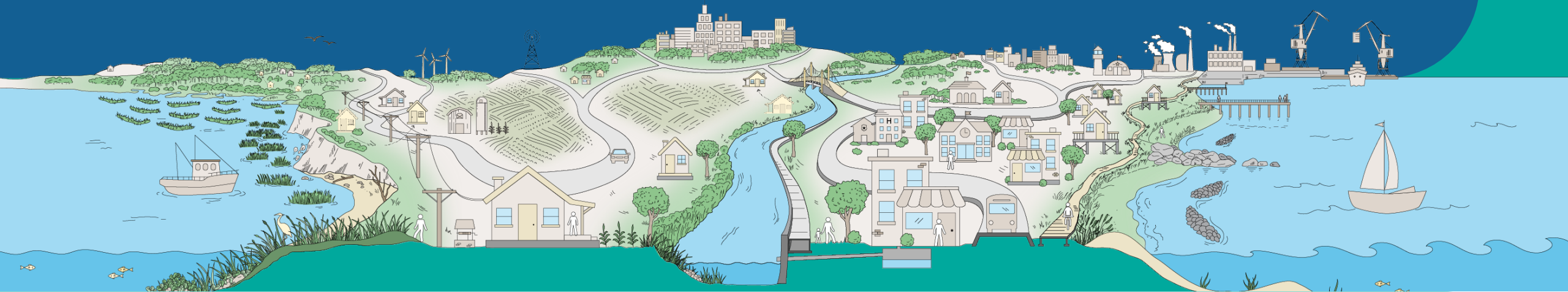


VIRGINIA FLOOD PROTECTION MASTER PLAN

Floodplain Management Professionals Webinar

DRAFT Flood Resilience Strategies

March 18, 2025



DCR Office of Resilience Planning

Planning for a flood-resilient future.

What we do: Distribute knowledge and coordinate action to achieve a flood-resilient future for Virginia through informed planning and proactive intergovernmental solutions.

Why we do it: We envision a Virginia where state-led solutions effectively confront present and future flood risks. Through aligned collective action, we will increase resilience and minimize the impacts of flooding statewide.



DCR Office of Resilience Planning

Planning for a flood-resilient future.



**Develop and
Implement
State-led Flood
Resilience Plans**



Coordinate Action



**Supply Data,
Information and
Resources**

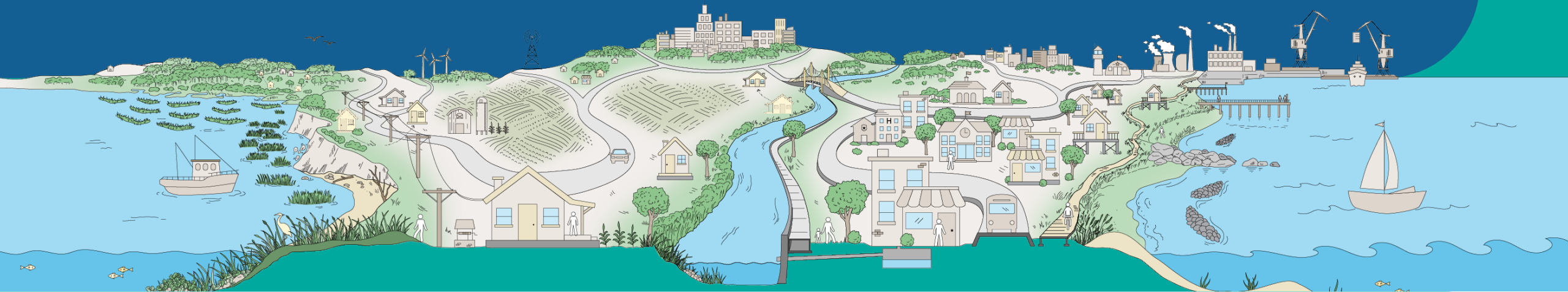


**Conduct Outreach
and Engagement**

Planning Team Introduction



The Virginia Flood Protection Master Plan (VFPMP) will be **an actionable plan** for the Commonwealth to use in crafting policies and programs to mitigate the impacts of flooding on people, the economy, and the environment.



