



## Environmental Restoration Program Naval Air Station Patuxent River



# Restoration Advisory Board Meeting

15 March 2016



# Agenda



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## Introductions

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### Munitions Response Sites

UXO-1 (Historic Munitions Disposal Area)

UXO-2 (Former Small Arms Ranges)

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## Open Discussion

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Future Restoration Advisory Board  
Meeting Dates



# Introductions



- Introduce team members



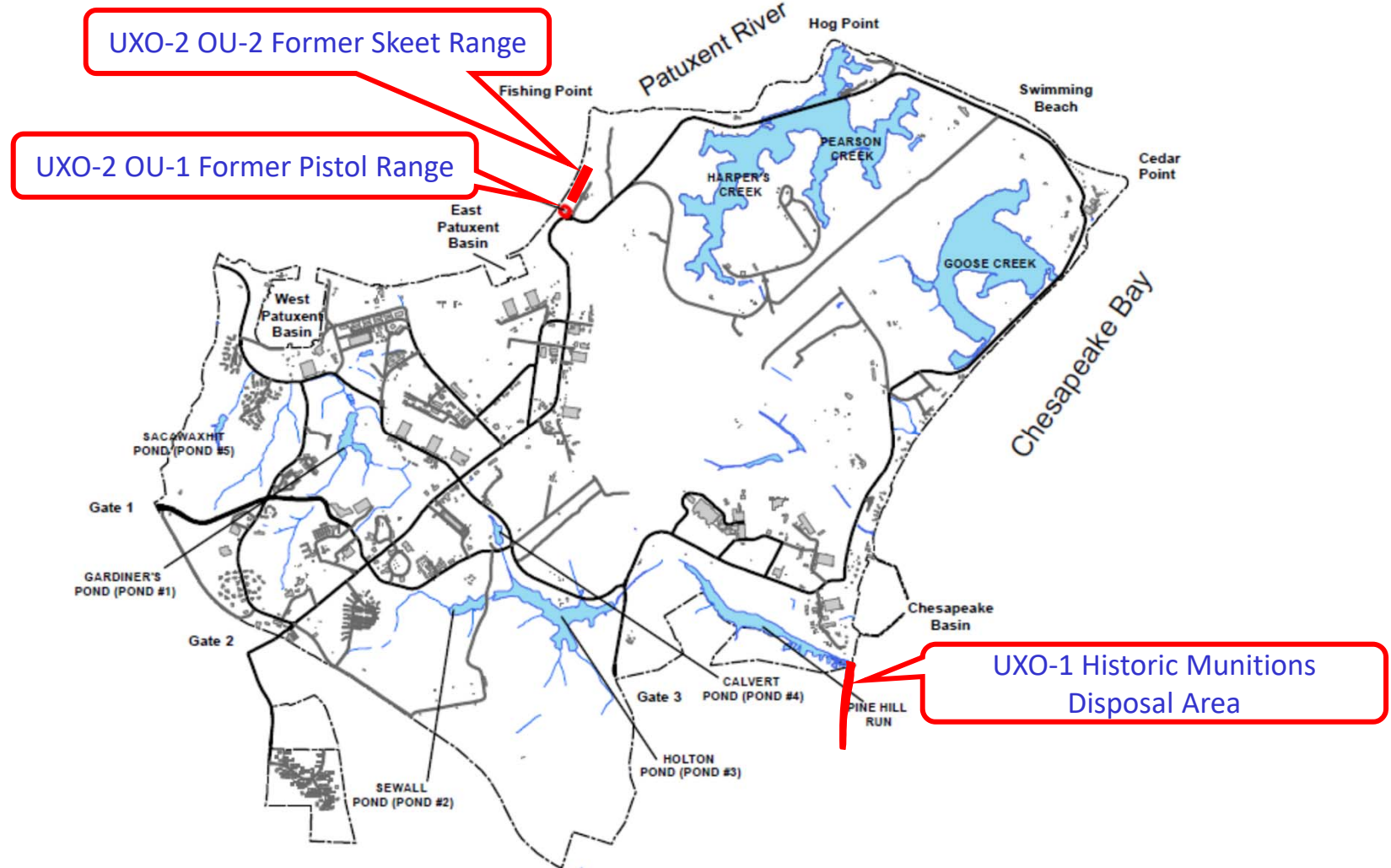
# Munitions Response Program



- The Munitions Response Program (MRP) addresses munitions and explosives of concern (unexploded ordnance) and munitions constituents (contaminants released into the environment from exploded and unexploded ordnance) at other than operational ranges



