# North Carolina Flood Resiliency Blueprint Technical Advisory Group

# Hazard Id Meeting #4

July 25, 2023

10:00 am – 12:00 pm EST

# Meeting Agenda

- Draft Governance Schema
  - Principal Advisory Group Comments and Questions
  - Updates on Existing Plan Recommendations (Subtask 1.7)
- Focus Group Layout Discussion
- TAG Documentation
  - Previously Reviewed
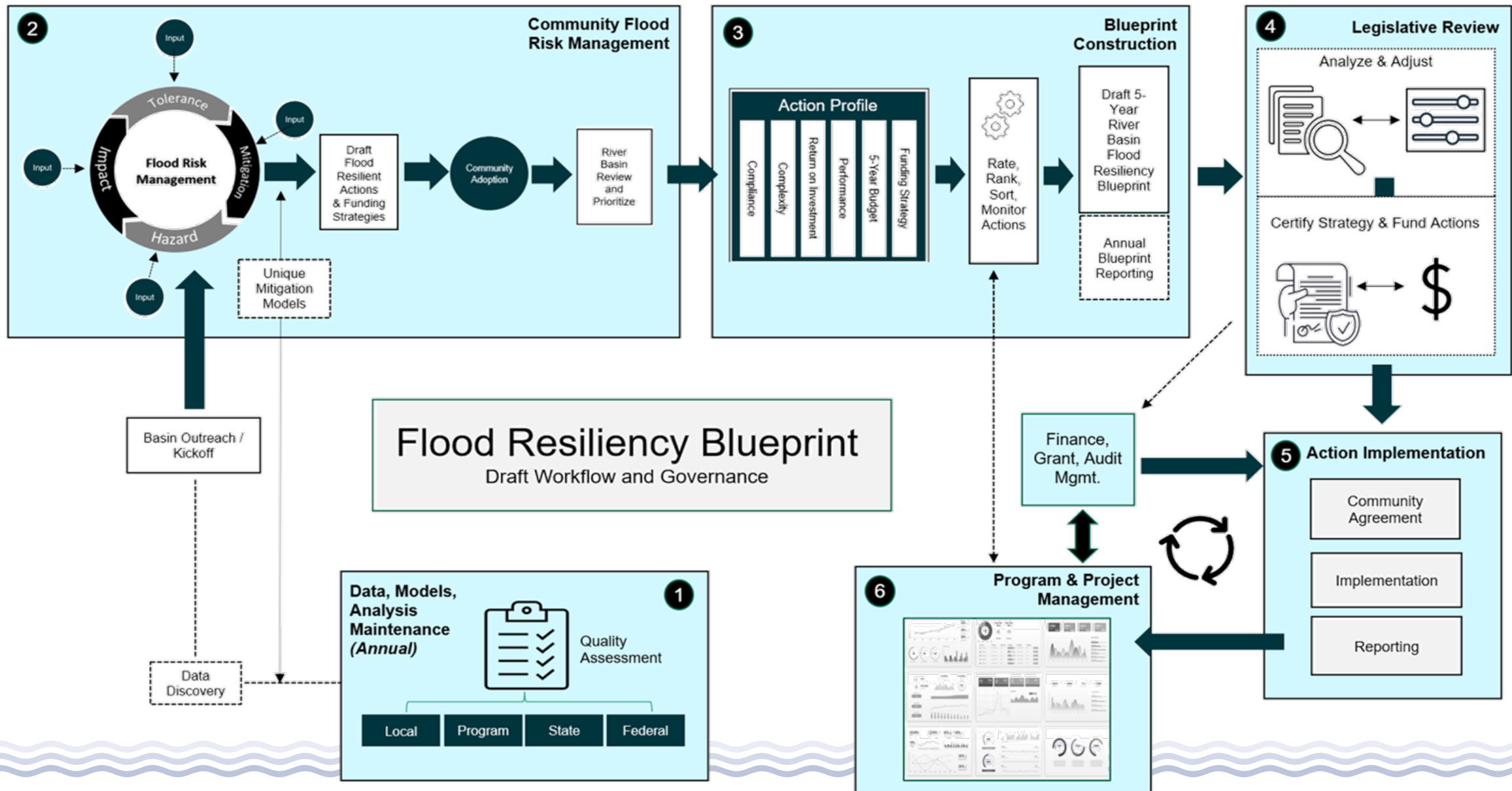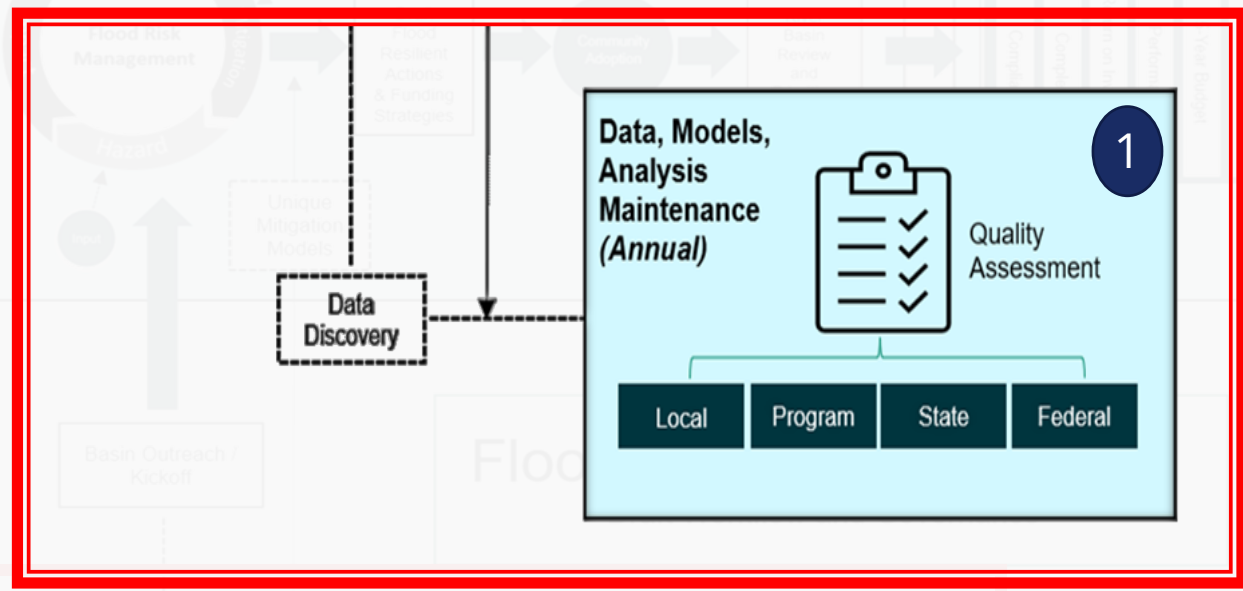  - Upcoming
- Definition Review
- Open Discussion