PURPOSE OF THIS REVIEW

As part of the development of the Virginia Flood Protection Master Plan, the Arcadis team is scoped with drafting the first update of the VFPMP in 20 years. The approach to plan development, as directed by DCR's Office of Resilience Planning, is to co-develop policy and program strategies alongside implementing state agency staff and supporting stakeholders that can be implemented over a 5-year window (2025-2030).

The Arcadis team recognizes this as a critical point in VFPMP development as it involves synthesizing varied stakeholder input and best practices in flood resilience into a comprehensive and innovative set of strategies to move the Commonwealth toward its vision. This review is intended to:

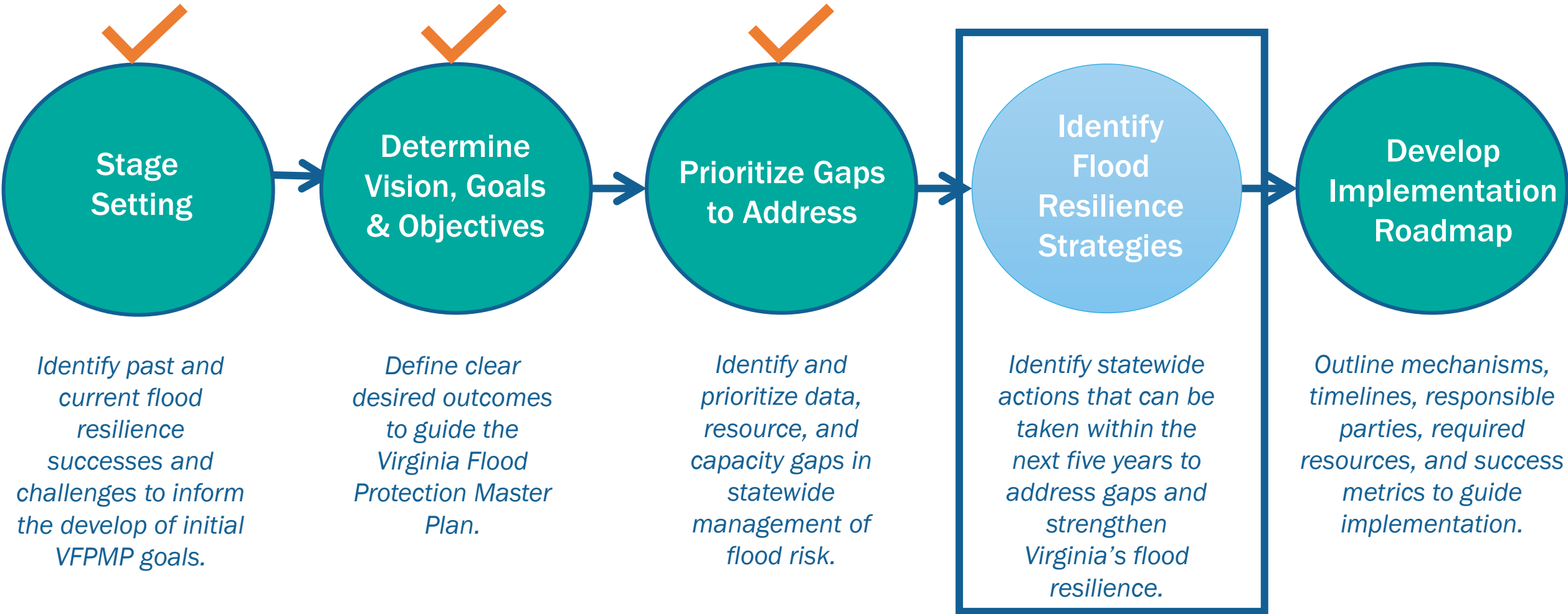
- Provide a status update of work-to-date on development of policy and program strategies
- Provide an opportunity for DCR ORP to give feedback on the overall direction of the DRAFT strategies

VISION STATEMENT

A thriving Commonwealth proactively addressing flood risks to further strengthen the resilience of communities, the economy, and the environment now and into the future.



