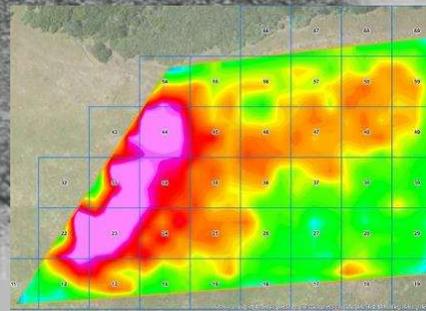


## LIFE OF A CSM: CONCEPT TO RESPONSE COMPLETE

Nick Stolte  
James Salisbury  
Amanda Sticker  
Jason Blair



US Army Corps  
of Engineers®

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## LIFE OF A CSM: CONCEPT TO RESPONSE COMPLETE



- 1300 – Opening summary (Stolte)
- 1310 – What is the CSM and why is it so important (Salisbury)
- 1350 – BREAK
- 1400 – Start with the end in mind – using the CSM to categorize risk areas (Stolte)
- 1430 – The CSM in the acquisition process (Sticker)
- 1510 – BREAK
- 1520 – Lessons learned (Blair)
- 1550 – Closing summary (Stolte)
- 1600 – Complete

2



# CURRENT CONDITIONS OR FUTURE EXPECTATION?

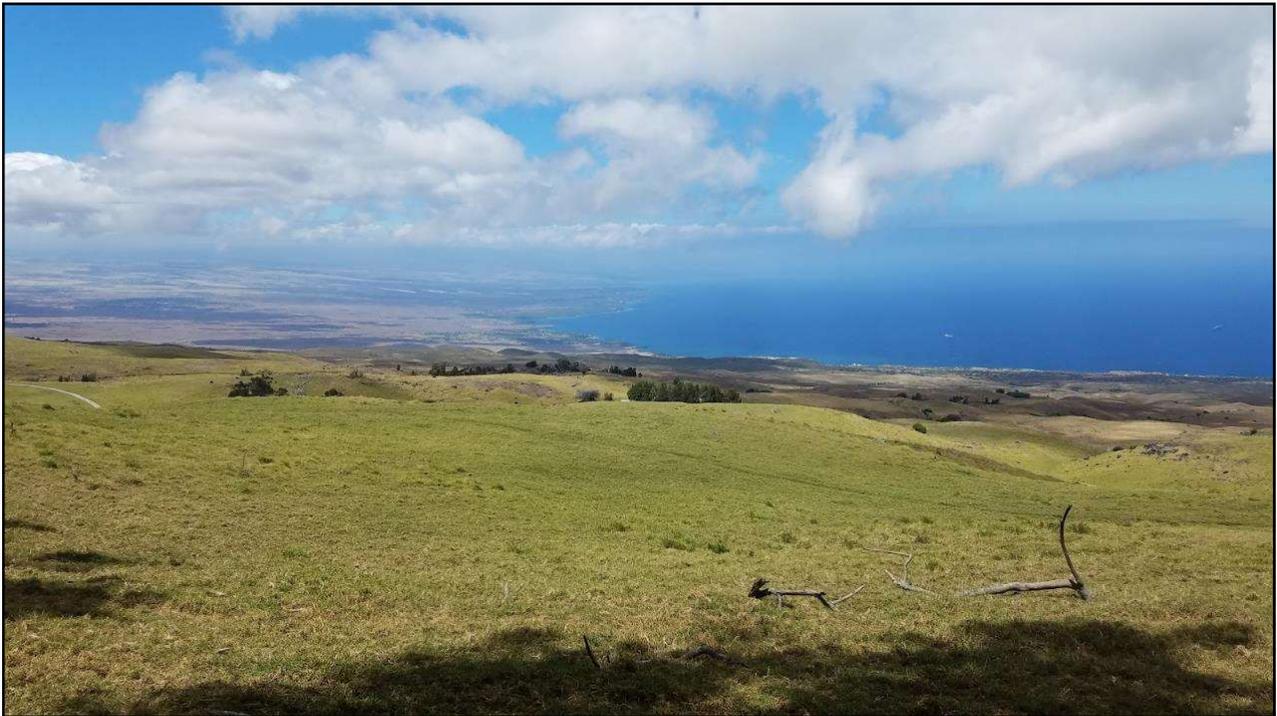
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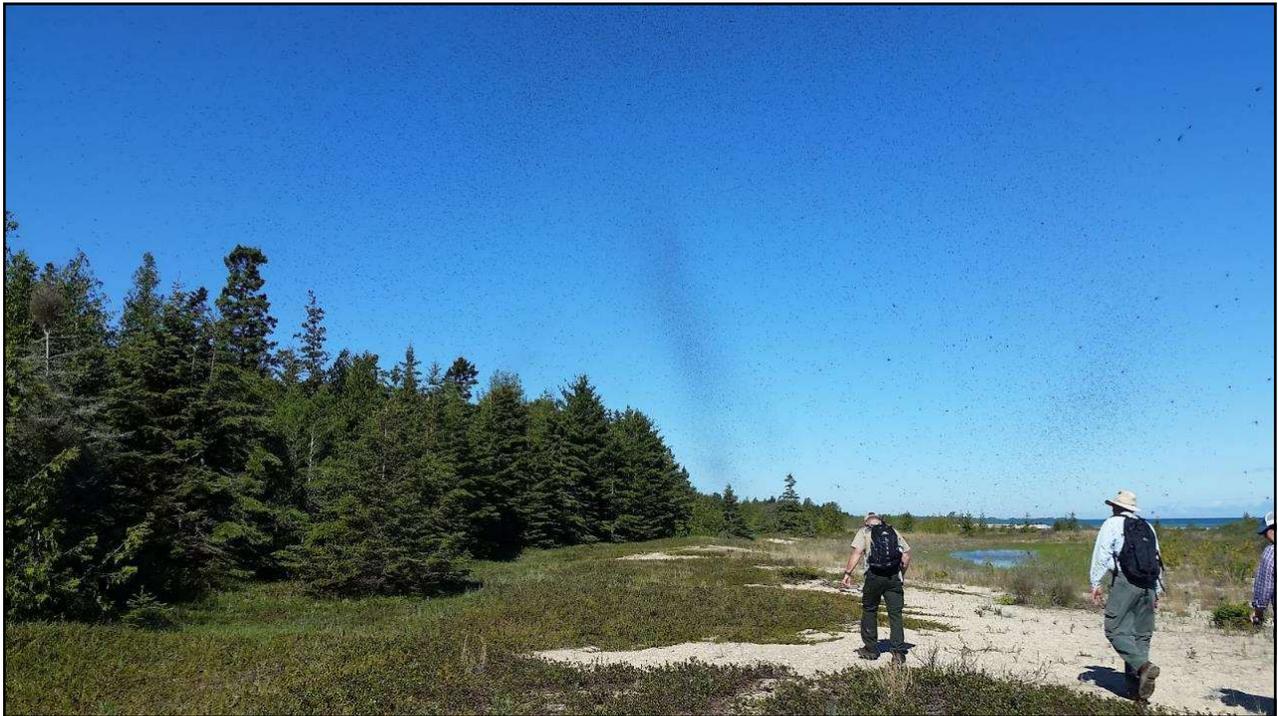
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## **LIFE OF A CSM: CONCEPT TO RESPONSE COMPLETE**