# Draft Governance Schema

Principal Advisory Group Comments and Questions

Updates on Existing plan Recommendations (Subtask 1.7)

DRAFT



**Flood Resiliency Blueprint**
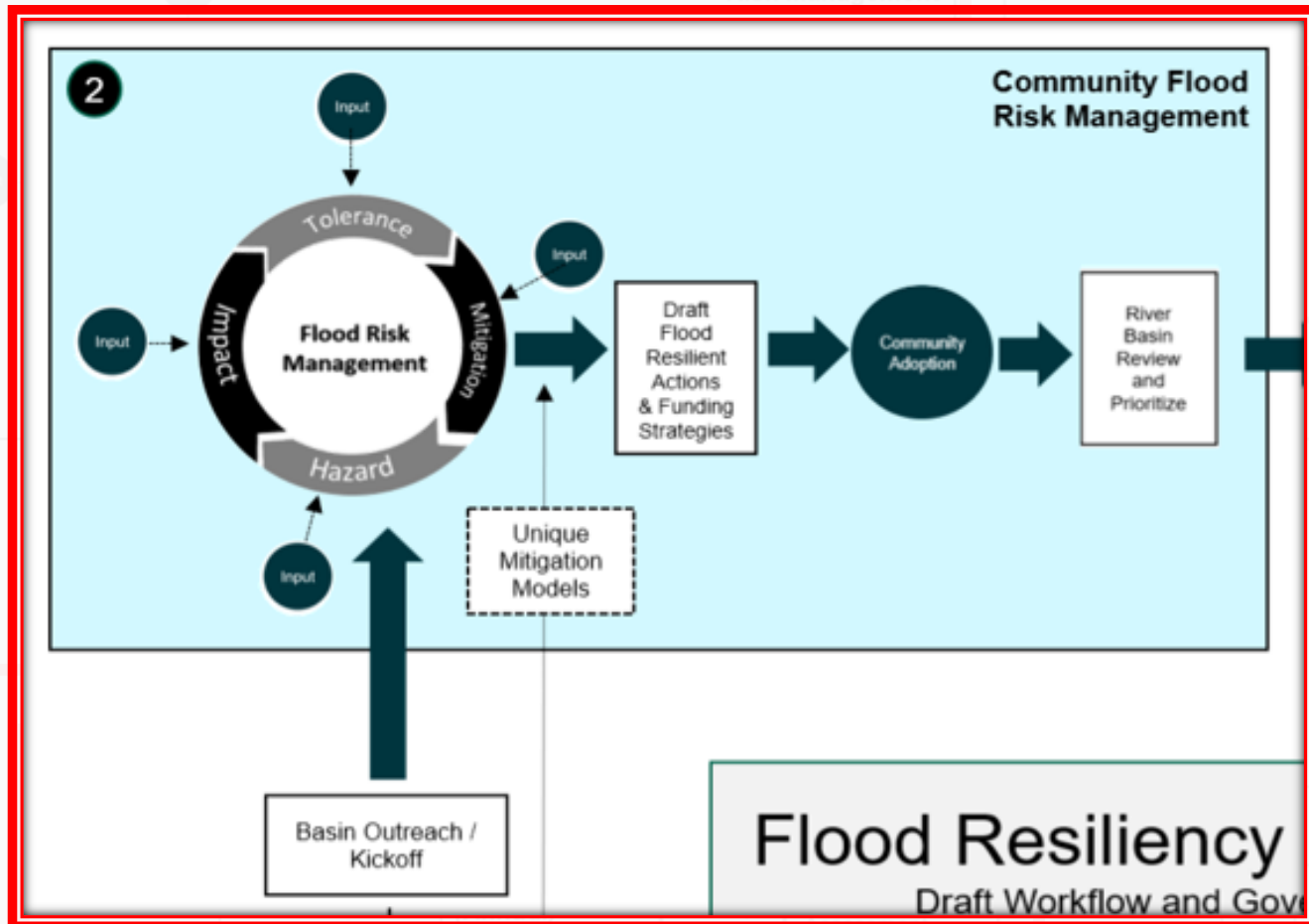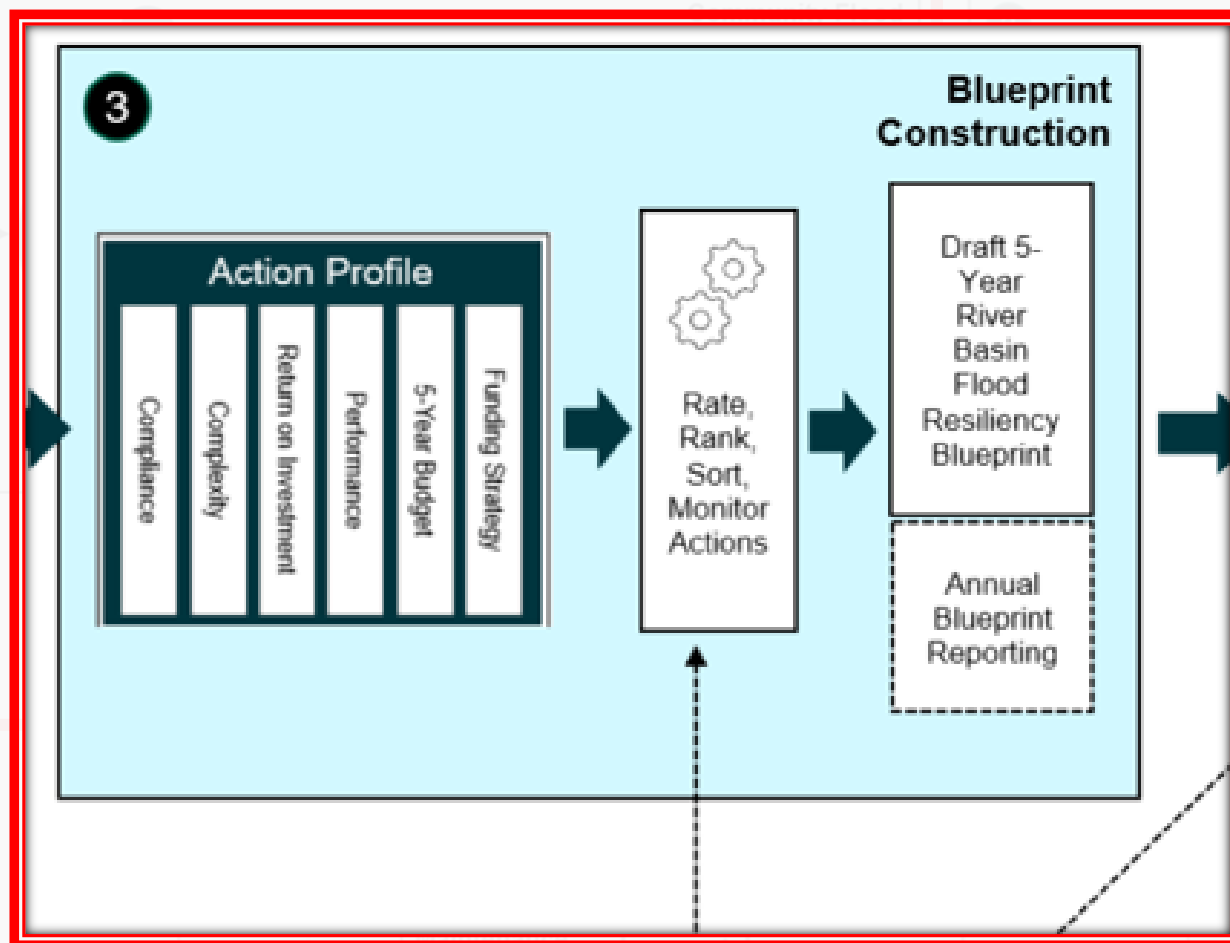Draft Workflow and Governance

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Data models for the state

Dashboard for what does exist

Locals vs. state data request

DRAFT



Locals vs. state data request

How does community adoption roll up to Basin level submission?

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Is this including all funding opportunities?

Who is making the final decisions on what is included?

To much information in the schema to share with everyone.

What does the face of this schema look like?

The tool does not Prioritize.  It gives you the ability to rank and sort based on the action profile.

