



# Regulatory Pathways for Nature-based Solutions

SFEP Implementation Committee

November 14, 2023

Heidi Nutters, SF Estuary Partnership

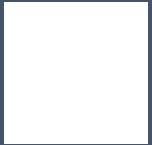
Jennifer Siu, US Environmental  
Protection Agency

Jill Sunahara, Environmental Science  
Associates

# Presentation Outline



Regulatory Pathways Project Goals



Regulatory Pathways White Paper and Memo



Roadmap and Next Steps

# Framing the Issue – Why Nature-based Solutions?

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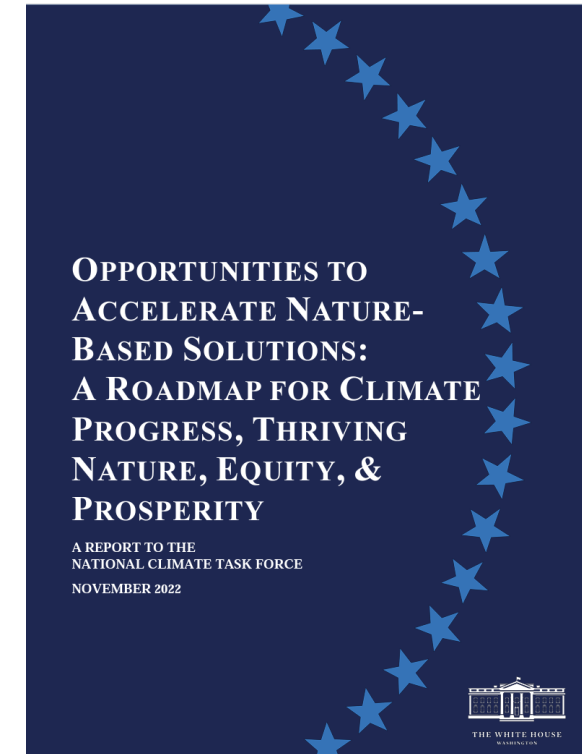


Increasing urgency to advance projects using innovative approaches that support multiple benefits – people, nature, communities

Regional Guidance - Bay Adapt, Estuary Blueprint

State Guidance - Executive Order N-82-20 on NBS

Federal guidance - Executive Order 14072 - Strengthening the Nation's Forests, Communities, and Local Economies





# SFEP's Work on NBS

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## Regional Scale

- Technology transfer & convenings
- Address barriers to implementation
  - funding, regulatory, governance

## Local Scale

- Advance on the ground projects in partnership with local jurisdictions and communities





We partner  
with  
communities  
around the  
region



# Key Implementation Challenges



# Key Implementation Challenges







# Project Highlights

- Funded by EPA Water Quality Improvement Fund
- Advances the Estuary Blueprint
- Project Website with Key Products: <https://www.sfestuary.org/regulatory-pathways-for-nbs/>
- Collaborative effort to address one of the larger challenges associated with implementing nature-based shoreline adaptation.