KEY POINTS IN COLLABORATIVELY DEVELOPING THE VFPMP



APPROACH TO STRATEGY EVALUATION

WHAT DO THE STRATEGIES NEED TO ACCOMPLISH?

The VFPMP is scoped to include Policy and Program Strategies that state agencies will implement:

- Achieve plan **Objectives** (which support meeting plan Goals and align with plan Vision)
- Address **Prioritized Gaps** in capacities and resources (including data resources)
- Be feasible to implement over a 5-year window (before the next planning time horizon)

STRATEGIES MUST ALIGN WITH PLAN GOALS AND OBJECTIVES (4.3, 3.3)



A. Mitigate current and future flood risks statewide.

- A1. Reduce negative effects on human health from flooding.
- A2. Reduce negative impacts to vulnerable populations from flooding.
- A3. Reduce flood damage to buildings and infrastructure.
- A4. Reduce economic disruptions and losses from flooding.
- A5. Reduce negative effects to natural and cultural resources from flooding.



B. Advance lasting and unified strategies to address flood risk.

- B1. Increase understanding of current and potential future flood risks.
- B2. Strengthen the ability to prepare for and manage flood risks.
- B3. Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.
- B4. Increase the return on public investments in flood resilience.
- B5. Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.



C. Capture additional benefits through flood resilience.

- C1. Improve health and quality of life through flood resilience.
- C2. Boost the economy through flood resilience.
- C3. Enhance the natural environment through flood resilience.

STRATEGIES MUST HELP ADDRESS PRIORITY GAPS (3.4)

Prioritized Gaps

P1. Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.

S1. Staff capacity and data management resources for coordination between federal, state, and local agencies during events to ensure targeted event response.

P2. Funding resources for long term resilience planning that supports a wide breadth of needs at both the state and local government levels.

S2. Staff capacity and funding resources for additional grant application and management support to local governments.

P3. Access to up-to-date data resources that support long-term flood resilience planning and resource allocation decisions.

S3. Funding resources for asset maintenance.

P4. Community knowledge and capacity to take proactive steps to reduce vulnerability to flooding.

S4. Reliance on non-permanent federal funding posing challenges in sustaining flood resilience programs.

P5. Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

S5. Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals.

P6. Robust decision-making frameworks and capacities to facilitate long-term planning efforts and resource allocation decisions.

S6. Staff capacity for integration of flood resilience tools.

P7. Staff capacity and resources for interdepartmental data aggregation and coordination for comprehensive flood risk assessments, including those for state-owned assets.

S7. Staff capacity to address and assist with federal and state regulations.

STRATEGIES ARE ORGANIZED BY STAKEHOLDER-IDENTIFIED THEMES



Meaningful Coordination

We are actively increasing awareness and understanding of flood resilience efforts across state agencies and programs, leveraging existing coordination bodies to improve flood resilience outcomes.



Enhanced Capacity

We are actively integrating comprehensive staff training and development opportunities with strategic workforce planning to effectively manage and expand flood resilience efforts.



Sustainable Funding

We are actively enhancing flood resilience through strategic financial management of existing and potential funding.



Reliable Data Systems

We are actively acquiring, managing, and sharing flood resilience-related data across agencies to inform decision-making and guide policy and program administration.



Innovative Adaptation

We are actively implementing innovative flood resilience solutions to enhance financial outcomes, adaptively manage both planning and standards, and prioritize Nature-Based Solutions where suitable.



Supported Localities

We are actively enhancing partnerships with localities to preserve assets, expand engagement, provide technical assistance, and develop flood resilience resources and guidance.

FRAMING OF STRATEGIES

These strategies aim to be simple, comprehensive, foundation-setting, and impactful

Why are these strategies a good fit for this plan?