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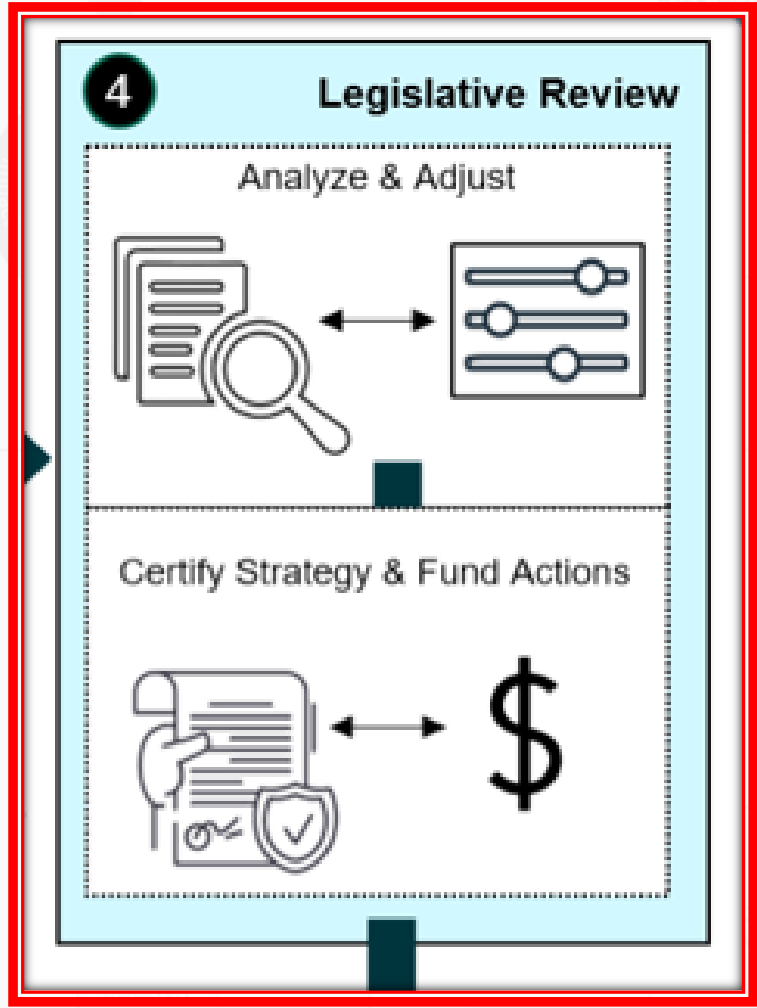
Concern for individual action plans going to legislative review

How would the Funding be approved?

There are other examples of funding that could be followed such as DOT funding or

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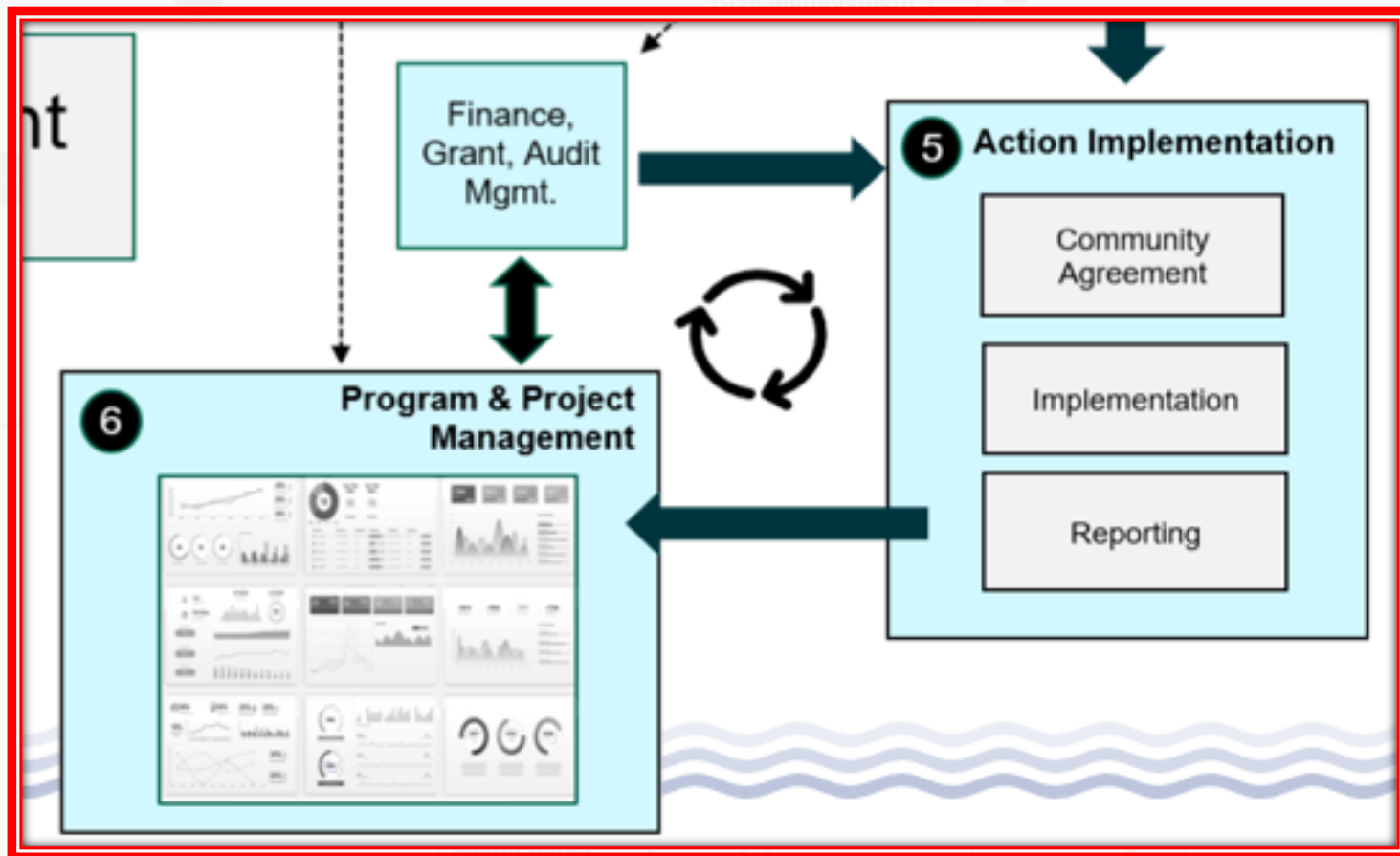