# MRP Sites at NAS Patuxent River



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# UXO-1 Site Location



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# UXO-1 History



- 1954 to 1974 Navy personnel discarded a variety of excess munitions, both live and inert, into the Chesapeake Bay
  - At the time, it was a standard practice to dispose of unwanted munitions into open water
- Due to wave and tidal action, ordnance items spread out in all directions, including towards the beach owned by the Cedar Cove Subdivision, south of the base



# UXO-1 History



- Explosive Ordnance Disposal (EOD) conducted munitions recovery in the waters around the beach in 1977, 1979, 1987, and 1991
  - Recovered small arms, bombs, rockets, rocket motors, fuzes, flares, spotting charges, practice bombs, etc.
  - Recovered quantities decreased with each sweep
- When MRP was created, the beach was designated UXO-1





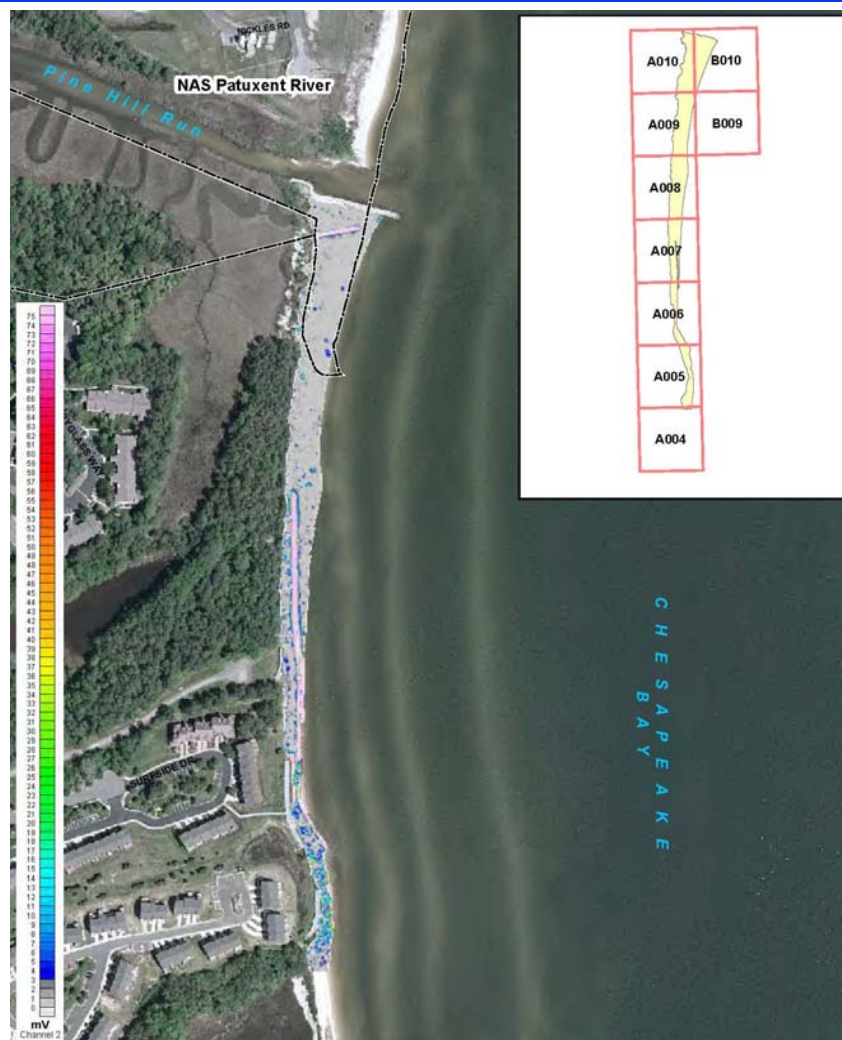
# UXO-1 CERCLA Process



- Preliminary Assessment and Site Inspection (PA/SI) were completed in 2013
  - First two steps of the CERCLA Process
  - The SI included digital geophysical mapping
  - Identified 721 metallic anomalies
  - 145 known “cultural debris” (rebar or pipe sticking out of the sand)
  - Likely much more debris in (cans, rebar, pipes, etc) subsurface