- **They Work to Amplify Foundational Elements of Flood Resilience:** By identifying existing gaps in flood resilience practices across state agencies, we pinpointed foundational strategy needs – such as data integration, policy alignment, and resource allocation. These needs must be addressed to create a unified and effective approach for program and policy development over the next five years.
- **They Work to Align with Existing Agency Efforts and Plan Objectives:** The level of detail for the strategies allows each state agency to identify ways to adapt the strategies to align with existing agency efforts while still supporting plan objectives.
- **They Work to Build Long-Term Capacity for Resilience Into State Agency Practices:** The strategies reflect a combination designed to put the foundation in place for future flood resilience work, and strategies more specifically targeted at building a flood resilient future.
- **They Work to Drive Innovation in the Next 5 Years and Beyond:** By being both broad and simultaneously targeted, the suite of strategies aim to drive flood resilience innovation in the next 5 years. Addressing common themes that have come up through various engagements with stakeholders, the strategies lay the foundation for actionable and measurable outcomes in the next 5 years.

DRAFT STRATEGIES v. POSSIBLE ACTIONS

Strategies

Higher-level policy/program Strategies that build flood resilience and meet plan Objectives.

Timeframe: next **five years**, with longer-term relevance as the plan is updated over the next 20 years.

Room for **flexibility in how implemented**, to accommodate changing administrations and allow for alignment with agency-specific plans.

Characteristics:

- Broad and overarching.
- Focused on "what".
- Aimed at aligning resources and initiatives toward goals and objectives.
- Sets the foundation for decision-making and prioritization.

Possible Actions

Illustrative examples of the kinds of **more detailed recommended actions** that can support the implementation of Strategies in the near term.

This content will be **revised and refined with stakeholder input** as part of what will be included in the **Implementation Roadmap**.

Timeframe: next **two years**, with ability to be annually updated to advance the plan over the next five years.

Characteristics:

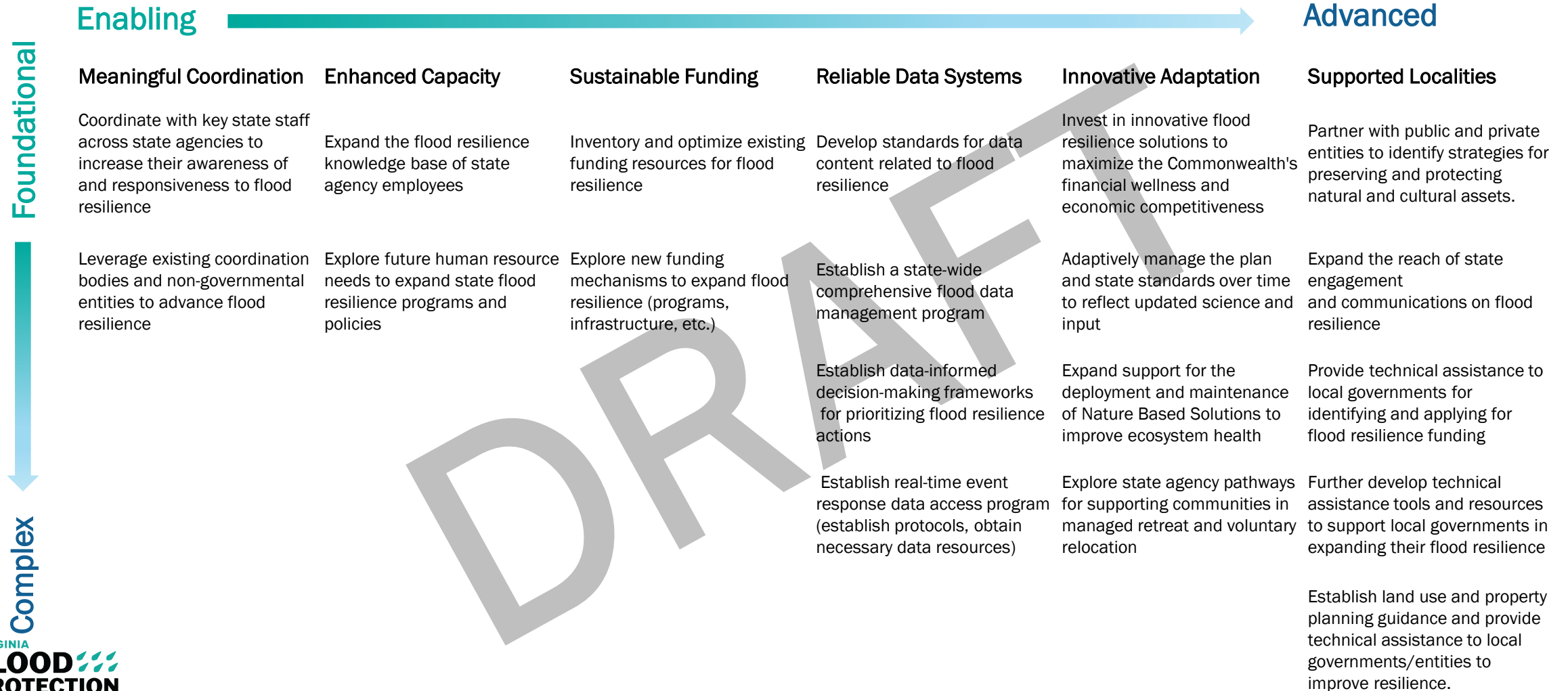
- Specific and focused on execution.
- Can be targeted at and customized by agencies.
- Focused on "how" to achieve the strategy.
- Often short- to medium-term in nature and measurable.
- Can be one of many actions supporting the broader strategy.