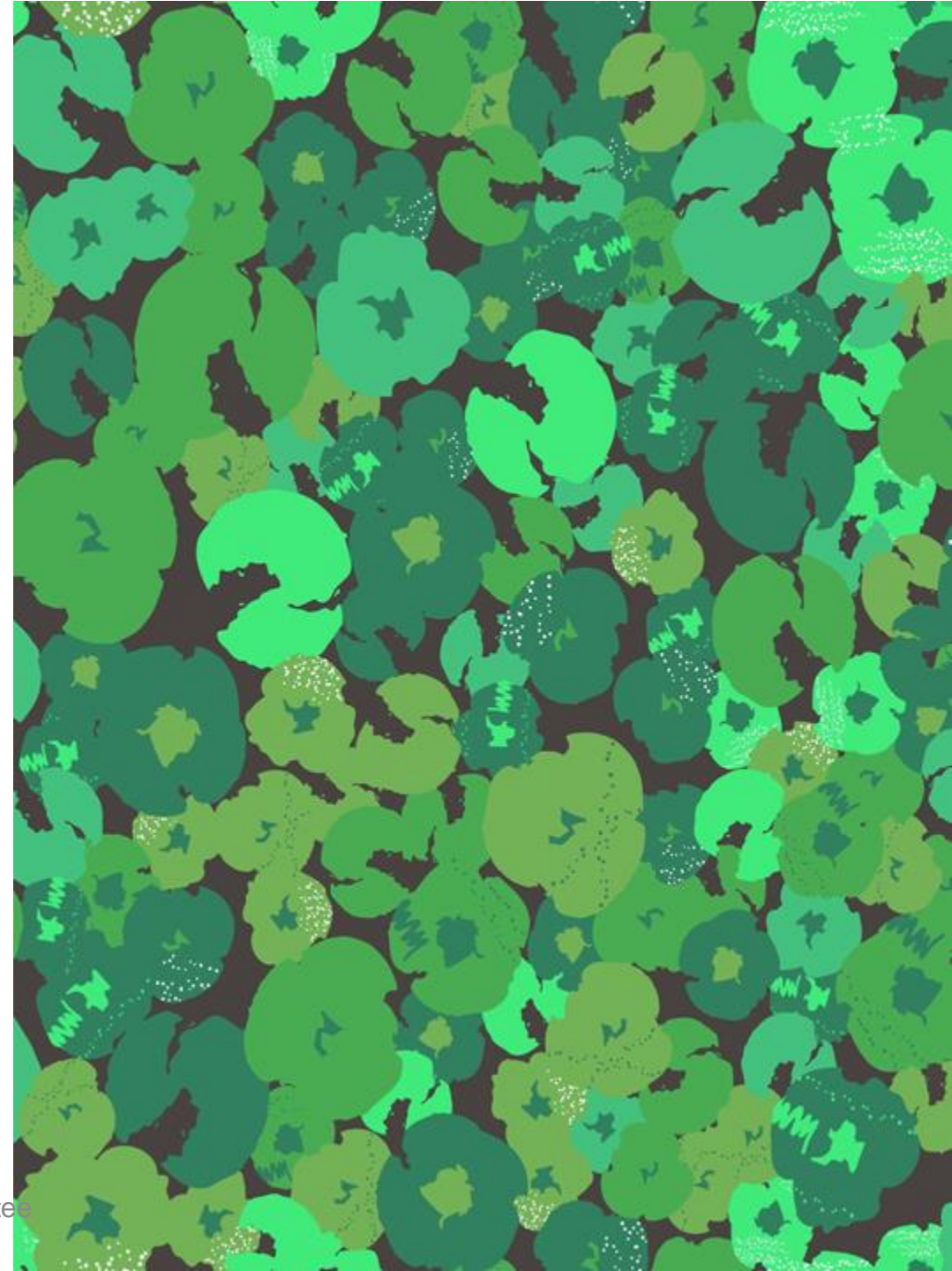
# Regulatory Pathways

## Project Goals

ID permitting challenges for NbS and horizontal levee projects.