# UXO-1 Magnetic Anomalies



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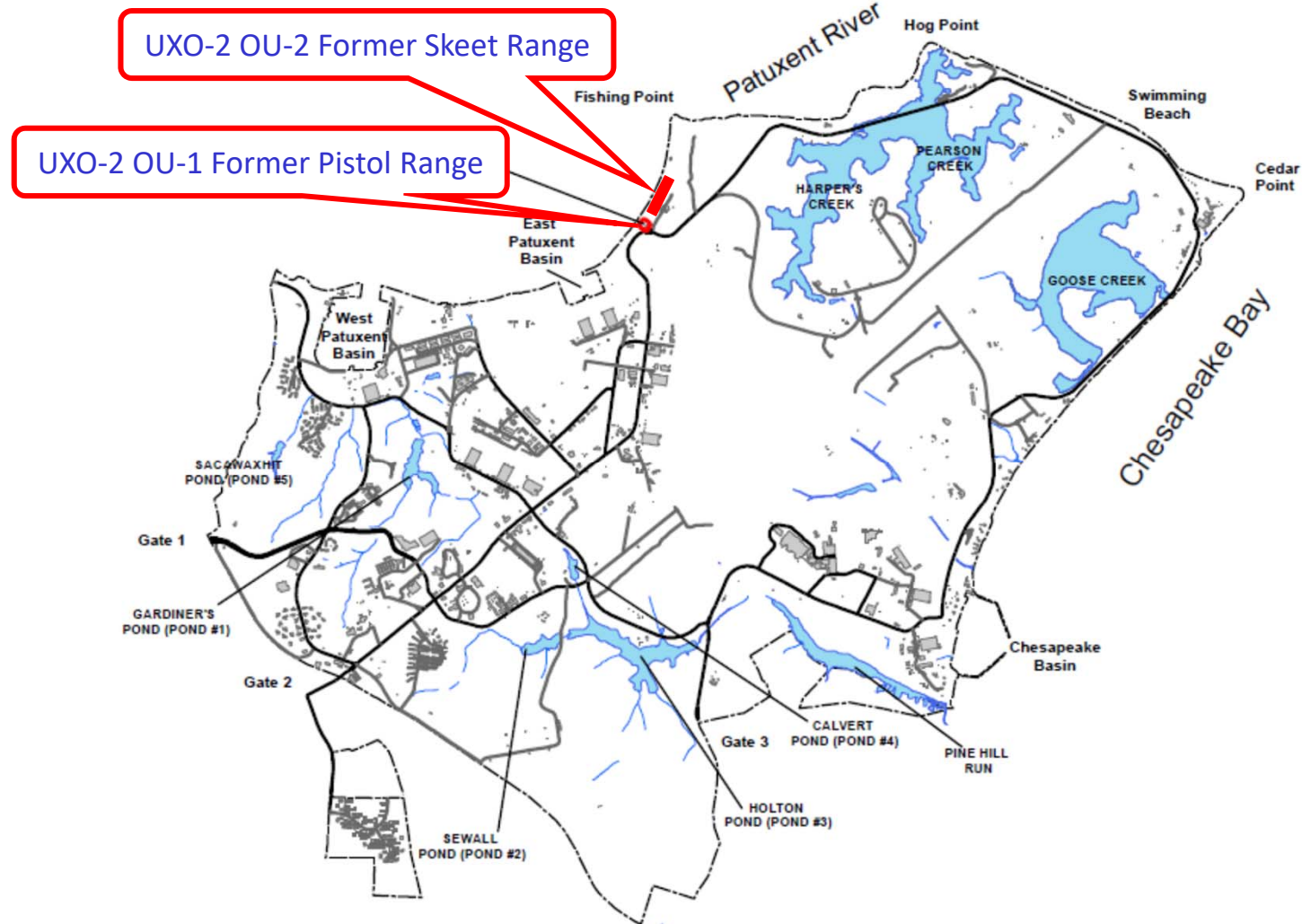
# UXO-1 Path Forward



- Conduct high resolution geophysics
  - Distinguish between likely munitions items and cultural debris
- Excavate and remove items suspected to be munitions
- 2016
  - Generate Explosive Safety Submission
  - Generate and sign Action Memorandum
  - Outreach to Cedar Cove Home Owner's Association
- 2017
  - Conduct geophysics and removal