Management of all basin actions in the dashboard.

How will information be fed into other locations in the process?

How will information from existing programs be fed into the system?

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Flood Resiliency Blueprint
Draft Workflow and Governance
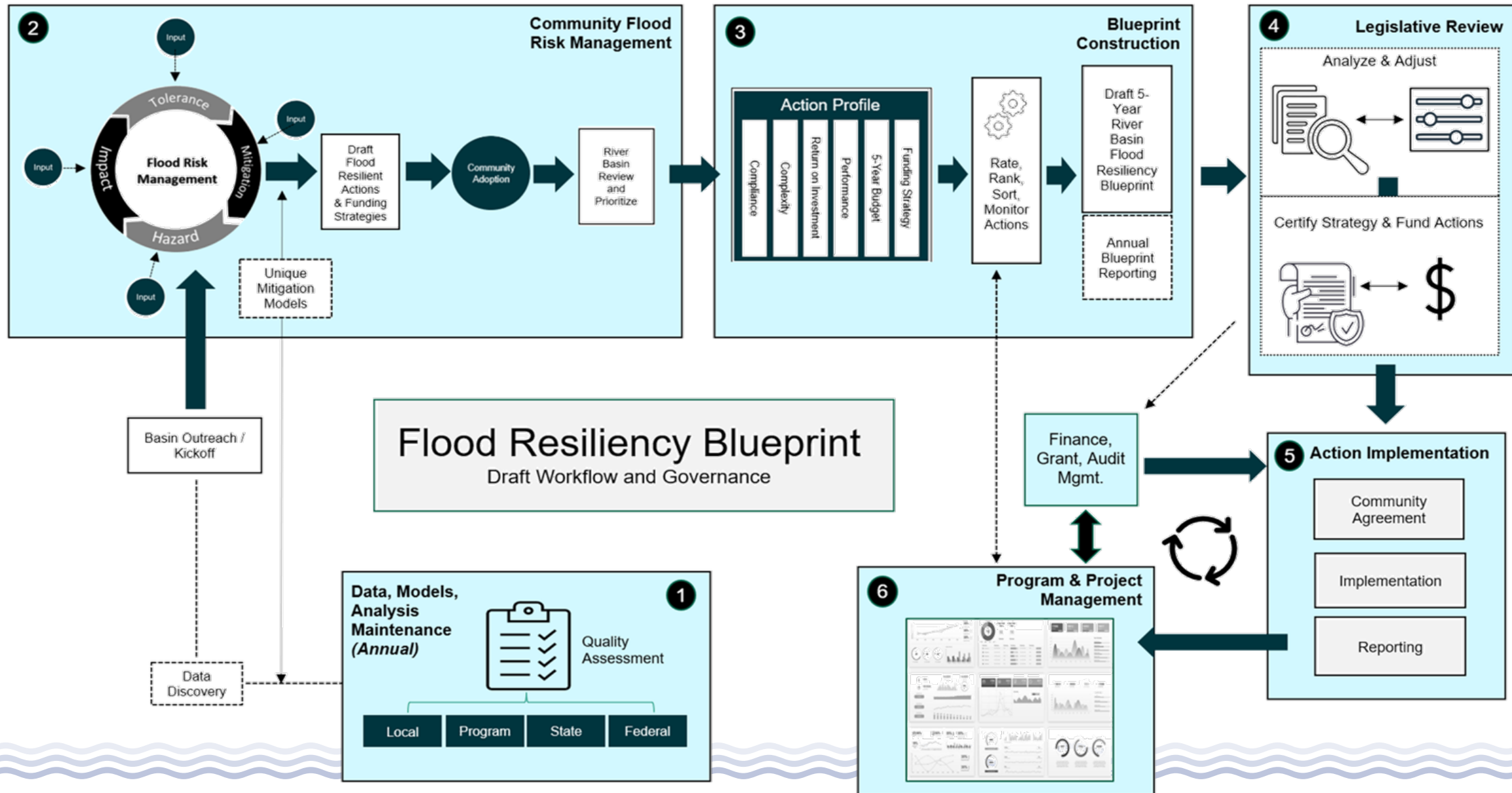
# Updates on Existing plan Recommendations (Subtask 1.7)