QUESTIONS TO GUIDE REVIEW

- Given that the implementers of this plan will largely be state agency leadership and staff, what policy areas (if any) have not been adequately addressed in the DRAFT strategies?
- Do the DRAFT strategies adequately reflect the unique context and challenges of Virginia's flood resilience landscape?
- Are the DRAFT strategies specific enough to provide clear guidance, yet flexible enough to adapt to changing circumstances and new information during this plan's implementation period (2025-2030)?
- Are the DRAFT strategies clearly framed and coherent? Do they provide a logical connection to the identified Gaps and how they are solutions?

STRATEGY SUMMARY

Strategies are ordered from left (enabling) to right (advanced), and top (foundational) to bottom (complex). This orientation is intended to reflect that strategies build on one another both in terms of being enabling steps for more advanced work across themes, as well in terms of foundational steps within a theme to unlock more complex strategies.



DRAFT

19 DRAFT STRATEGIES FOR FEEDBACK

The slides are organized by theme, with the first slide presenting all the DRAFT strategies under that theme and the following slides including more details about each DRAFT strategy



DRAFT Strategies:

- 1st DRAFT strategy
- 2nd DRAFT strategy
- 3rd DRAFT strategy



*This content on the left will be revised and refined with stakeholder input as part of what will be included in the **Plan** document.*