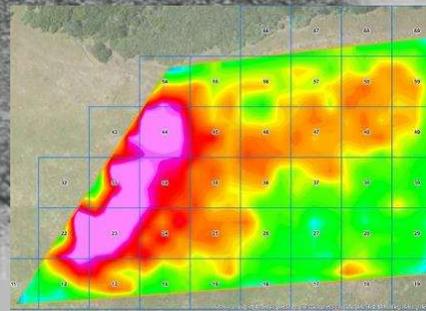


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## START WITH THE END IN MIND: USING THE CSM TO CATEGORIZE RISK AREAS

Nick Stolte, P.E.  
HQUSACE



US Army Corps  
of Engineers®

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## OVERVIEW



- Purpose of a CSM for munitions response
- CSM Profiles
- Defining Assessment Areas
- Identify Receptor Activities
- Define Interaction Zones

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 **CONCEPTUAL MODELS** 



The collage consists of six distinct images arranged in two rows. The top row includes: a young child in a blue shirt looking at a brown cone-shaped volcano model on a table; four satellite images of Earth showing temperature anomalies for the years 1919, 2002, 2001, and 2009, with a color scale legend; a train crossing a concrete bridge over a river; a large-scale model of a canal system with labels for 'GRANTS CANAL', 'DELTA LA', and 'WICKSBURG'; a set of LEGO minifigures dressed as soldiers and a tank on a green base; and a portrait of a man in a suit and tie.

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 **PURPOSE OF A CONCEPTUAL SITE MODEL** 

A CSM is a scientific model that:

- Reflects the current understanding of a site.
- Supports essential planning and communication of critical site information.
- Provides input that supports identification of Data Quality Objectives.
- Provides the basis for the risk assessment.



The bottom section contains two photographs. The left one shows a person in a blue jumpsuit and white gloves working on a rock face, possibly collecting samples or conducting geological work. The right one shows a wide, open landscape with a green field in the foreground, a blue sky with white clouds, and a distant horizon.

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# WHAT DO WE NEED TO KNOW?



- CSM
  - Facility Profile
  - Physical Profile
  - Release Profile
  - Land Use and Exposure Profile
  - Ecological and Cultural Resources Profile
- Anomaly density data
- Data for remedial alternative development
- Cost estimating data



EM 200-1-12  
28 December 2012

ENVIRONMENTAL QUALITY

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**CONCEPTUAL SITE MODELS**

ENGINEER MANUAL

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# EXAMPLE CSM FROM 2010



## CSM

Facility Profile

Land use and Exposure Profile

Release Profile

**Legend**

- FUDS Property Boundary
- MRA/MRS Boundary
- ▨ Proposed Residential Development
- ▨ Proposed School Location
- ⋯ Hiking Trails
- Suspected Impact Area
- Suspected Firing Point



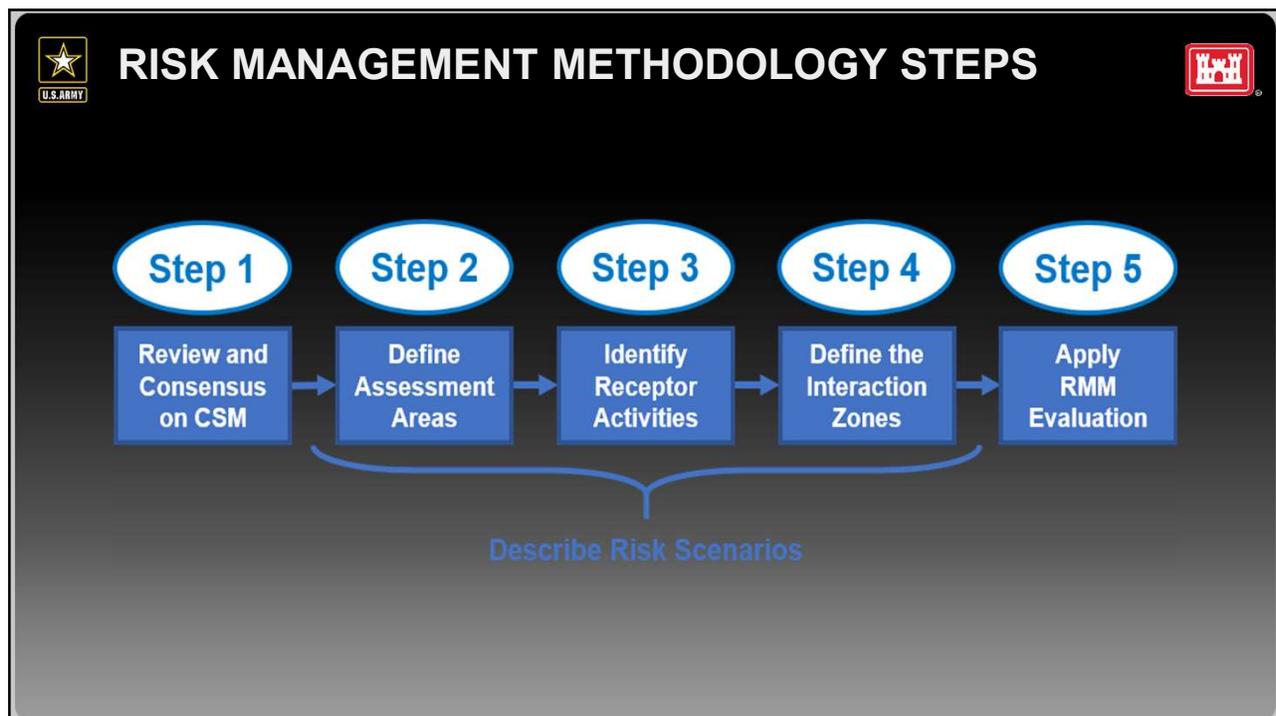
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BUILDING STRONG®