# MRP Sites at NAS Patuxent River



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# UXO-2 Site Location



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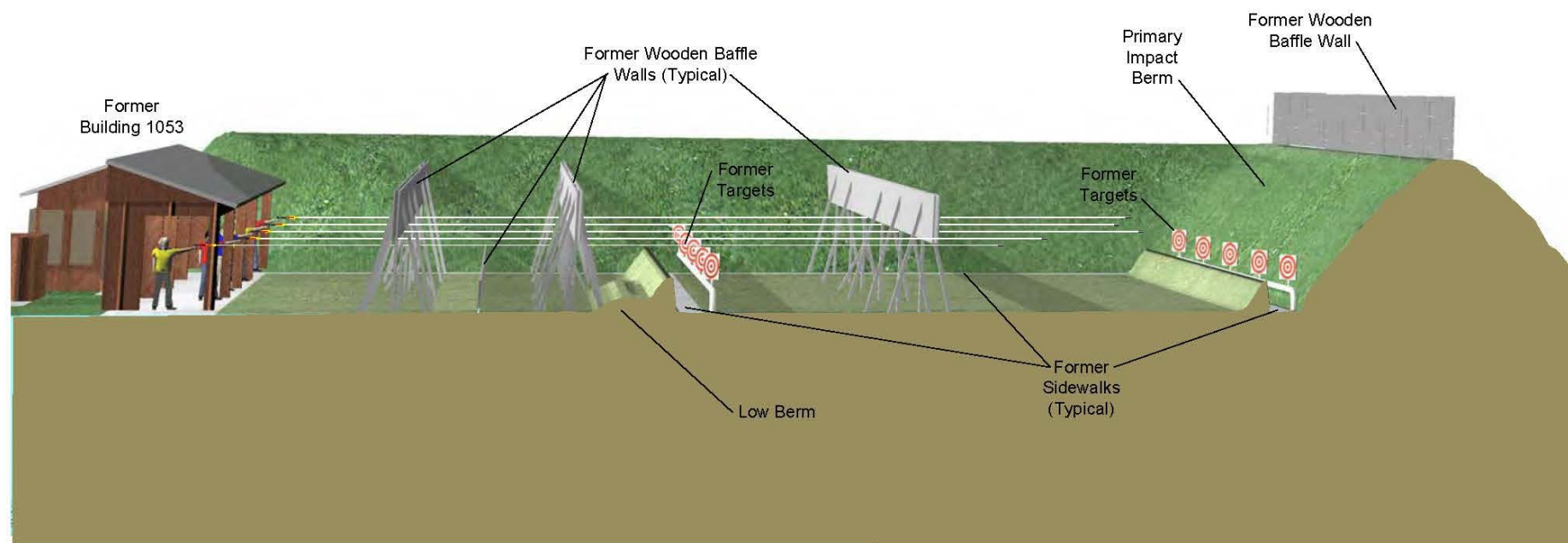
# UXO-2 History



- Two Operable units (OUs)
  - Former Pistol Range (OU-1)
  - Former Skeet Range (OU-2)
- Former Pistol Range
  - Shoot pistols from fixed positions at targets of varying distances and sizes
  - Surrounded on three sides by impact berm
  - Reportedly used from 1943 to 1993
  - Primary contaminant is lead from the bullets
  - Possibly other trace metals from jackets and casings