- Climate Strategy Reports for State Agencies:
  - NCDOA
  - NCDA&CS
  - NCDEQ
  - NCDHHS
  - NCDIT
  - NCDNCR
  - NCDMVA
  - NCDPS

- Nature Based Stormwater Action Plan
- Flood Risk Reduction Program

# Updates on Existing plan Recommendations (Subtask 1.7)

- Over 150 statewide flood resiliency actions added since last review.
- Approximately 260 total.

- Integrate climate change adaptation practices and resiliency planning into cabinet agencies' policies and operations.
- Conducting environmental reviews.
- Develop detailed informational maps to assist with watershed management.
- Congressional education on working land opportunities.

# Focus Group Layout Discussion

# Focus Groups

- Tool-Development Related
  - Statewide survey
- Neuse-Basin Specific
  - Conduct at least four stakeholder workshops within the pilot river basin (Neuse) to address regional collaboration and decision making. Workshop must include Council of Governments, municipal and county leaders, private interest, non-governmental entities, and representatives of under-resourced and underserved populations including populations protected by Title VI of the Civil Rights Act.

# Focus Group Discussion

What should be covered by the focus group for the tools?

# Focus Group Discussion

What should be covered by the focus group for the Basin?

# Focus Group Discussion

Working within each basin, what does the strategy look like?