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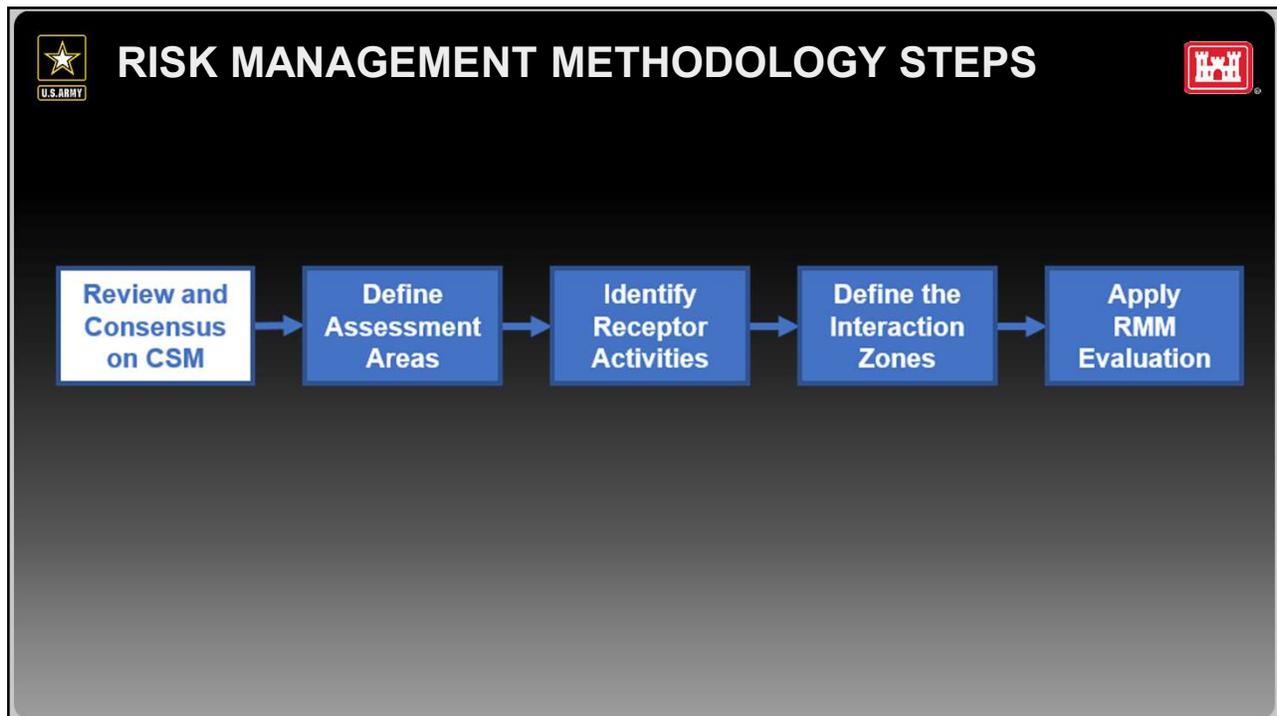


## HOW THE CSM SUPPORTS THE RMM



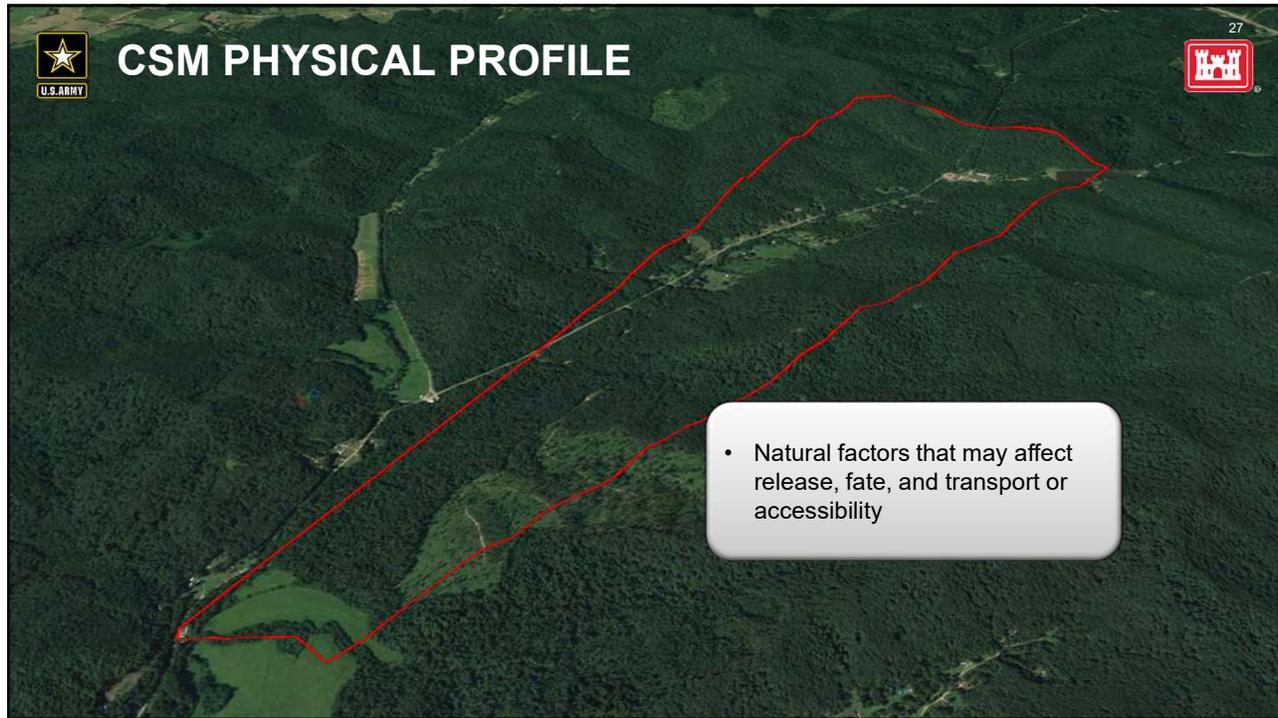
RMM Step	Purpose	Supporting CSM Data
<b>Define Assessment Areas</b>	Describe discrete parts of the MRS based on similar levels of risk using data on land use and known or suspected MEC.	MRS munitions distribution characteristics, specifically horizontal extent of known or suspected MEC and HUA and LUA boundaries; NEU areas  Land use data, including activities and coverage of those activities within the MRS
<b>Identify Receptor Activities</b>	Describe the different land use activities taking place within each assessment area.	Land use data, including activities, coverage of those activities within the MRS, and intrusive depths of land use and the frequency of activities conducted
<b>Define Interaction Zones</b>	Look at the depths of potential interaction with known or suspected MEC for each receptor activity.	Land use data, including activities, coverage of those activities within the MRS, and intrusive depths of land use and the frequency of activities  Anticipated MEC depth