# UXO-2 OU-1 Layout





# UXO-2 OU-1 History

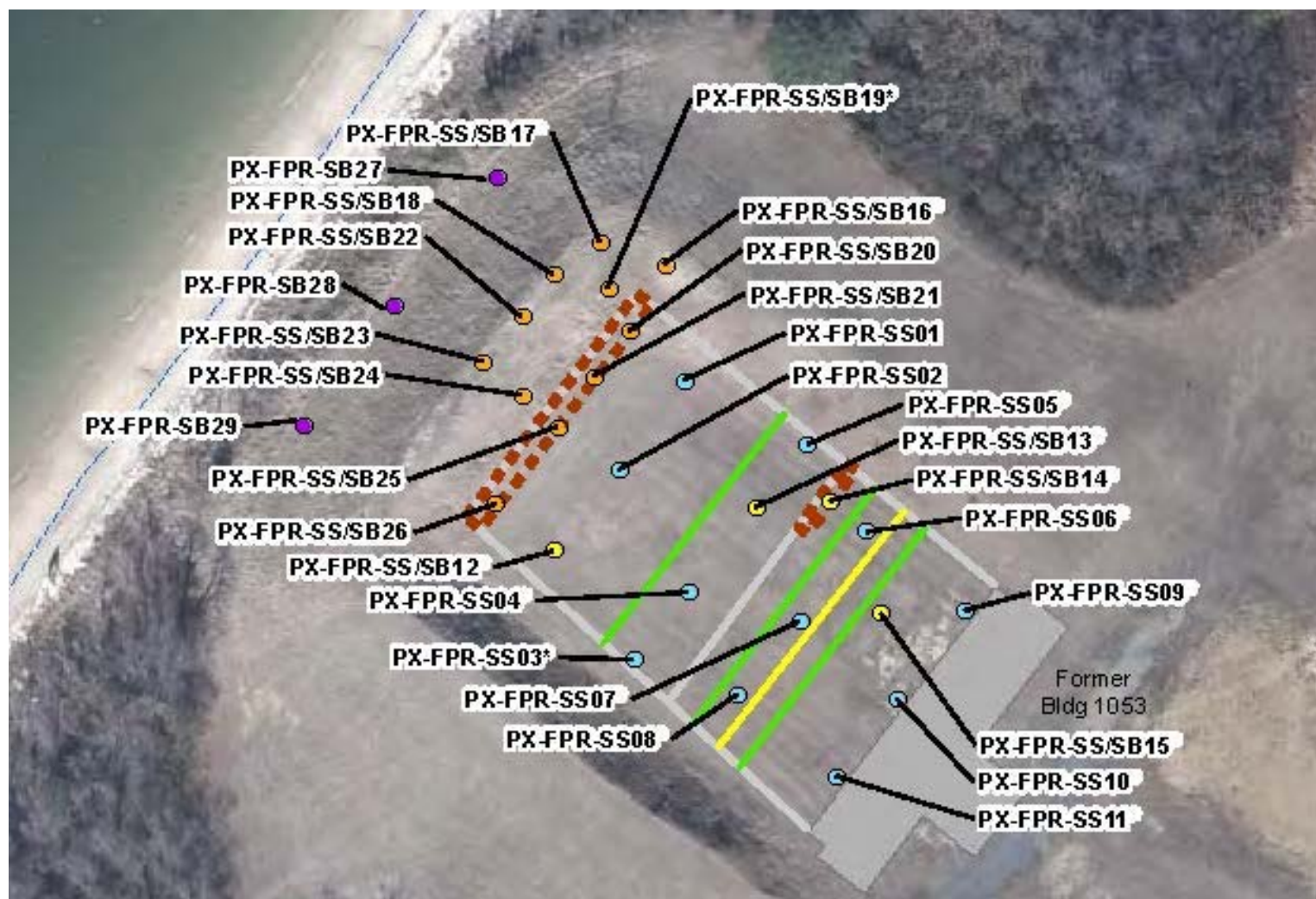


- Completed PA/SI in 2012
  - Included limited lead sampling in surface and subsurface soil
  - Concentrations of lead ranged from 6.3 milligrams per kilogram (mg/kg) to 7,020 mg/kg
  - Lead was compared against human health and ecological screening values
    - Lead was identified as a potential concern





# UXO-2 OU-1 Sampling Locations



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# UXO-2 OU-1 Path Forward



- Proceed through the rest of the CERCLA process
  - Remedial investigation (RI) → Feasibility Study (FS) → Proposed Remedial Action Plan (PRAP) → Record of Decision (ROD)
  - Proceed to Remedial Action (RA)
    - Very likely (removal of berms and shallow soil)
- RI, FS, PRAP, ROD were awarded this year
- Preliminary discussions regarding the scope of the RI are ongoing
  - Primarily soil and groundwater sampling



