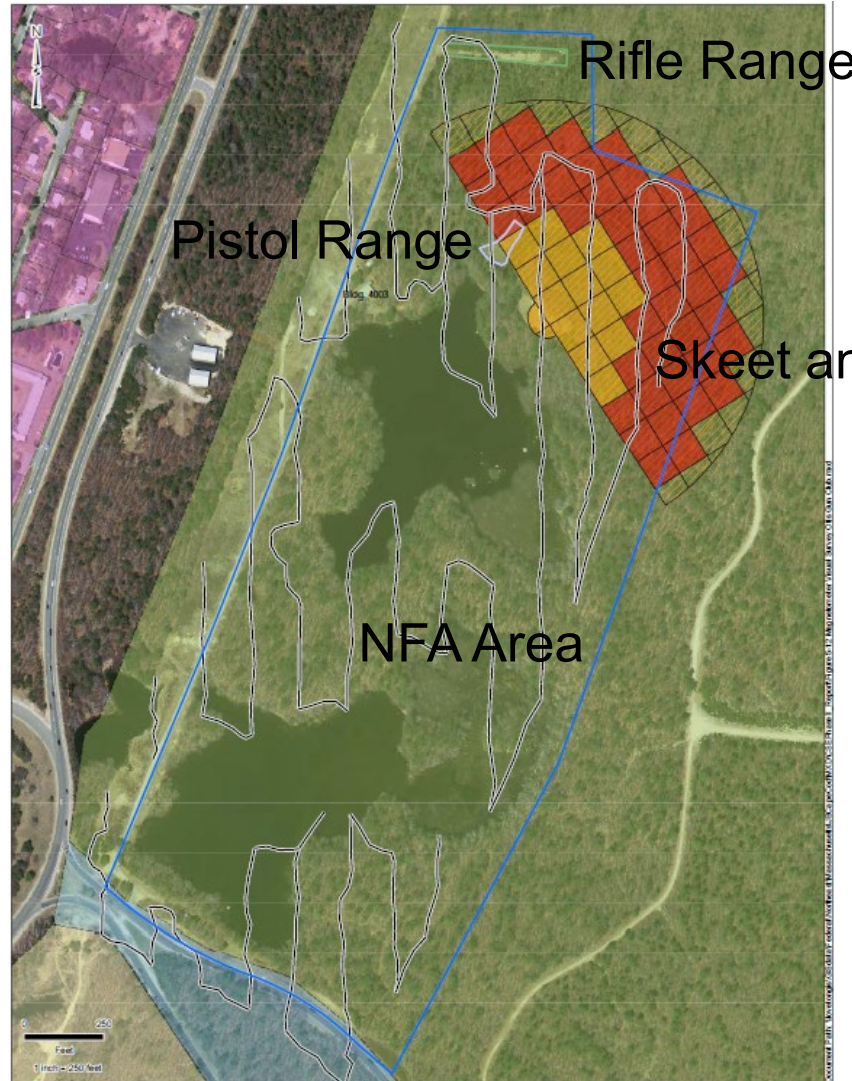
Investigations at Rifle Range and NFA Area MRSs



- Conducted as part of the Comprehensive Site Evaluation Phase II (Feb 2018)
- Magnetometer-Assisted Visual Survey for Munitions and Explosives of Concern (MEC)
 - No evidence of MEC was found
 - Small Arms Ammunition casings found at Rifle Range



Magnetometer-Assisted Survey



Legend

Installation Boundary	Projected PAH fallout zone	MRA Use
Otis Gun Club MIRA Boundary	Projected Lead fallout zone	Air National Guard
Rifle Range	Magnetometer-Assisted Visual Survey Transect	Army National Guard
Pistol Range		Department of Veterans Affairs
Skeet Range		Residential/Commercial

Notes:
1. MRA = Munitions Response Area
2. PAH = Polynuclear Aromatic Hydrocarbon
Service Layer Credits: Aerial Orthorectified - MeasGIS 2009
AFCEC 3D15A - Final CSE Phase II Work Plan for Joint Base Cape Cod, Massachusetts
Parcel data from Office of Geographic Information (MeasGIS), Commonwealth of Massachusetts, MassIT



Investigations at Rifle Range and NFA Area MRSs



- Soil sampling for lead at Rifle Range target area
 - 50' x 50' sampling grid
 - Incremental Sampling (100 increments) from 0-2" deep
 - One native sample with two replicate samples



Investigations at Rifle Range and NFA Area MRSs



- Lead concentrations in all three samples less than EPA Residential Standard and MassDEP S-1 of 200 mg/kg

Table 2 Summary of Lead Results

Analyte	Background	MassDEP S-1	EPA RSL Industrial	EPA RSL Residential ^(a)	74-RR-SS-1000	74-RR-SS-1000A	74-RR-SS-1000B	95% UCL ^(b)
Lead	17	200	800	200	101J	86.3J	98.7J	108.7

(a) EPA Office of Land and Emergency Management Memorandum dated January 17, 2024, recommends EPA regions use a residential soil lead RSL of 200 parts per million (mg/kg).