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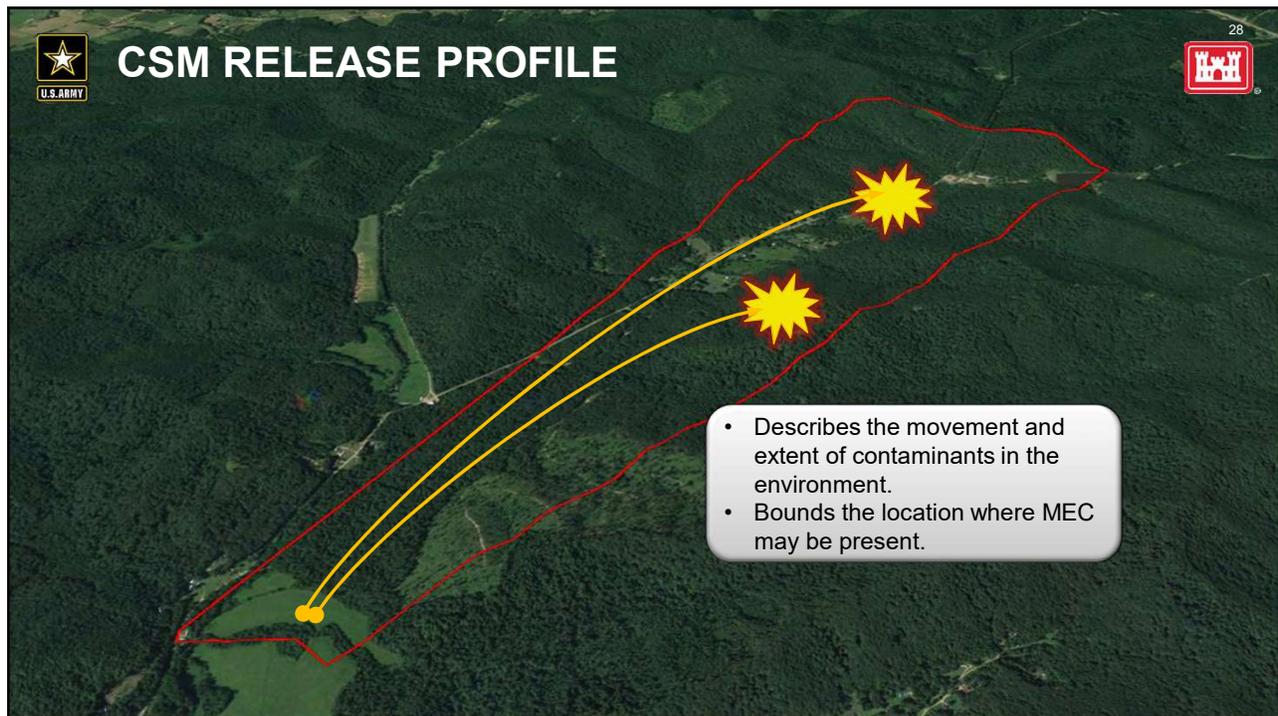


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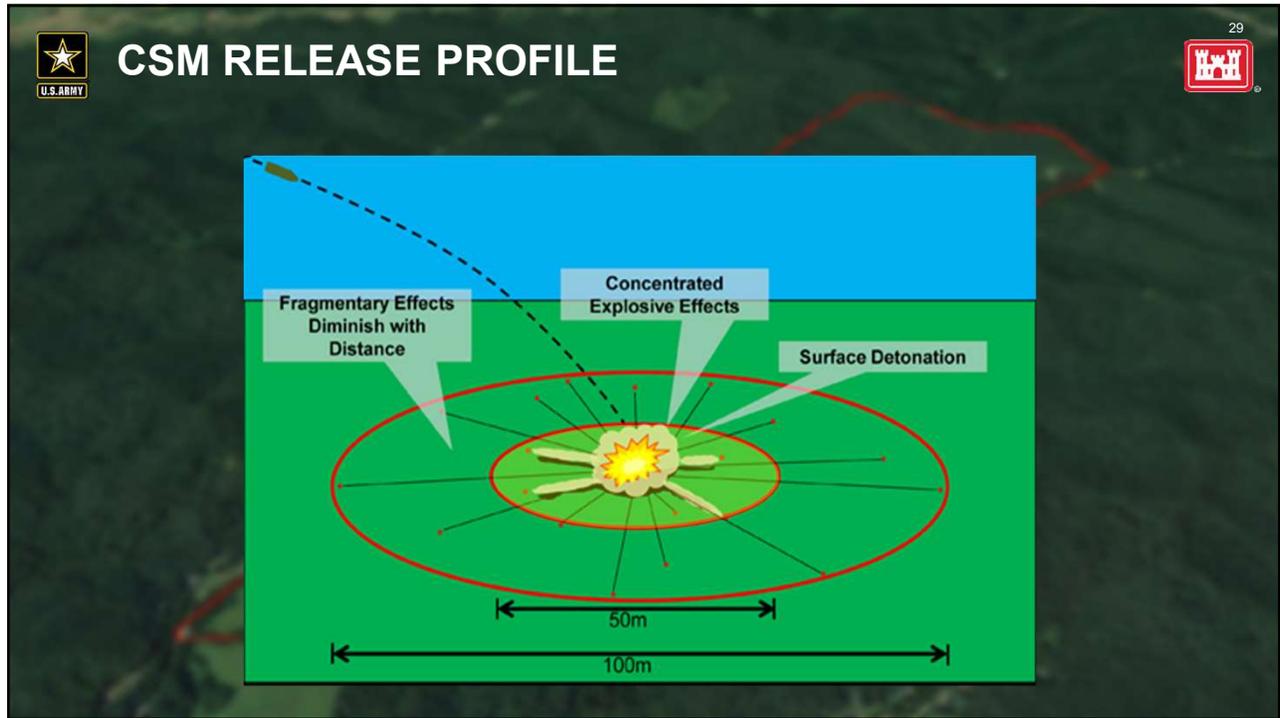