# UXO-2 OU-2 History

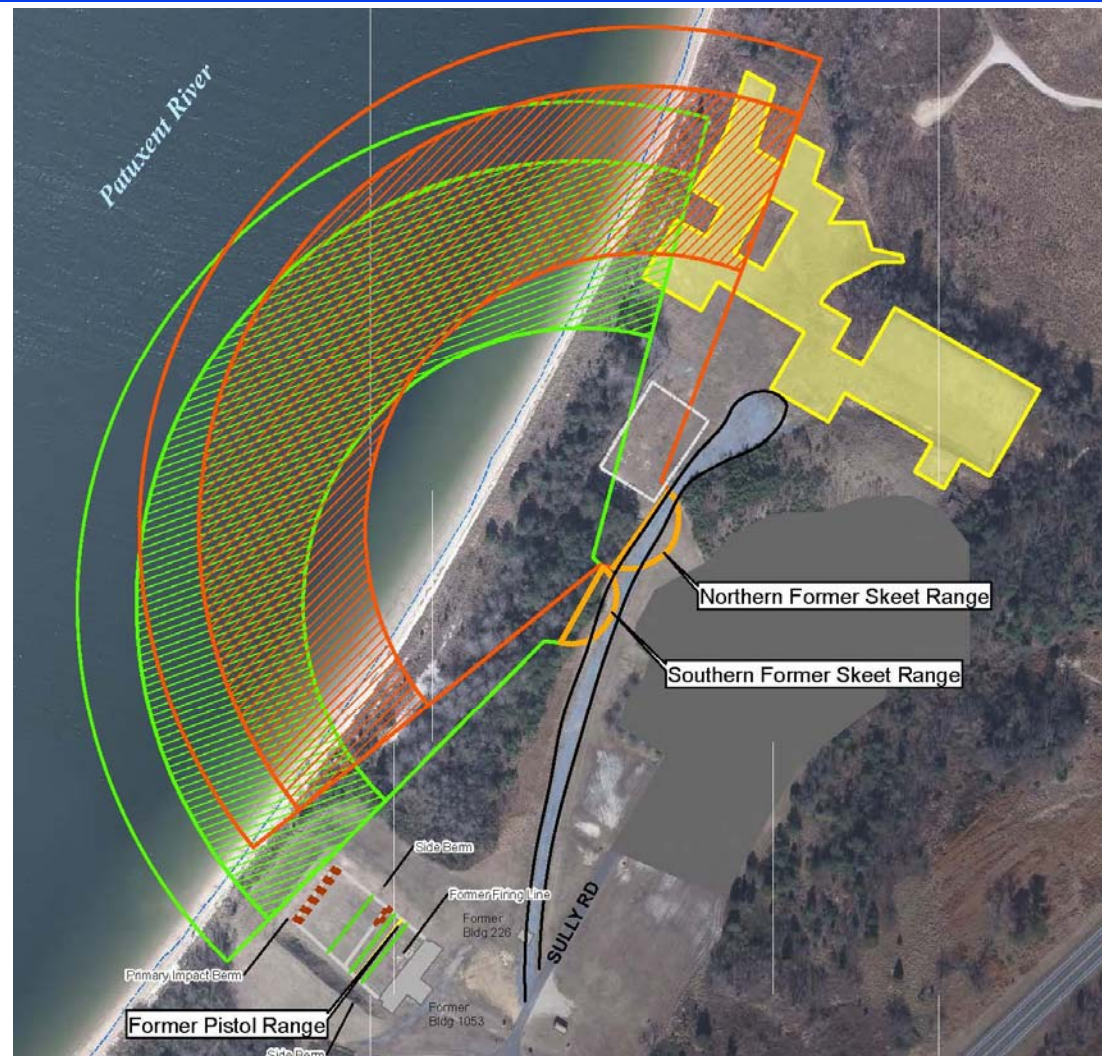


- Former Skeet Range
  - Fire shotguns with skeet load at clay pigeons
  - Aerial photographs suggest that operation began between 1943 and 1952 and ceased sometime before 1964
  - Primary contaminants are lead from the shot and polycyclic aromatic hydrocarbons (PAHs) from the pigeons