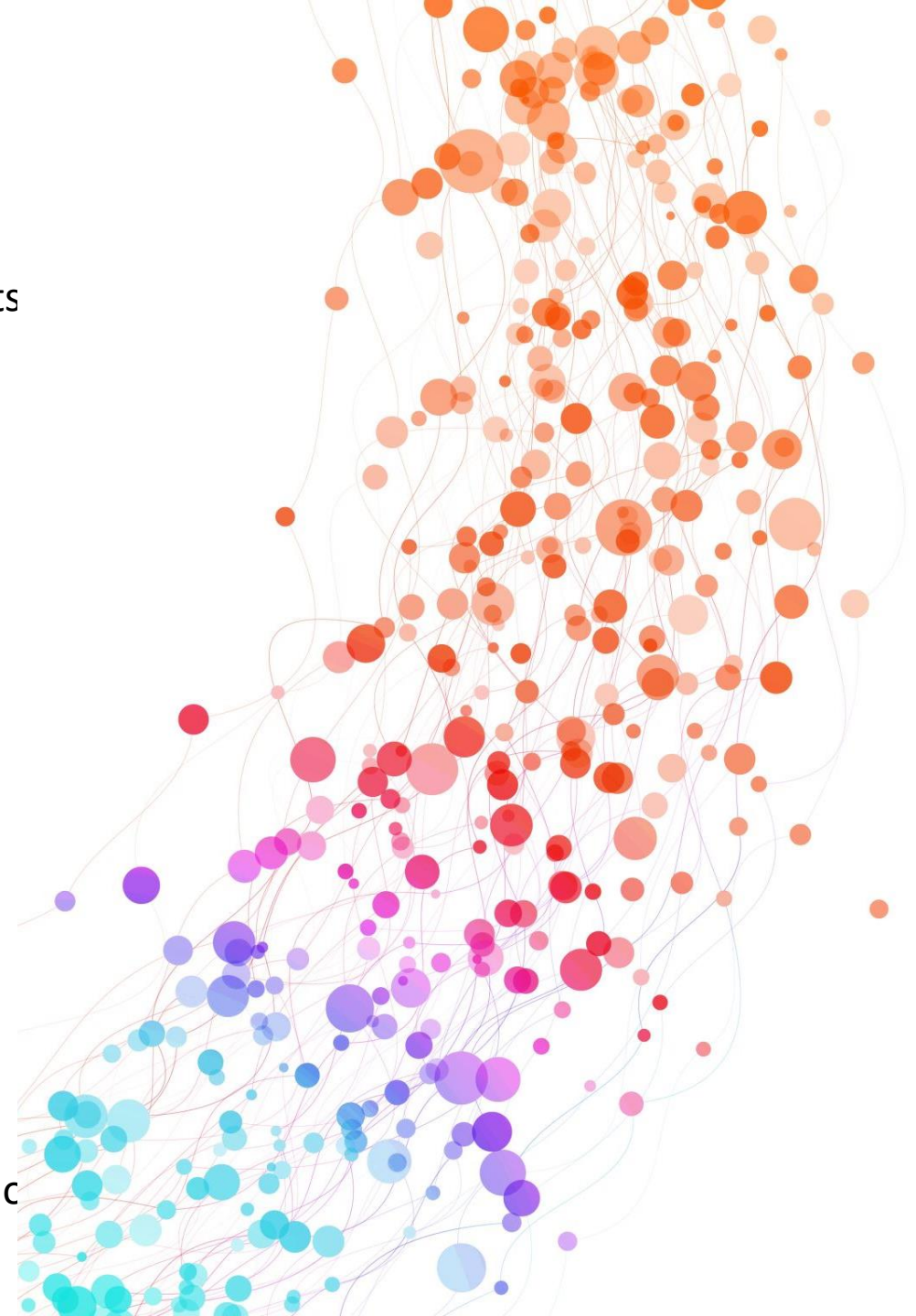
Develop case studies to highlight regulatory pathways for real project examples.

Identify solutions and engage regulatory partners



# Progress To-Date

- Key Issues Memo – December 2022
  - Identified: Challenges to permitting horizontal levee projects  
Project Applicant concerns; Regulatory Agency concerns;  
Resolution considerations
- Transforming Shorelines Collaborative Workshop – March 2023
  - Focused on regulatory analysis best practices, mitigation requirements and strategies for horizontal levee projects
- Case Studies – June 2023
  1. East Bay Dischargers Authority: First Mile Horizontal Levee Project
  2. East Bay Dischargers Authority: Hayward Nature-based Solutions Feasibility Study
  3. City of Palo Alto: Palo Alto Horizontal Levee Pilot Project
  4. Audubon California: Sonoma Creek Marsh Enhancement Project
- Regulatory Pathways White Paper – October 2023
- Call for Accelerating Action Memo – November 2023
- Outreach and Presentations on group findings and proposed actions – through Summer 2024



# Project Advisory Team and Reviewers

- Project Team:
  - Jill Sunahara (ESA)
  - Heidi Nutters (SFEP)
  - Jen Siu (USEPA)
- Project Advisory Team:
  - SFEP: Caitlin Sweeney
  - US EPA: Luisa Valiela, Sahrye Cohen
  - Bay Conservation and Development Commission: Ethan Lavine, Dominic Maccormack
  - SF Bay Regional Water Quality Control Board: Xavier Fernandez
  - East Bay Dischargers Authority: Jackie Zipkin
  - SF Estuary Institute: Jeremy Lowe
- Additional Reviewers:
  - Jim Mazza, US Army Corps SPN



# Existing Resources for Regulators and Project Proponents

- Adaptation Atlas, <https://www.sfei.org/adaptationatlas>
- EPA/SPN CWA 404 Regulatory Analysis Collaboration
- Bay Restoration Regulatory Integration Team (BRRIT) and Policy Management Committee (PMC): initiatives to improve permitting process for multi-benefit habitat restoration & associated flood management and public access infrastructure in the Bay:
  - Aquatic Resources Type Conversion (ARTC) Framework, [https://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/1110\\_ConversionFramework.pdf](https://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/1110_ConversionFramework.pdf)
  - SFRWQCB and SF BCDC Policy Updates on Climate Resiliency and Fill for Habitat
  - CDFW Fully Protected Species permitting vehicle