# TAG Documentation

Previously Reviewed
Upcoming

# Subtask Status: Hazard Identification

## Completed/In Revision

1.3 Stakeholder Engagement Plan (all TAGs)

1.10 Blueprint Recommendations Process (all TAGs)

2.1 Inventory Types and Sources of Flooding

2.4 H&H Modeling Gap Analysis
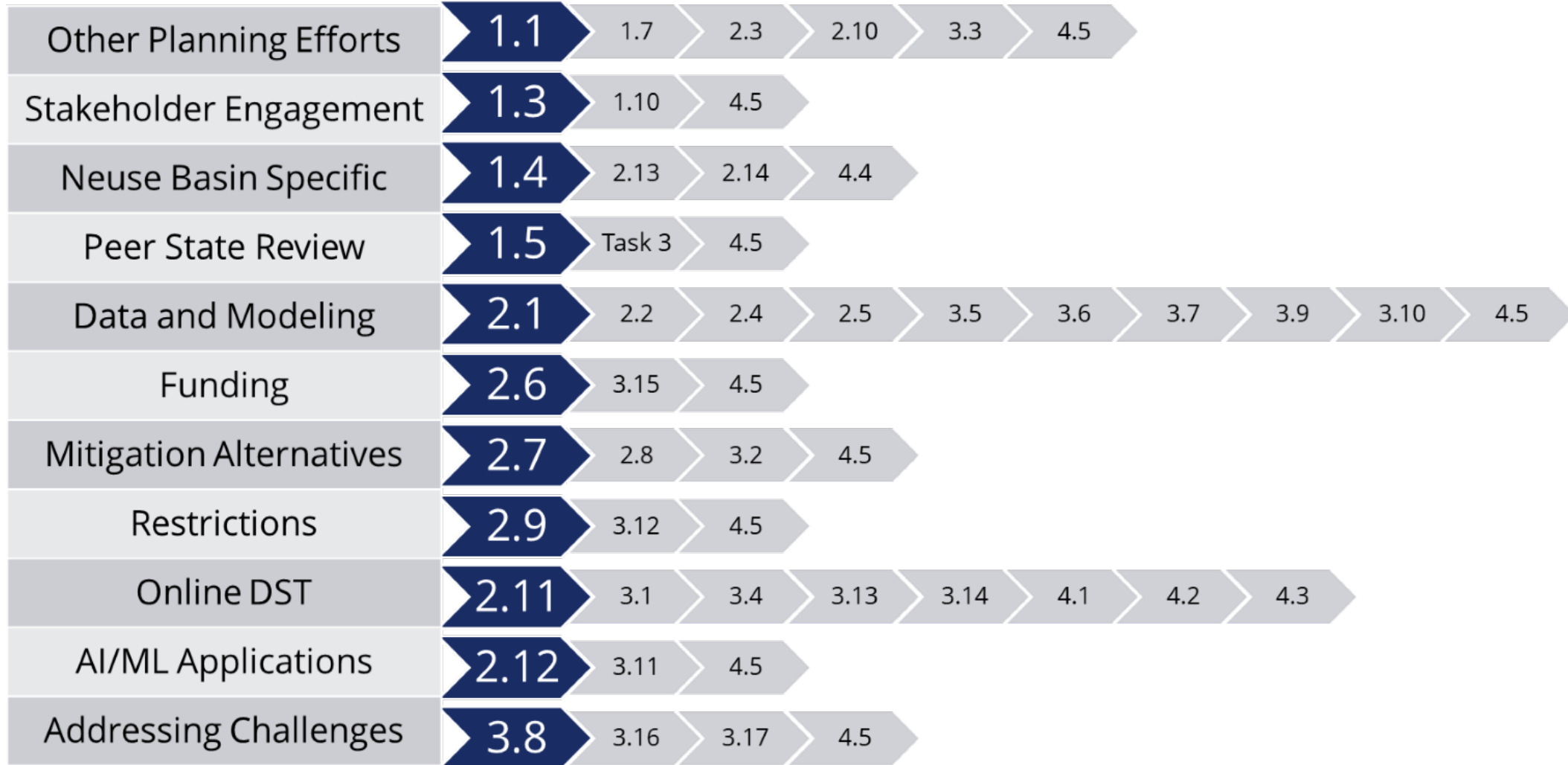
2.5 Future Flood Hazard Gap Analysis

## Upcoming

2.2 Resource Documentation for Risk Data

3.5 Open-Source H&H Modeling Approach Recommendations

3.9 Standardizing Statewide Datasets and Model Implementation Recommendations

4.5 Draft North Carolina Flood Resiliency Blueprint

# Recommendations: Hazard Identification

| Subtask | Name / Description |
|---------|-------------------|
| 2.2 | Document resources that can be used to identify and quantify existing risk, future risk, and measures of risk; people and infrastructure; ecosystem; spatial/frequency, data used to assign risk; programs that assess risk. |
| 3.5 | Identify scientifically defensible data necessary to analyze future flood hazards: future land use, climate, etc.  List of datasets (including datasets that exist and those that would need to be created) required for assessing future flood hazards. For the purposes of this analysis, "future" can be defined as 10, 20, 30, 50, 60, and 70 years in the future. If the contractor desires to use other definitions of "future," DEQ must approve of the definitions. |
| 3.9 | Identify existing federal and state restrictions that impact the ability of local governments to implement flood resilience strategies identified in the best management practices analysis (e.g., match fund requirements, complex reporting requirements, permitting). |
| 4.5 | Draft North Carolina Flood Resiliency Blueprint, a procedural document that serves as a manual for conducting flood resiliency planning at the river basin level.  This document draws on information and lessons learned from the pilot basin and considers stakeholder input and data; however, it is intended to be a high- level comprehensive document that establishes how flood resiliency plans will be developed moving forward.  This document shall include a decision framework that will lead future implementers through the planning process by identifying decision points, actions, and possible outcomes for each stage of the planning process.  