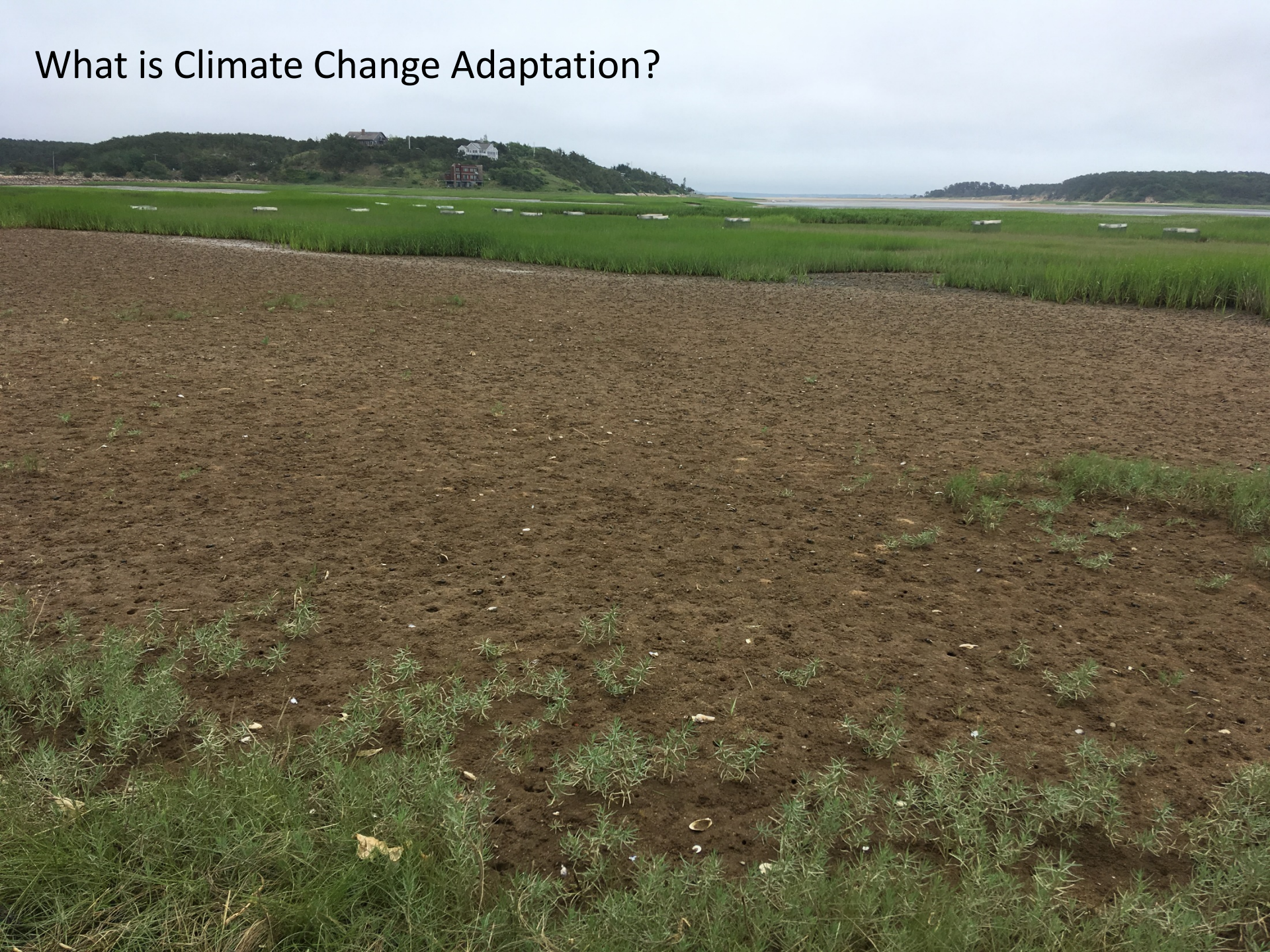
What is Climate Change Adaptation?



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Adapting Conservation to Address a Changing

WHAT

Taking Climate-Informed Actions

Practitioners are introducing new or modifying current actions in ways that make them more effective in light of climate variability and projected changes.

WHERE

Working in Strategic Locations

Conservationists are working in new or strategic locations to target places where longer-term maintenance of species, populations, ecosystem services, or other values is more likely.

WHEN

Shifting the Urgency and Timing of Actions

To stay ahead of or keep pace with a changing climate, the need for action may become more urgent, or actions may be needed at different times of year.

WHY

Embracing Forward-Looking Goals

The goal of conservation projects may evolve as climate change affects a place or ecosystem, leading practitioners to focus on new threats or targets.

EXAMPLES INCLUDED IN THIS REPORT:

- Supersizing stream restoration actions to increase their effectiveness during bigger floods
- Altering restoration planting mixes to foster species expected to thrive under future conditions
- Taking new actions to address changing wildlife behavior

- Working upslope from current protected areas to connect to climate refugia
- Locating restoration projects in areas projected to be suitable in the future
- Prioritizing stream restoration in basins that are more likely to sustain late season flows

- Preventing rapid ecosystem loss as sea level rises
- Bolstering drought tolerance before an extreme drought
- Providing pollinator habitat at different times of year

- Expanding restoration goals to include offsetting snowpack declines
- Broadening goals to reduce impacts of bigger floods on both fish and people
- Managing for future conditions, not just past conditions

Conservation Society

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What

Taking Climate-Informed Actions

Practitioners are introducing new or modifying current actions in ways that make them more effective in light of climate variability and projected changes

- Create wetlands & floodplains beyond what historically occurred in watersheds
- Thin layer deposition in salt marshes
- Assisted migration

Where

Working in Strategic Locations

Working in new or strategic locations where longer-term maintenance of species, populations, ecosystem services, or other values is more likely

- Streams likely to stay cold with temperature mitigation
- Salt marshes that are likely to persist with intervention
- Ensure conservation and interconnectivity of predicted northern forest refugia

When

Shifting the Urgency and Timing of Actions

To stay ahead of or keep pace with a changing climate, the need for action may become more urgent, or actions may be needed at different times of year

- Salt marshes are highly vulnerable to SLR
- Pre-planning for response to damage from severe storms
- Pace of culvert replacement and dam removal needs to accelerate

Why

Embracing Forward-Looking Goals

The goal of conservation projects may evolve as climate change affects a place or ecosystem, leading practitioners to focus on new threats or targets

- Managing for future conditions, not just past conditions
- Broadening goals to reduce impacts of bigger floods
- Conserving existing versus novel ecosystems

Climate Adaptation Approaches

- Avoid climate-related impacts (Resistance)
  - Increasing water storage in upper areas of watersheds to avoid damaging scour or deposition during severe floods
- Enhance ability to recover from climate-related impacts (Resiliency)
  - Increasing tree age and species diversity in forests to promote a more rapid recovery from fire or storm damage
- Guide climate-related change to an acceptable future condition (Transition)
  - "Conserving Nature's Stage": focus land conservation on landscape diversity and connectivity rather than specific species or ecosystems
  - "Enduring geophysical features such as topography, soil, rocks and water, form the stage on which nature's play is enacted and can be used to prioritize sites for conservation" – Beier et al. 2015