# Key Collaborative Outputs

White Paper	Key Findings and Recommendations
Call to Action	Shared Actions and Strategies
Implement & Engage	Elevate Call to Action to Key Audiences and Stakeholders

# Regulatory Pathways White Paper

- **Key Complexities**

- Uncertainty regarding how permitting procedures and policies are embracing changing climate conditions
  - Fill in wetlands/waters as a strategy and design element to combat sea level rise
  - Habitat conversion impacts and benefits assessment
  - Alternatives analysis and identifying LEDPA
  - Compensatory mitigation requirements and resolution options

- **Feasibility and Risks**

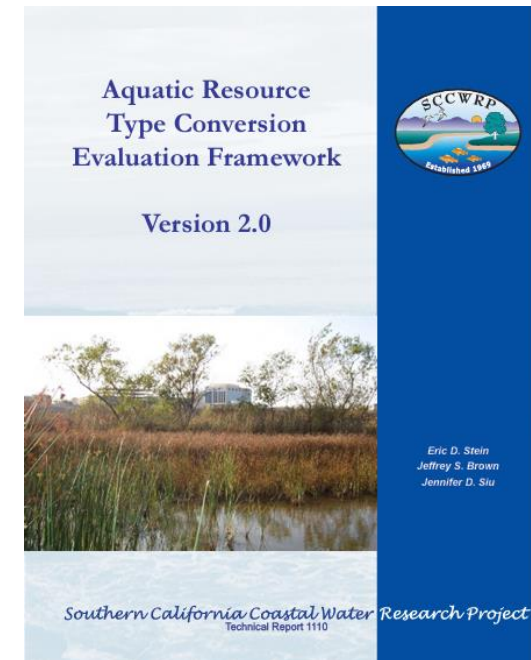
- Cost-benefit balance
- Funding
- Adaptive management and monitoring at project- and regional-scales





# Regulatory Pathways White Paper - Key Messages

- Nature-based shoreline adaptation is increasing in pace and scale across the San Francisco Bay Area, driven by increasing urgency to adapt to climate change and, in response, by the issuance of policy and planning directives at the national, state, and local levels.
- Regulatory agencies are adapting and responding. Recent progress includes development of permitting tools, use of programmatic approaches, interagency coordination, and information exchange.
- Challenges still exist within the regulatory landscape.
- Regulations were not written for a changing climate future in which fill into wetland habitats might be necessary and beneficial.
- Further action required for NbS projects to advance and to address the current regulatory challenges associated with these project types.