A phased approach including tasks and deliverables that streamline the overall stakeholder, analysis, and modeling processes will be defined to facilitate the development of future scopes of work.  The document shall make recommendations including policy and governance strategies that could be incorporated at the state, regional, and community levels to coordinate efforts, affect change and improve the overall flood resiliency planning process. |

# Subtask Flow Paths

| Category | | Flow Path |
|---|---|---|
| Other Planning Efforts | **1.1** | 1.7 → 2.3 → 2.10 → 3.3 → 4.5 |
| Stakeholder Engagement | **1.3** | 1.10 → 4.5 |
| Neuse Basin Specific | **1.4** | 2.13 → 2.14 → 4.4 |
| Peer State Review | **1.5** | Task 3 → 4.5 |
| Data and Modeling | **2.1** | 2.2 → 2.4 → 2.5 → 3.5 → 3.6 → 3.7 → 3.9 → 3.10 → 4.5 |
| Funding | **2.6** | 3.15 → 4.5 |
| Mitigation Alternatives | **2.7** | 2.8 → 3.2 → 4.5 |
| Restrictions | **2.9** | 3.12 → 4.5 |
| Online DST | **2.11** | 3.1 → 3.4 → 3.13 → 3.14 → 4.1 → 4.2 → 4.3 |
| AI/ML Applications | **2.12** | 3.11 → 4.5 |
| Addressing Challenges | **3.8** | 3.16 → 3.17 → 4.5 |

# Subtask working

| Category | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other Planning Efforts | 1.1 | 1.7 | 2.3 | 2.10 | 3.3 | | | |
| Stakeholder Engagement | 1.3 | 1.10 | | | | | | |
| Neuse Basin Specific | 1.4 | 2.13 | 2.14 | 4.4 | | | | |
| Peer State Review | 1.5 | | | | | | | |
| Data and Modeling | 2.1 | 2.2 | 2.4 | 2.5 | 3.5 | 3.6 | 3.7 | 3.9 | 3.10 |
| Funding | 2.6 | 3.15 | | | | | | |
| Mitigation Alternatives | 2.7 | 2.8 | 3.2 | | | | | |
| Restrictions | 2.9 | 3.12 | | | | | | |
| Online DST | 2.11 | 3.1 | 3.4 | 3.13 | 3.14 | 4.1 | 4.2 | 4.3 |
| AI/ML Applications | 2.12 | 3.11 | | | | | | |
| Addressing Challenges | 3.8 | 3.16 | 3.17 | | | | | |
| Final DRAFT Blueprint | 4.5 | | | | | | | |

Legend:
| Color | Status |
|---|---|
| (red) | Not Started/Needs Significant Work |
| (yellow) | Started |
| (light green) | DEQ Review/Revisions |
| (green) | TAG Review Closed |
| (gray) | Complete |

# Definition Review

# Definition Review

## Original Definitions: DEQ Reviewed

- FLOOD HAZARD – an event or physical condition that can cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss.