# UXO-2 OU-2 Firing Fans



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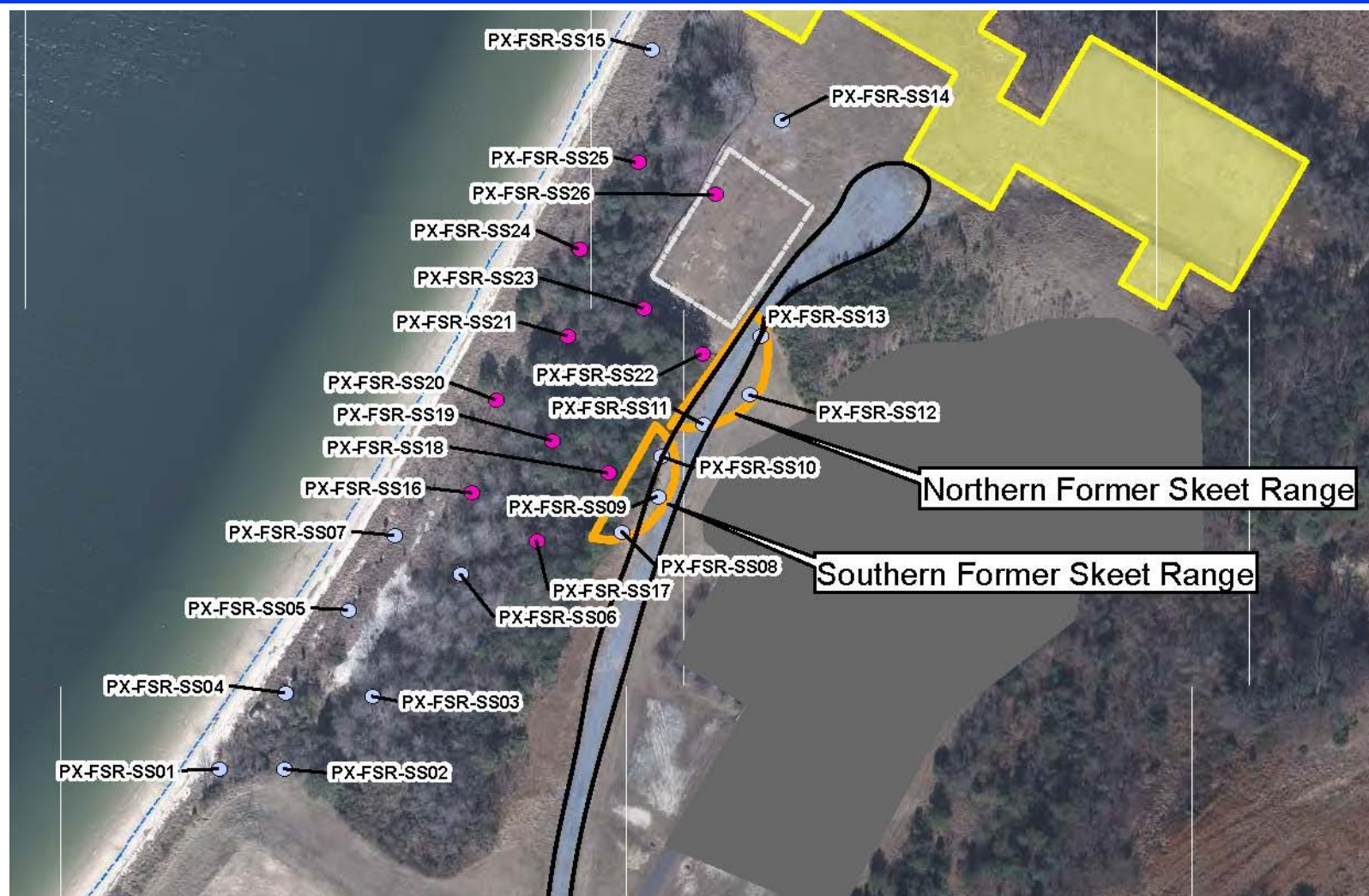
# UXO-2 OU-2 History



- Completed PA/SI in 2012
  - Included limited lead and PAH sampling in surface and subsurface soil
  - Concentrations of lead ranged from 5.8 mg/kg to 330 mg/kg
  - Concentrations of PAHs ranged from 3.1 micrograms per kilogram ( $\mu\text{g/kg}$ ) to 310  $\mu\text{g/kg}$  and 70  $\mu\text{g/kg}$  to 110,000  $\mu\text{g/kg}$ , depending on the specific PAH
  - Both contaminants were compared against human health and ecological screening values
    - Lead was not identified as a potential concern
    - 7 individual PAHs were identified as a potential concern



# UXO-2 OU-2 Sampling Locations



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## UXO-2 OU-2 Path Forward



- Proceed through the rest of the CERCLA process
  - Remedial investigation (RI) → Feasibility Study (FS) → Proposed Remedial Action Plan (PRAP) → Record of Decision (ROD)
  - Proceed to Remedial Action (RA) if warranted
- RI, FS, PRAP, ROD were awarded this year
- Preliminary discussions regarding the scope of the RI are ongoing
  - Very likely to include soil, sediment, groundwater and surface water sampling, and geophysics to identify lead shot in sediment



## Questions/Open Discussion



- Questions?
- Comments?
- Input?





# Proposed Future RAB Meeting Schedule



- Fall 2016: 16 November 2016
- Spring 2017: 15 March 2017



# Environmental Restoration Program



Enjoy your summer and  
make it a safe one!