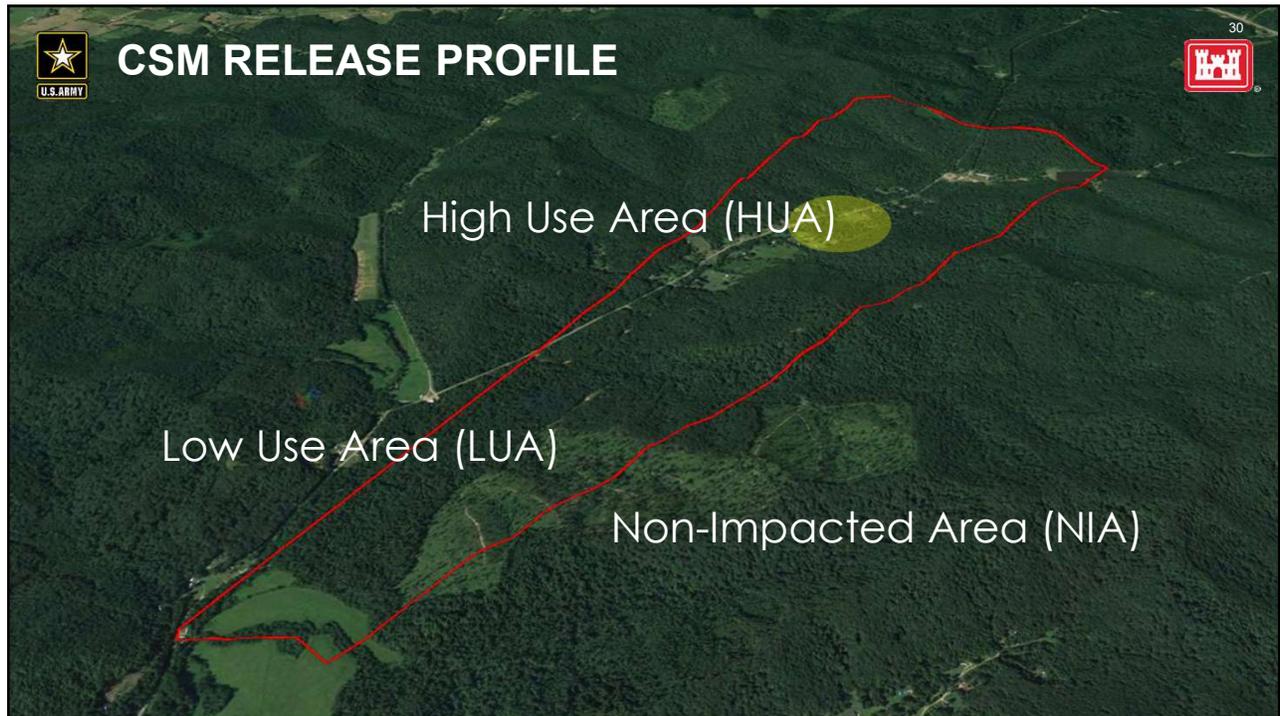
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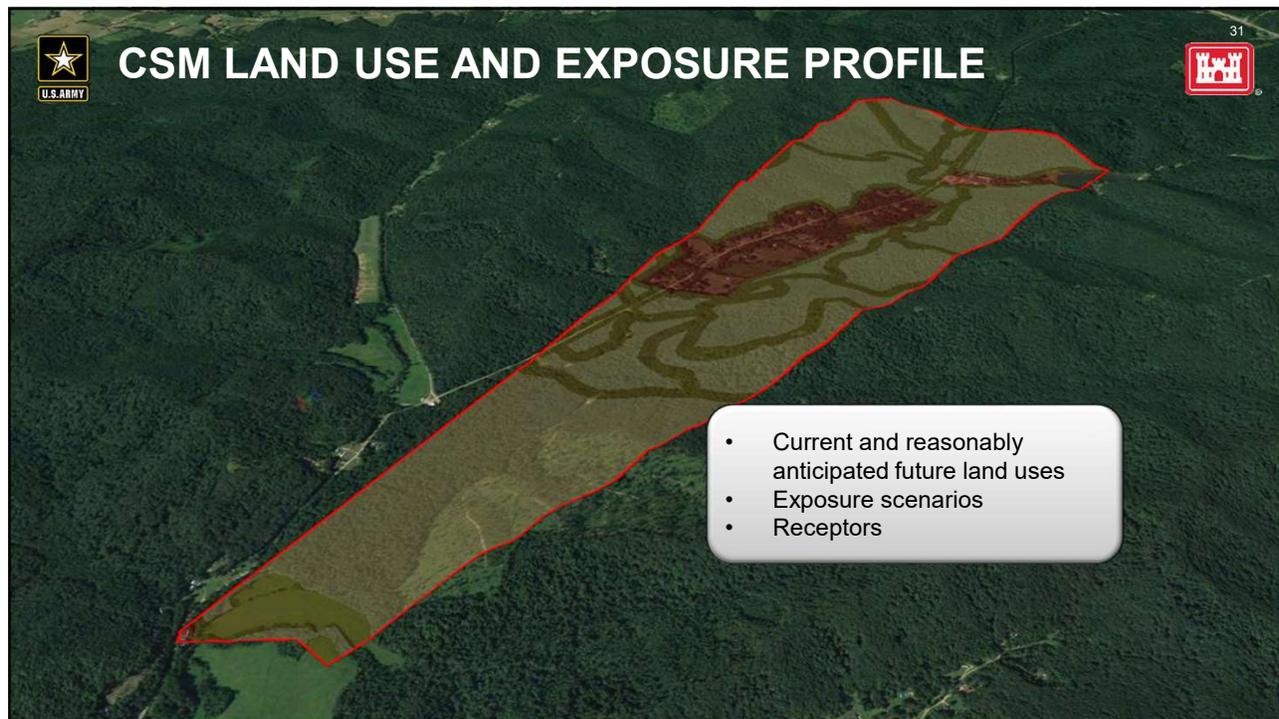
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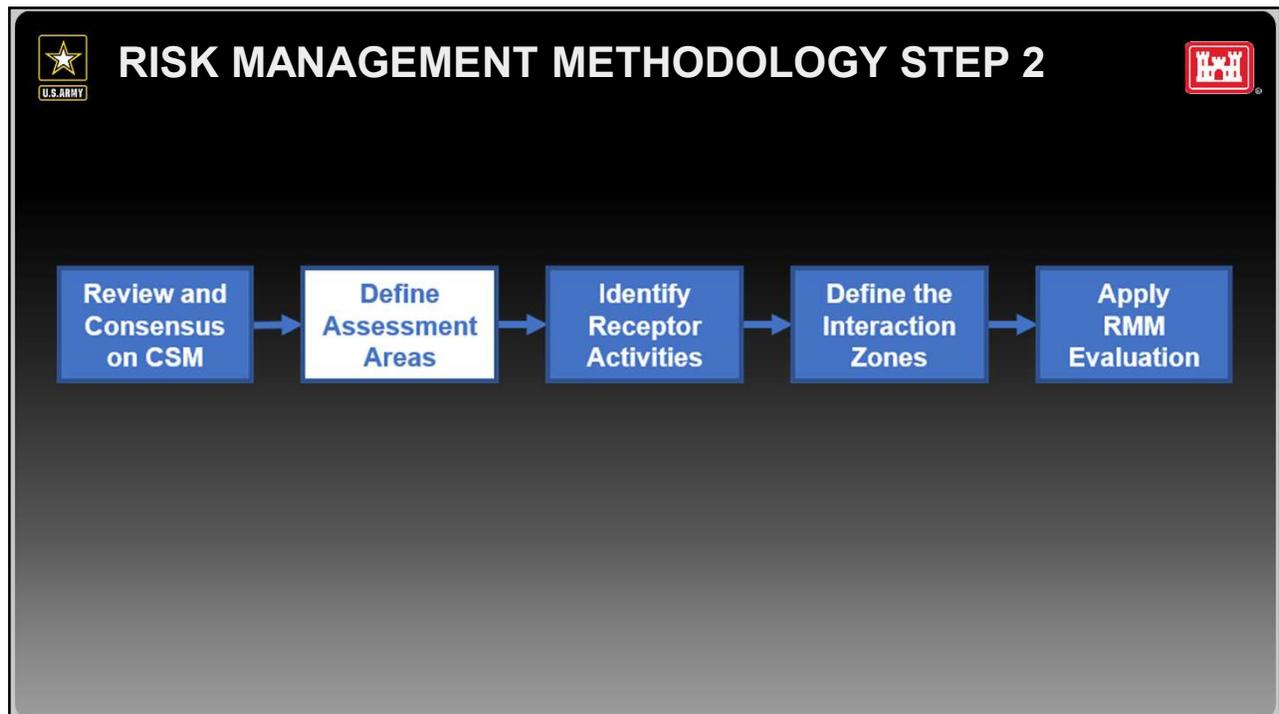