- FLOOD IMPACT – measurable damage resulting from a hazardous event on people and social, environmental, structural, commercial and infrastructure assets.

- FLOOD RESILIENCE – capacity of individuals, a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption.

- FLOOD RISK – the likelihood a threat will harm individuals, communities, or assets with some severity or consequence.

- FLOOD VULNERABILITY – measure of someone and something's (infrastructure, economic activity) ability to prepare for, manage, survive, and recover from a flood event.

## Update – TAG Comments

- FLOOD HAZARD – an event or physical condition that can cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss.

- FLOOD IMPACT – measurable damage resulting from a hazardous flooding event on people, socioeconomic systems, environmental, structural, commercial and infrastructure assets.

- FLOOD RESILIENCE – capacity of individuals, a community, business, or natural environment to reduce, withstand, respond to, and recover from flooding by positively adapting and mitigating the impacts of changing conditions and challenges, including flooding and climate change.

- FLOOD RISK – combination of the likelihood of a flood hazard, the physical exposure of people and assets to that flood hazard, and the vulnerability of people and assets to suffer loss and damage during and after a flooding event.

- FLOOD VULNERABILITY – level of ability people, communities, and assets (homes, businesses, infrastructure, etc.) have to prepare for, manage, survive, and recover from a flood event given existing socio-economic, environmental, and physical contexts.

# Definition Review

## Proposed Definitions – Response to TAG Comments

- MITIGATION – any effort that reduces the overall risk and severity of flood related loss and damage to life and property. (FEMA; NCDMS)

- ADAPTATION – actions that prepare for and adjust to new conditions, thereby reducing harm or taking advantage of new opportunities. Adjustment in natural or human systems in response to actual or expected hazards or their effects, which reduces harm or exploits beneficial opportunities. (ICCP; National Climate Assessment)

- NATURE-BASED STRATEGY –actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address flood related challenges effectively and adaptively, providing benefits for both people and the environment. (International Union for Conservation of Nature and Natural Resources; White House Council on Environmental Quality)

- **STAKEHOLDERS** – people who contribute to the planning and decision-making processes of ongoing resilience efforts in communities where they live, work, play, and invest. (NCORR; NCDEQ)

- **RIVER BASIN** - the largest category of surface water drainage (i.e., an area of the landscape that is drained by a river and its tributaries); there are seventeen (17) river basins in North Carolina. (USGS)

- FLOOD RESILIENCE BLUEPRINT - a statewide initiative to develop an online-decision support tool and associated planning to address flooding for communities in North Carolina's river basins. (NCDMS)

# Definition Review

## Proposed Definitions

- REPETITIVE LOSS – flood-prone structures, insured by the National Flood Insurance Program, that have sustained flood related damage on two or more occasions during a ten-year period, in which the cost of repairs, on average, equaled or exceeded 25% of the structures market value at the time of each flood event. Repetitive loss further encompasses structures that have sustained flood related damage where the cost of repairs exceeds 50% of the structure's market value at the time of the flood event. (FEMA)

Overly technical?

- SEVERE REPETITIVE LOSS – flood-prone structures with at least two separate National Flood Insurance Program claim payments with a cumulative amount exceeding the market value of the insured structures. Severe repetitive loss further encompasses structures that have incurred flood-related damage for which four or more separate claim payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claim payments exceeding $20,000. (FEMA)

How to convey efficiently?

- UNDERSERVED – populations sharing a particular characteristic, as well as geographic communities, who have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life. (Executive Order 14035)

Too Similar?

- UNDER-REPRESENTED – groups who traditionally (or historically) have not had equal access to economic opportunities because of discrimination or other societal barriers. This may vary by context and geography but can include race, gender, ethnicity, sexual-orientation, disability, or low-income status. (National Association of Counties)

One clarifying definition?

- HISTORICALLY MARGINALIZED – individuals, groups, and communities that have historically and systematically been denied access to services, resources, and power relationships across economic, political, and cultural dimensions as a result of systemic, durable, and persistent racism, discrimination, and other forms of oppression. (NCDHHS)

How to emphasize differences?

# Open Discussion

# Next Steps

- Review of remaining documents.
  - Questions for remaining Documents
    - Teams site is available for TAG meetings if there are questions to discuss with the other TAG members.
      - https://teams.microsoft.com/l/channel/19%3akQ-fLhOyhzAWXclYmcYZRXHy5KsJGiavQyKl1hVJzdA1%40thread.tacv2/General?groupId=fc67fd75-f3fc-4838-bc90-add0cad3478b&tenantId=7a7681dc-b9d0-449a-85c3-ecc26cd7ed19

- Review of comment matrix for each document

- Questions moving forward.