DRAFT STRATEGY

1ST DRAFT STRATEGY

MORE DETAILED DESCRIPTION OF THE STRATEGY AND
ADDITIONAL DETAILS REGARDING WHY IT WAS INCLUDED

**OBJECTIVES
ADVANCED**

**GAPS
ADDRESSED**

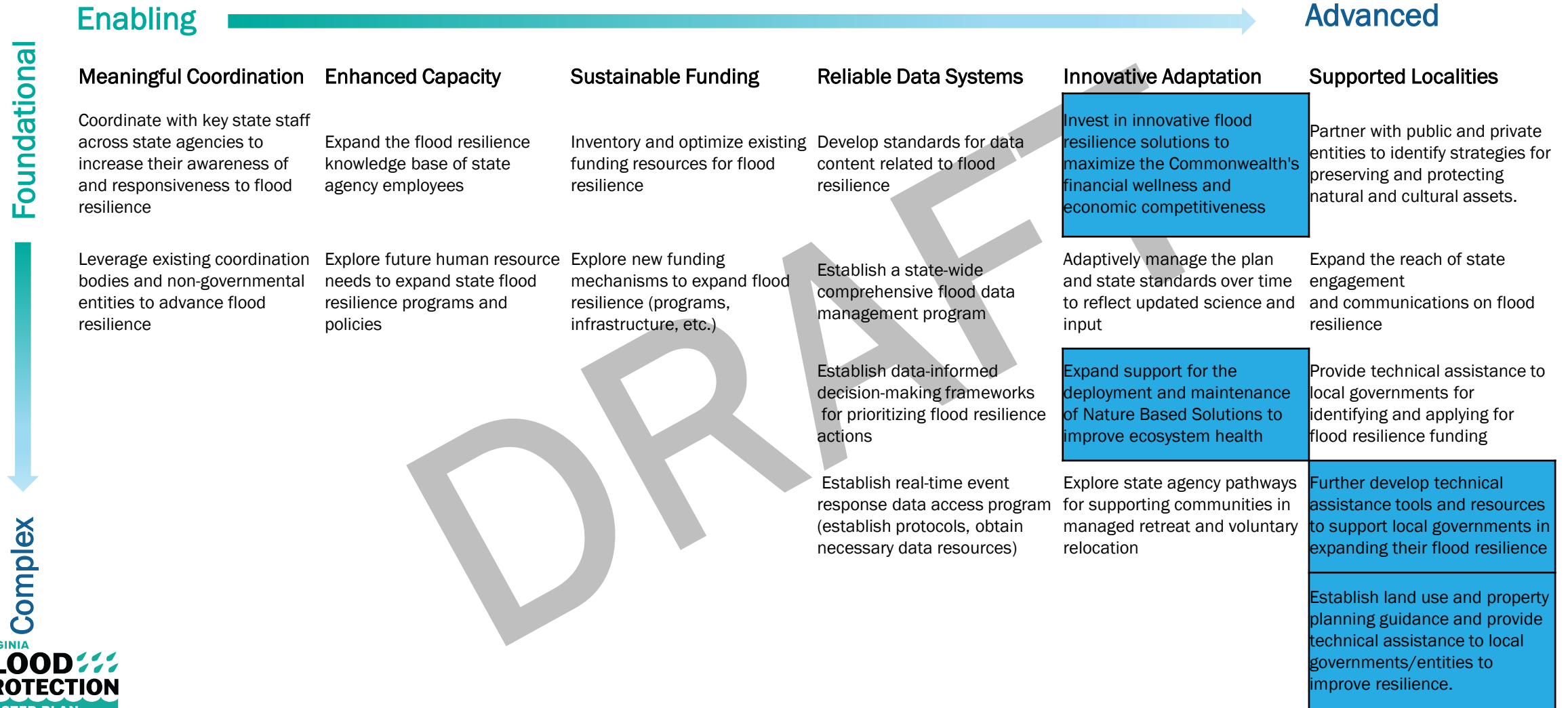
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POTENTIAL ACTIONS TO IMPLEMENT:

- POTENTIAL ACTION 1
- POTENTIAL ACTION 2
- POTENTIAL ACTION 3
- POTENTIAL ACTION 4

STRATEGY SUMMARY

Strategies are ordered from left (enabling) to right (advanced), and top (foundational) to bottom (complex). This orientation is intended to reflect that strategies build on one another both in terms of being enabling steps for more advanced work across themes, as well in terms of foundational steps within a theme to unlock more complex strategies.



DRAFT



Innovative Adaptation

DRAFT Strategies:

- Invest in innovative flood resilience solutions to improve the Commonwealth's financial wellness and economic competitiveness.
- Adaptively manage the plan over time to reflect updated science and input.
- Expand support for the deployment and maintenance of Nature Based Solutions to improve ecosystem health.
- Explore state agency pathways for supporting communities in managed retreat and voluntary relocation.

DRAFT



DRAFT STRATEGY

Invest in innovative flood resilience solutions to improve the Commonwealth's financial wellbeing and economic competitiveness.

The development and implementation of innovative flood resilience strategies, tools, and mechanisms will position Virginia as a leading example of effective and coordinated flood resilience efforts. Creative and original partnerships should be established not only across state agencies but also with external stakeholders to develop a broad and comprehensive range of flood resilience strategies.

OBJECTIVES ADVANCED

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

C2: Boost the economy through flood resilience.

A4: Reduce economic disruptions and losses from flooding.

GAPS ADDRESSED

S4: Reliance on non-permanent federal funding posing challenges in sustaining flood resilience programs

POTENTIAL ACTIONS TO IMPLEMENT:

- Explore partnerships with the private sector to mobilize investments for flood resilience.
- Implement rolling conservation easements to protect environmentally sensitive land, support sustainable land use, and strengthen long-term environmental stewardship.
- In the long term, develop a program similar to New Jersey's Blue Acres to support strategic buyouts and enhance community resilience.
- Utilize buyout properties to implement best management practices, such as wetland restoration, to enhance resilience and environmental benefits.
- Coordinate the FEMA buyout program between VDEM and DCR to ensure efficient implementation and alignment of resources.