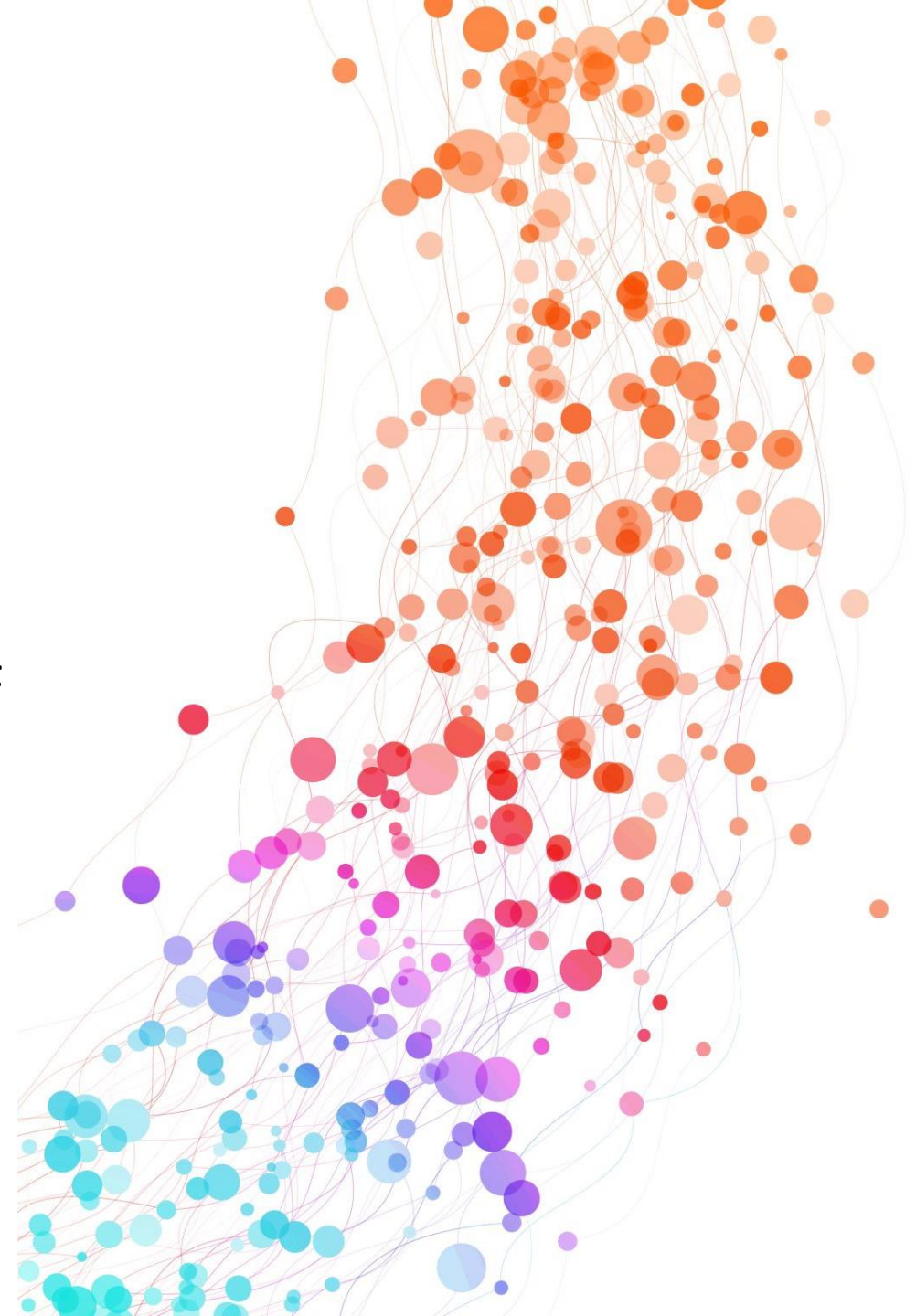
# Call for Accelerating Action Memo

- Represents shared collaborative effort between regulators and project proponents
- Call to Action and Strategic Roadmap