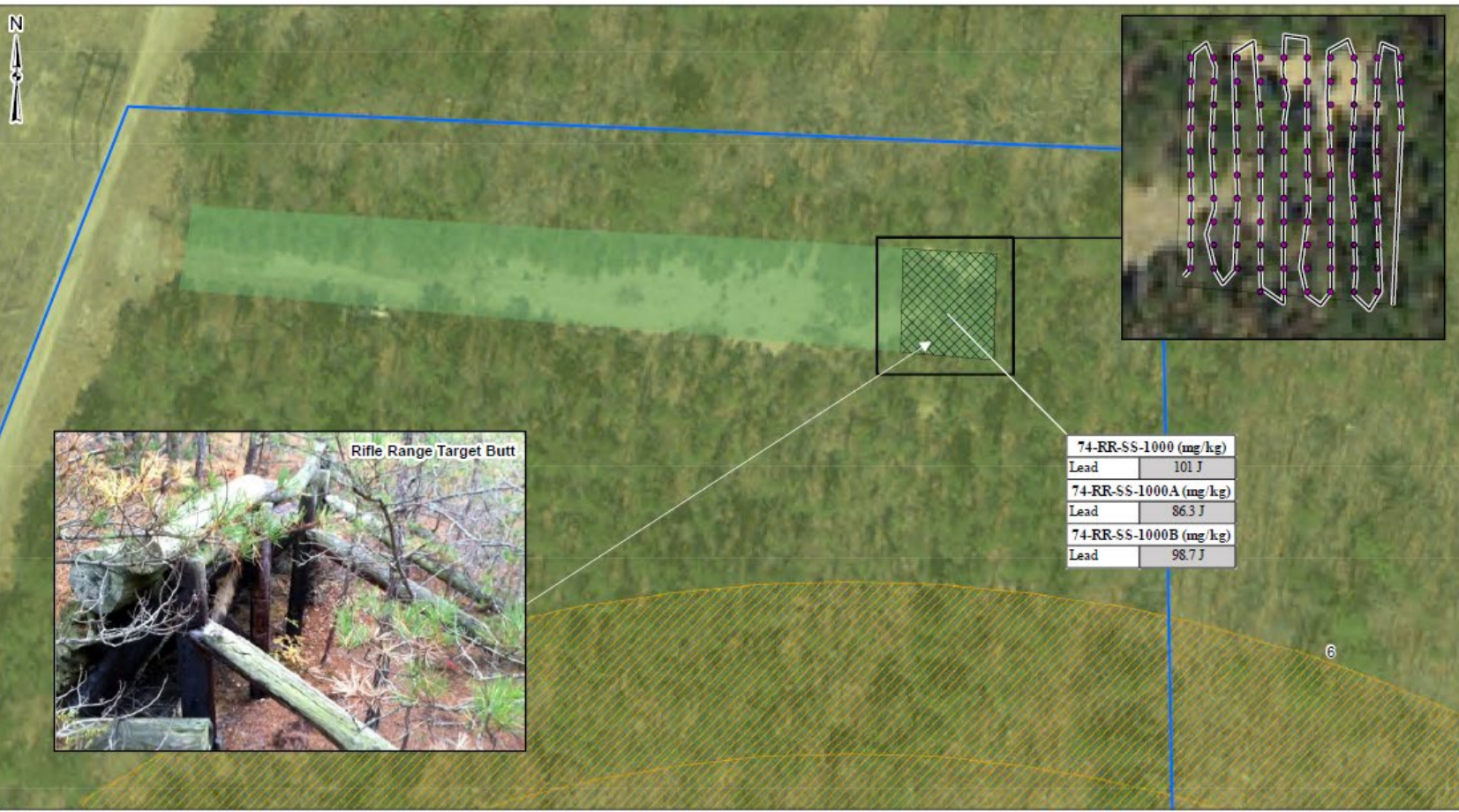
(b) Student's t Upper Confidence Limit (UCL) calculated using *Interstate Technology & Regulatory Council (ITRC) Incremental Sampling Methodology (ISM) Calculator (v. 3.0, August 2020) for Calculating 95% UCL with ISM Data*

Note: All units are mg/kg.

J = estimated

Lead Sampling at Rifle Range

Document Path: \\wvseingis\GIS\air\Federal\Worcester\air\Massachusetts\OC\spc\cod\MXD\Report\Figure 5-1.3B Analyte E.mxd in MMR_009-R-01_OCSC Rifle Range.mxd



Action Levels	
Lead (mg/kg)	
Mass DEP S-1	200
EPA Industrial	800
Background	17

- Notes:
1. Only values exceeding project action levels are provided. All data provided on Table 5-9.
 2. J = Estimated Value
 3. IS = Incremental Sampling
 4. MRA = Munitions Response Area

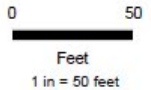
MassDEP MCP Method 1: Soil Category S-1 Standards, 310 CMR 40.0975(6)(a) Table 2, S-1 Soil and GW-1.

EPA Regional Screening Levels (Formerly PRGs): Screening Levels for Chemical Contaminants (updated November 2015).

Background - Air National Guard, 1994, Risk Assessment Handbook. Prepared by Automated Sciences Group, HAZWRAP, and Oak Ridge National Laboratory for the Air National Guard Bureau, Massachusetts Military Reservation, Cape Cod, MA

Values above Background are shaded grey.

Service Layer Credits: Aerial Orthoimagery - MassGIS 2009 AFCEC, 2015A, Final CSE Phase II Work Plan for Joint Base Cape Cod, Massachusetts Parcel data from Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT



Legend

Otis Gun Club MRA Boundary	Investigation Summary	MRA Use
Rifle Range	Sampled Decision Unit with Analyte above Screening Values and Background for Lead	Army National Guard
Skeet Range	Visual Survey Transect	
	IS Increment Locations	

74-RR-SS-1000 (mg/kg)	
Lead	101 J
74-RR-SS-1000A (mg/kg)	
Lead	86.3 J
74-RR-SS-1000B (mg/kg)	
Lead	98.7 J



Proposed No Further Response Action Planned (NFRAP) Decision



- No evidence of MEC
- Munitions Constituent (lead) concentrations do not present a risk to human health or the environment (inclusive of soil and groundwater)
- Rifle Range and NFA Area MRSs can be classified as No Further Response Action Planned
 - No Land Use Controls required
 - Sites can be closed



Questions/Comments