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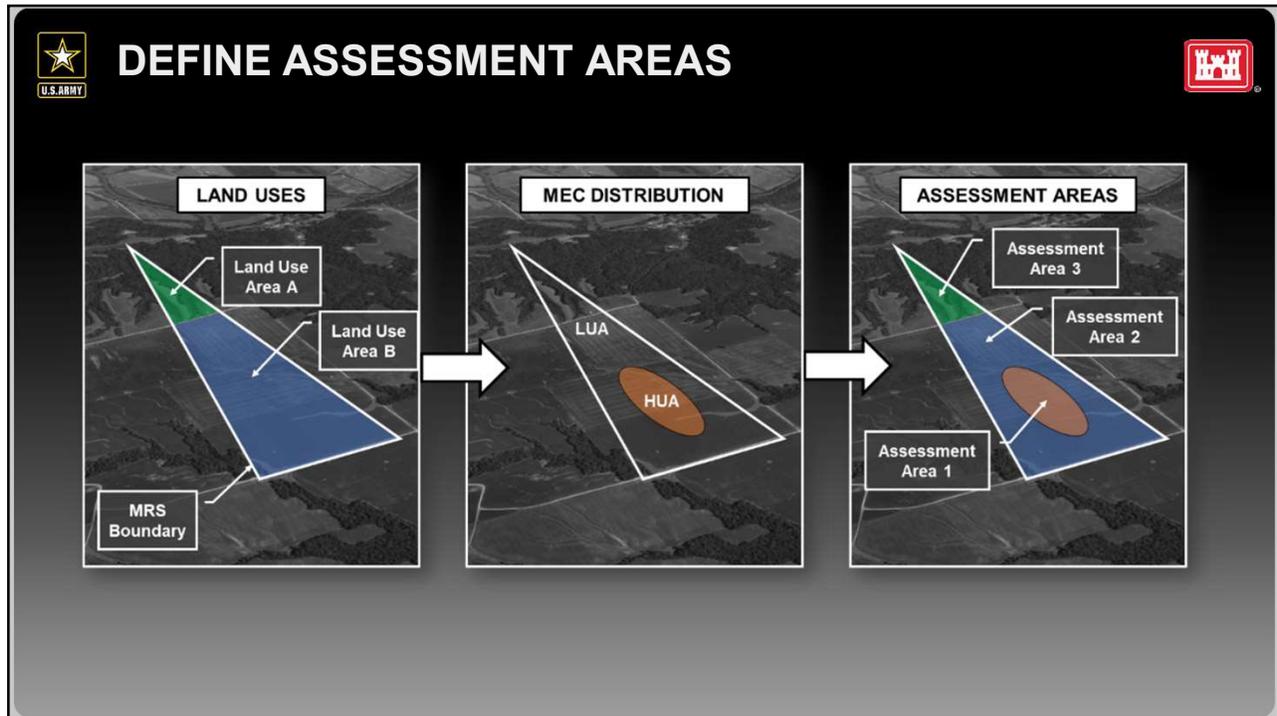
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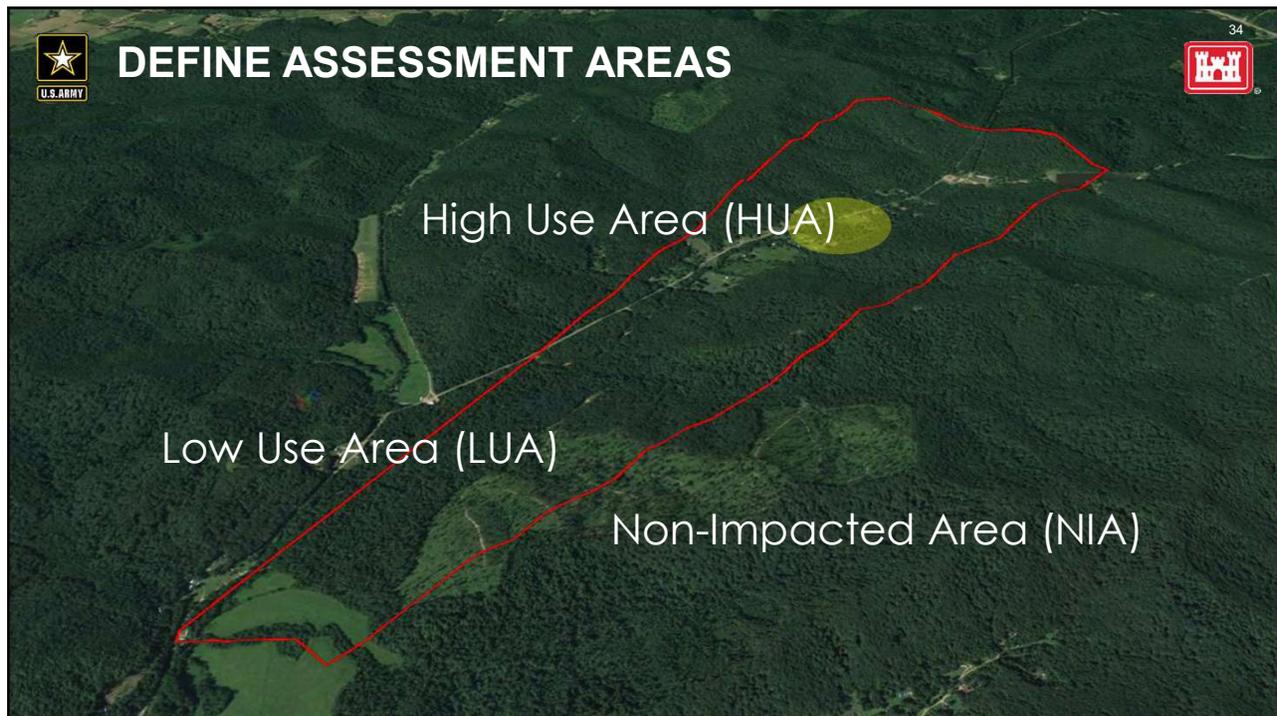
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**DEFINE ASSESSMENT AREAS**