# Call for Accelerating Action Memo

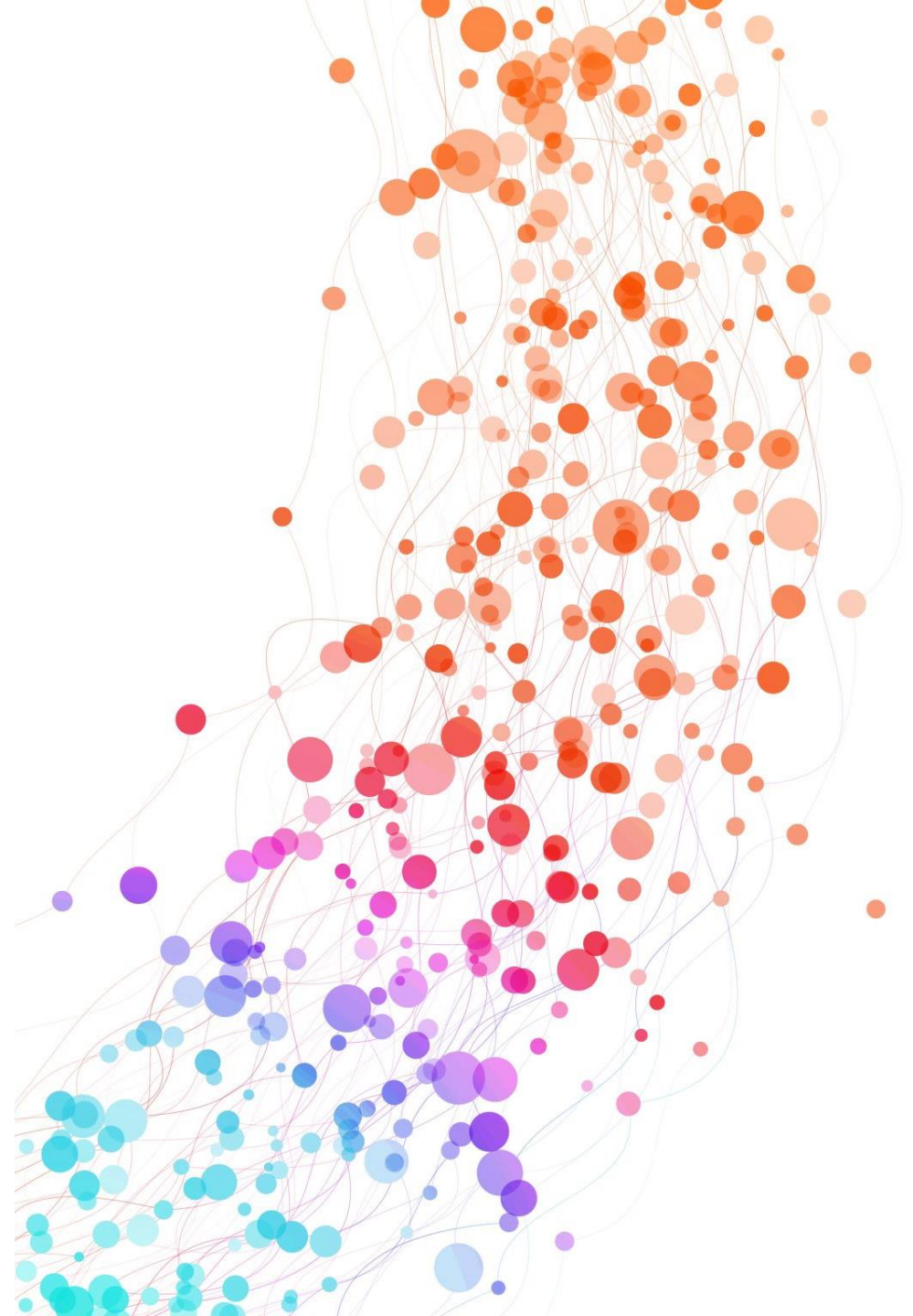
- Priority #1 – **Assess and evaluate existing resources** nationally to identify effective approaches to resolve climate change adaptation challenges with federal and state agency mandates (e.g., CWA Section 404(b)(1), ESA, California Fish & Game Code, SF Bay Plan, SF Basin Plan).
- Priority #2 – **Provide guidance and technical assistance** to regulatory agency permit managers to increase their understanding of NbS projects and empower their effectiveness for project application reviews (i.e., handling risk and uncertainty when evaluating impacts and benefits across temporal and spatial scales).