DRAFT STRATEGY

Adaptively manage the plan over time to reflect updated science and input.

To ensure the VFPMP remains useful and relevant to all Virginians, continued stakeholder feedback and updated flood resilience data should be incorporated. Relevant agencies must monitor and adjust strategies throughout the plan’s implementation. In this way, the VFPMP functions as a living document, continuously evolving to align with its vision: a thriving Commonwealth proactively addressing flood risks to strengthen the resilience of communities, the economy, and the environment—now and into the future.

OBJECTIVES ADVANCED

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

B4: Increase the return on public investments in flood resilience.

B2: Strengthen our ability to prepare for and manage flood risks.

GAPS ADDRESSED

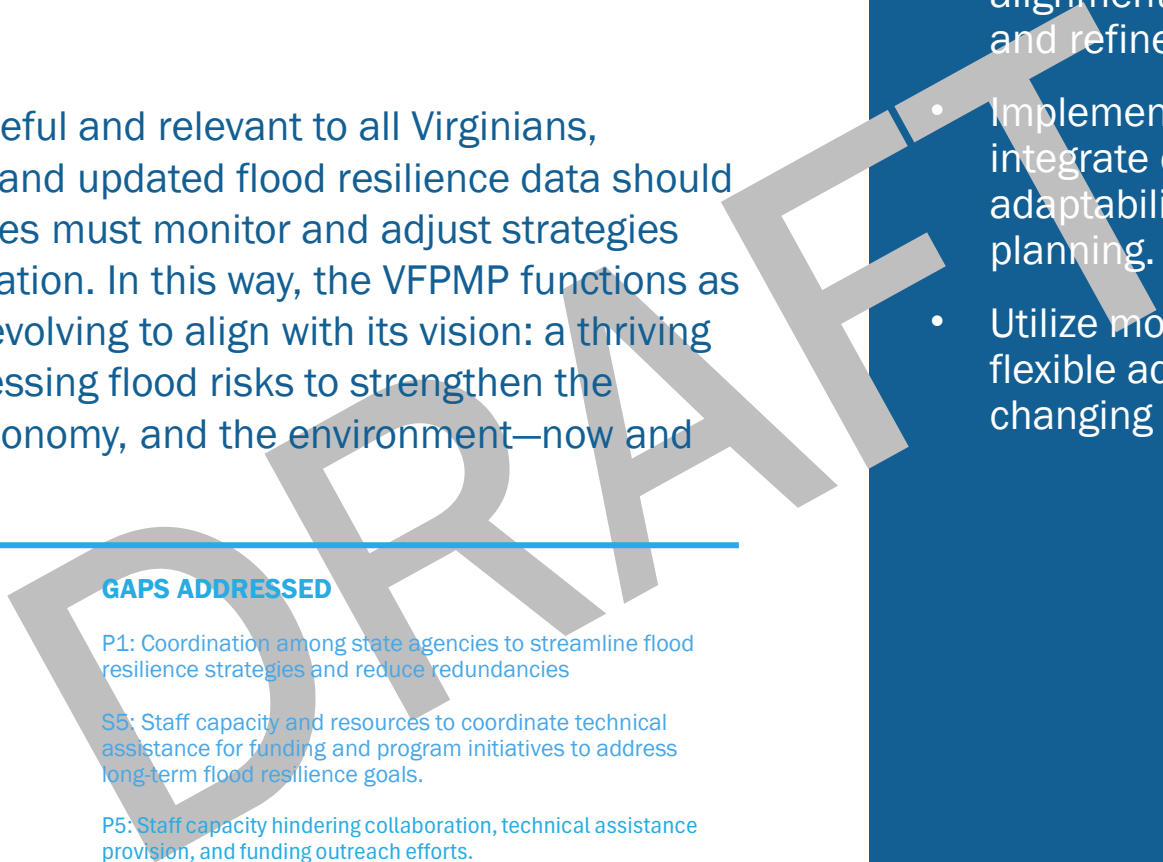
P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies

S5: Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals.