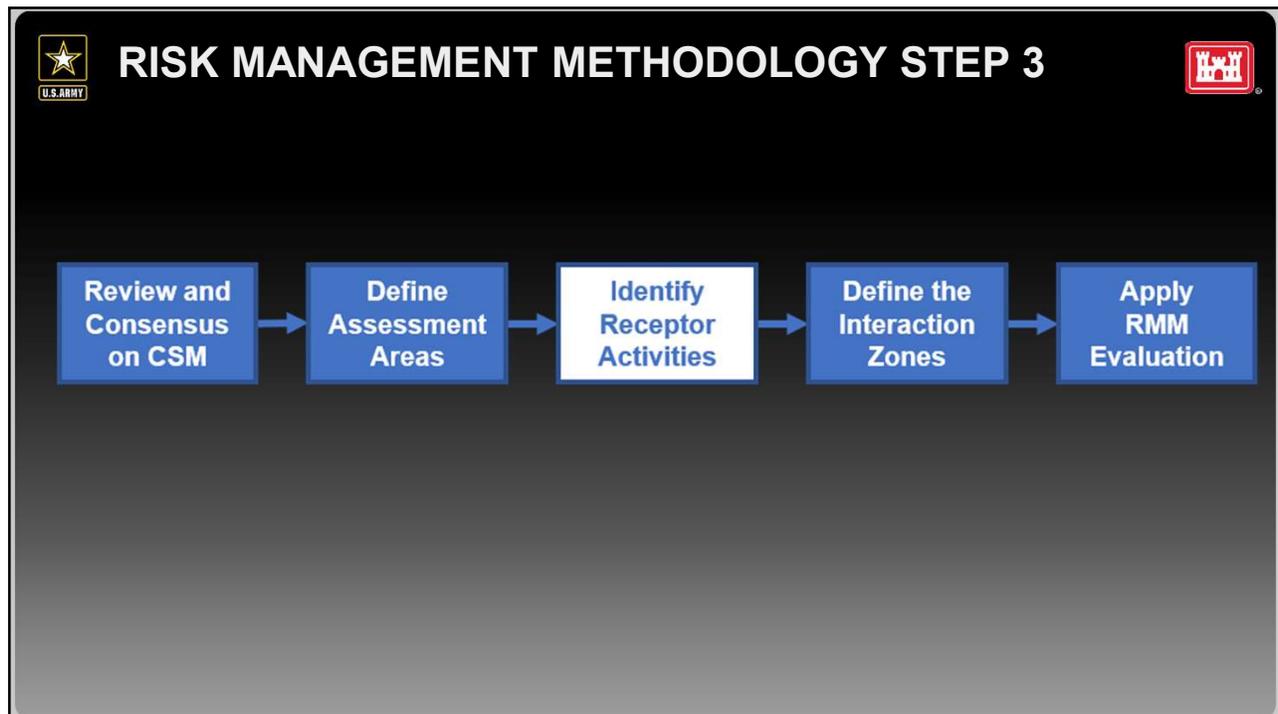
**High Use Areas**

1. Developed Area
2. Trails
3. Forest

**Low Use Areas**

4. Developed Area
5. Trails
6. Forest
7. Agriculture

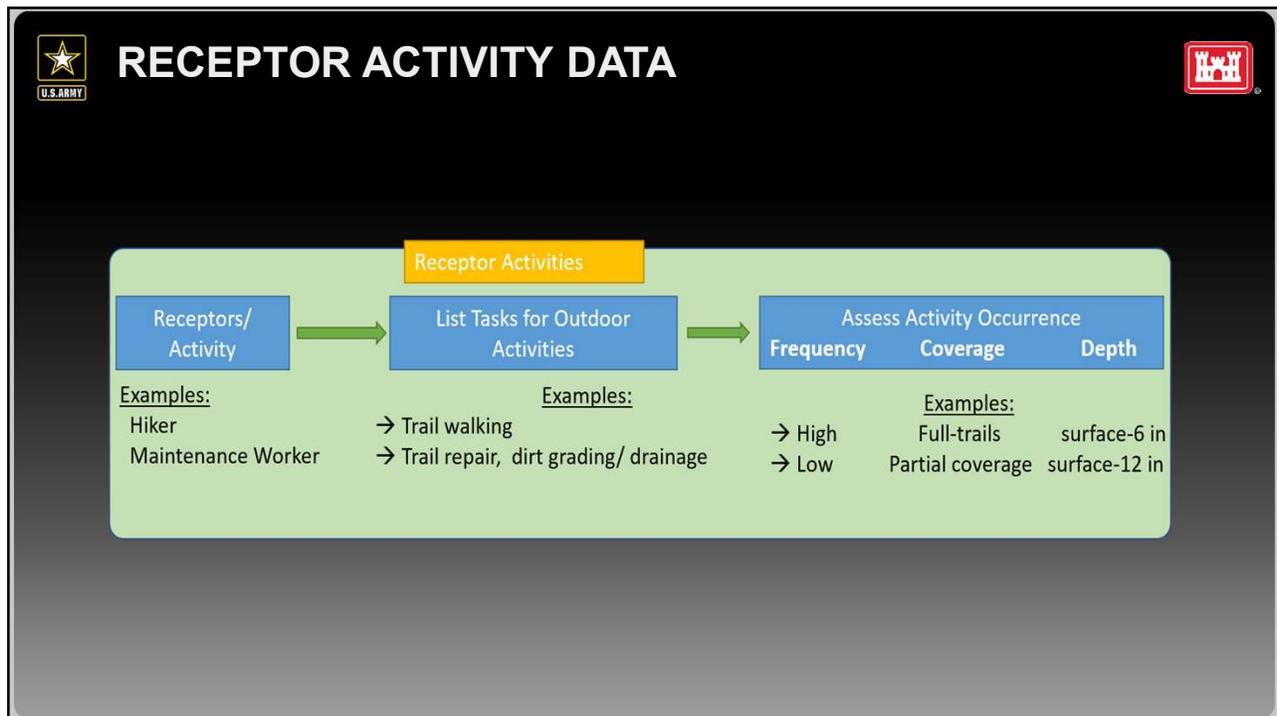
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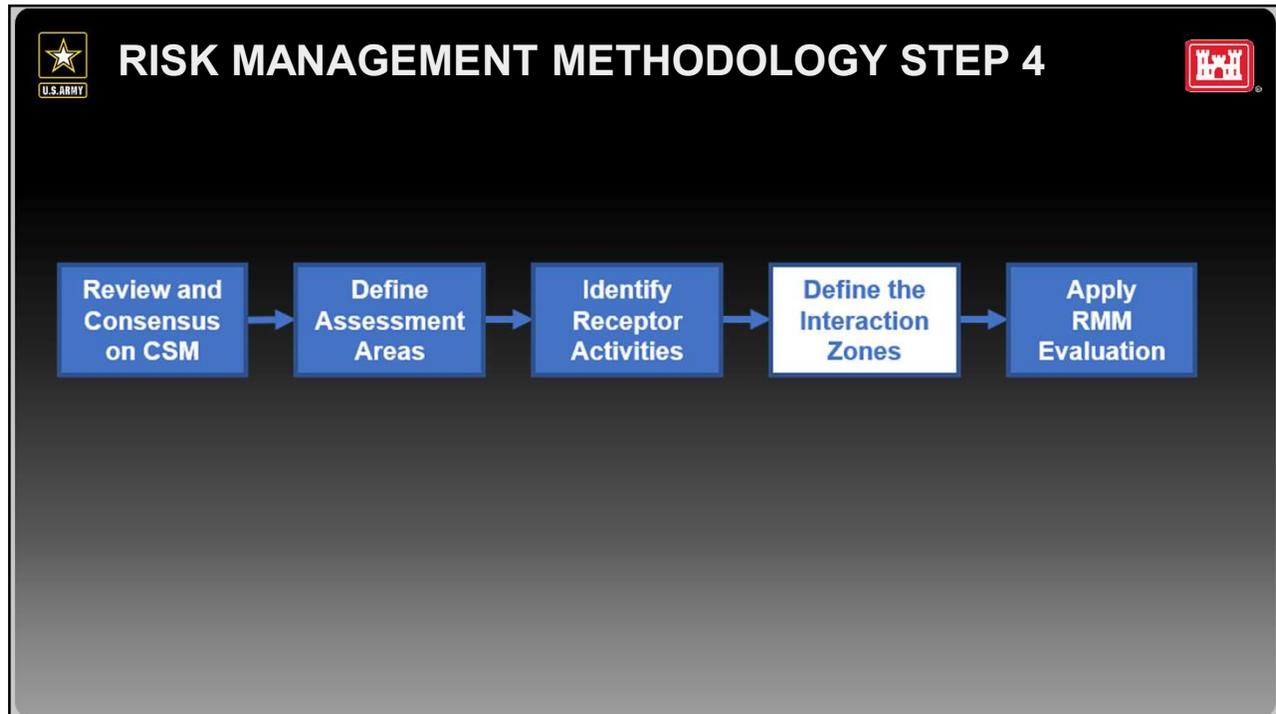
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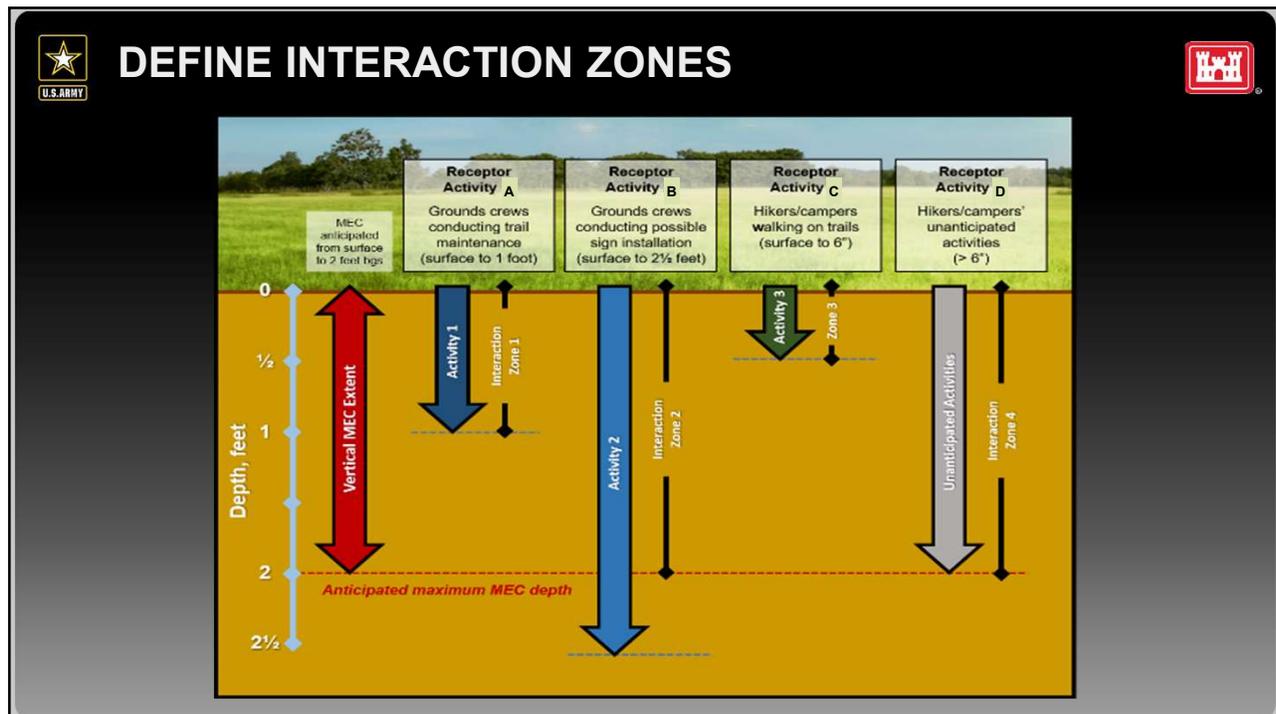
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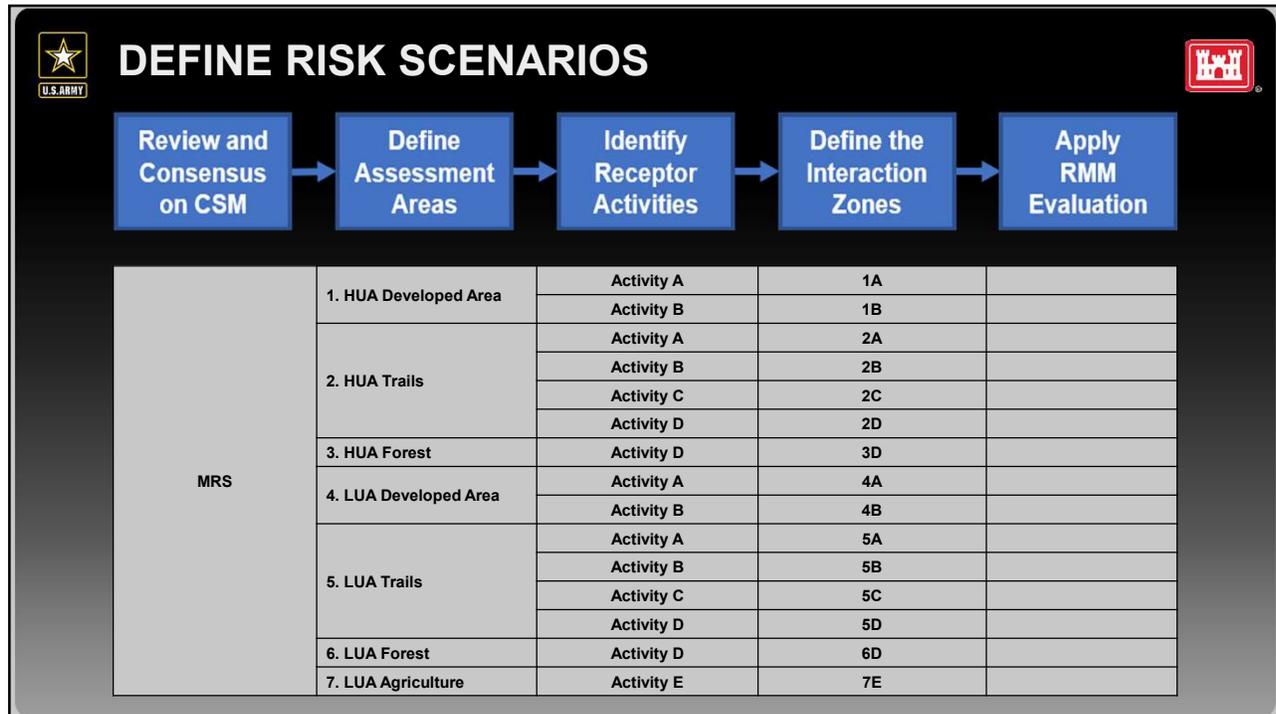
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**SUMMARY**

- Much of the CSM is predefined – use that to inform data needs for the investigation or remedial design.
- Continue to use and develop the CSM throughout the project.
- Don't lose sight of the big picture.
- Know what data you need and how it will be used.
- Gather enough data for alternatives development and cost estimate.

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