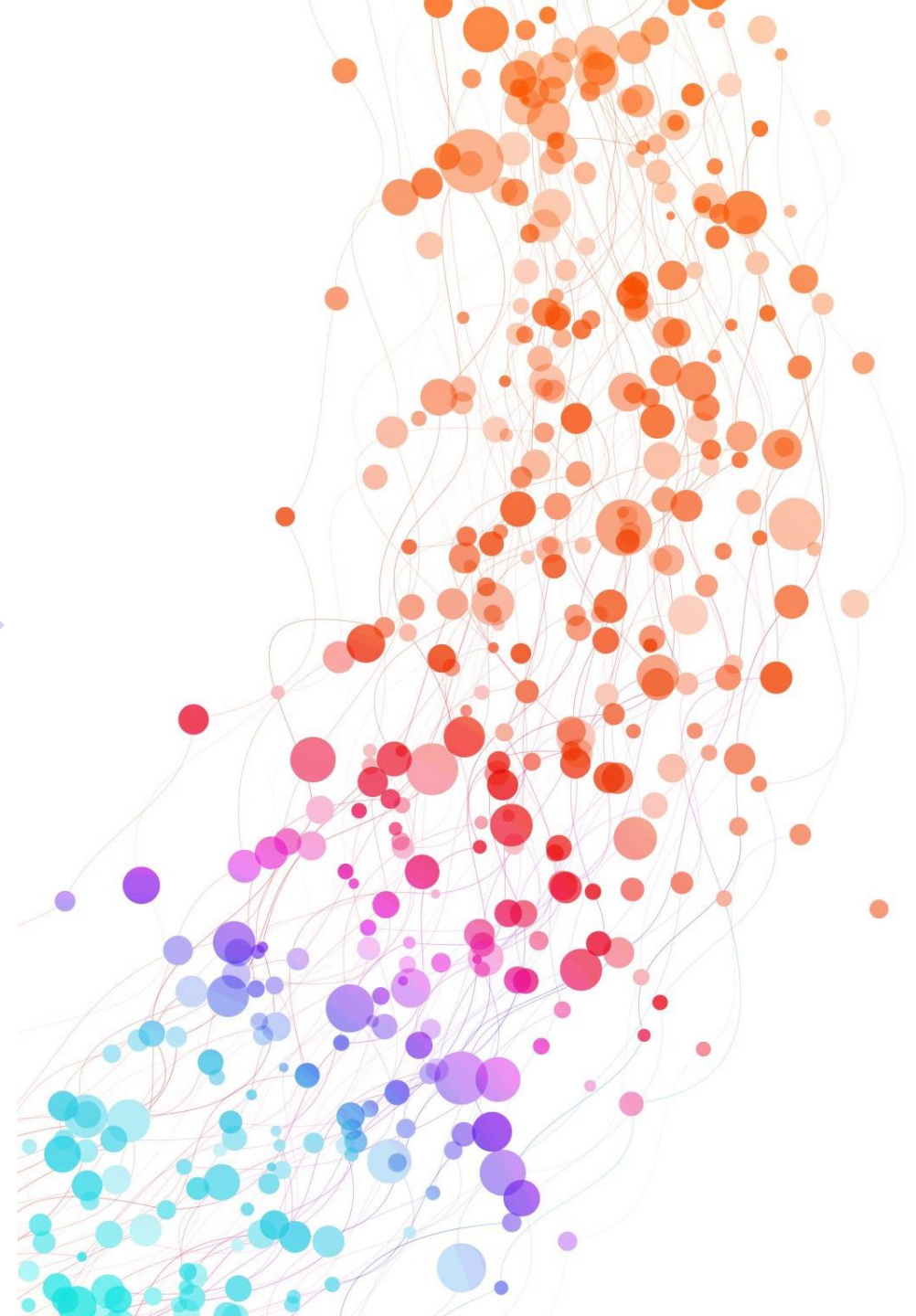
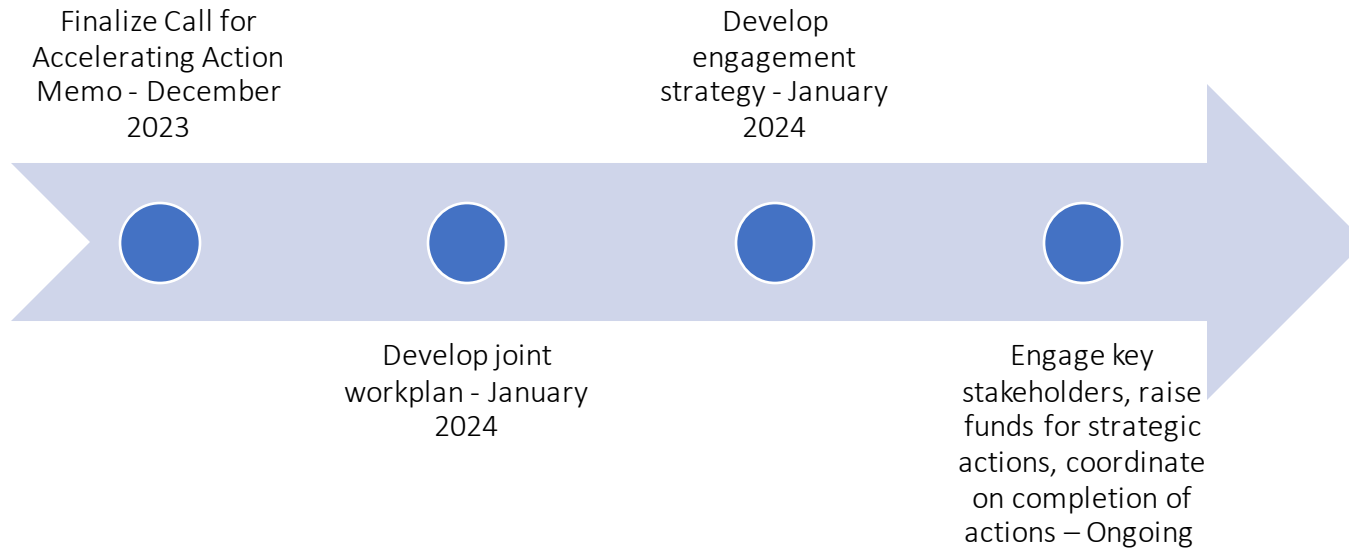


# Call for Accelerating Action Memo

- Priority #3 – **Elevate engagement** across regions, agencies, and with project proponents to shift the regulatory landscape for NbS projects.
- Priority #4 – **Establish subregional scale permitting options** to achieve climate change adaptation goals for community-led NbS initiatives.

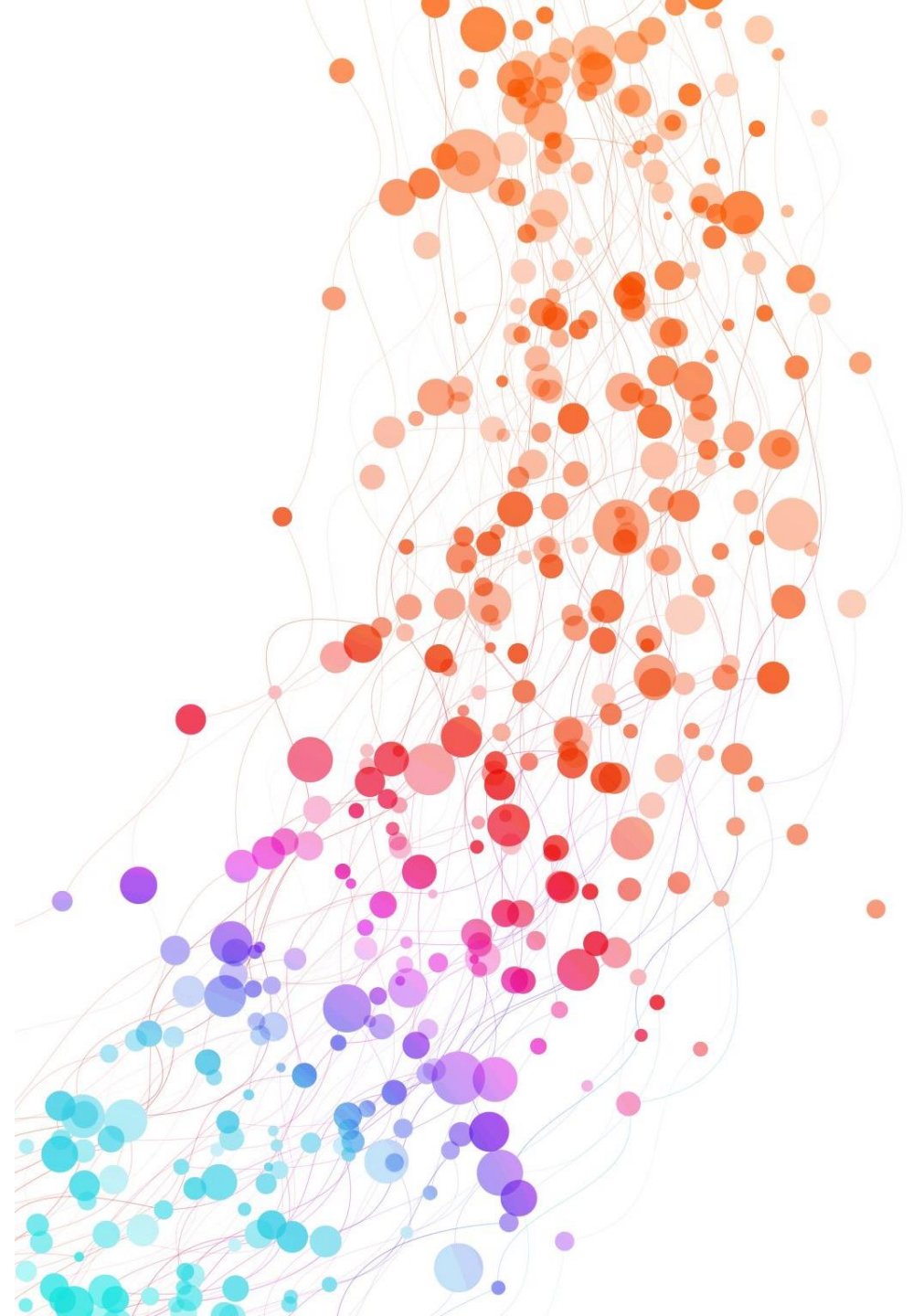


# Next Steps for our Collaborative Work



# Possible Role of Implementation Committee

- Elevate the proposed actions to key stakeholders
- Share ideas for funding this work
- Provide input on the key strategies shared







Thank you!

- Key Contacts:
  - Jennifer Siu
  - Jill Sunahara
  - Heidi Nutters