P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

POTENTIAL ACTIONS TO IMPLEMENT:

- Regularly seek feedback from organizing bodies on a set cadence to ensure alignment, incorporate diverse perspectives, and refine resilience strategies.
- Implement robust decision frameworks that integrate data, stakeholder input, and adaptability to drive informed and resilient planning.
- Utilize modular policy designs to enable flexible adaptation of policies in response to changing conditions and emerging needs.





DRAFT STRATEGY

Expand support for the deployment and maintenance of Nature-Based Solutions to improve ecosystem health.

This strategy aims to evaluate the standards and requirements that guide the implementation of nature-based solutions as a flood resilience tool. Where possible, processes should be streamlined to facilitate their adoption when they enhance flood resilience. To effectively carry out this strategy, agencies should strategically expand training programs and funding resources dedicated to the implementation and maintenance of nature-based solutions.

OBJECTIVES ADVANCED

A5: Reduce negative effects to natural and culture resources from flooding.

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

C3: Enhance the natural environment through flood resilience.

GAPS ADDRESSED

P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies

S5: Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals

S6: Staff capacity for integration of flood resilience tools

POTENTIAL ACTIONS TO IMPLEMENT:

- Increase staff awareness of and skills around nature-based solutions by fostering cross-disciplinary collaboration and knowledge-sharing to support their effective integration into planning, policy development, and resilience strategies.



DRAFT STRATEGY

Explore state agency pathways for supporting communities in managed retreat and voluntary relocation.

State agencies should identify the relevant policies, programs, coordination avenues, technical resources, and other assets necessary to establish viable voluntary relocation pathways for communities. For these plans to be successful, equity considerations must be integrated into every step of the development process.

OBJECTIVES ADVANCED

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

C2: Boost the economy through flood resilience.

A4: Reduce economic disruptions and losses from flooding.

GAPS ADDRESSED

S4: Reliance on non-permanent federal funding posing challenges in sustaining flood resilience programs.

POTENTIAL ACTIONS TO IMPLEMENT:

- Implement rolling conservation easements to protect environmentally sensitive land, support sustainable land use, and strengthen long-term environmental stewardship.
- In the long term, develop a program similar to New Jersey's Blue Acres to support strategic buyouts and enhance community resilience.
- Utilize buyout properties to implement best management practices, such as wetland restoration, to enhance resilience and environmental benefits.
- Coordinate the FEMA buyout program between VDEM and DCR to ensure efficient implementation and alignment of resources.



Supported Localities

DRAFT Strategies:

- Partner with public and private entities to identify strategies for preserving and protecting natural and cultural assets.
- Expand the reach of state engagement and communications on flood resilience.
- Provide technical assistance to local governments for identifying and applying for flood resilience funding.
- Further develop technical assistance tools and resources to support local governments in expanding their flood resilience.
- Establish land use and property planning guidance and provide technical assistance to local governments/entities to improve resilience.

DRAFT



DRAFT STRATEGY

Partner with public and private entities to identify strategies for preserving and protecting natural and cultural assets.

Entities addressing and conserving cultural and natural resources are both part of the Commonwealth and the private sector. Effectively partnering to protect these assets from evolving flood risks will require collaboration across state government and external organizations. This approach presents an opportunity to ensure that objectives related to cultural heritage and ecosystem function are fully addressed.

OBJECTIVES ADVANCED

A5: Reduce negative effects to natural and culture resources from flooding.

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

C3: Enhance the natural environment through flood resilience.

GAPS ADDRESSED

P6: Robust decision-making frameworks and capacities to facilitate long-term planning efforts and resource allocation decisions.

P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.

POTENTIAL ACTIONS TO IMPLEMENT:

- Develop guidance on a partnership between DCR, DWR, and DHR to establish a flood resilience framework for protecting natural and cultural assets.
- Partner with regional and local land trusts to provide state support for protecting natural and cultural assets through targeted conservation efforts.
- Implement rolling conservation easements to preserve environmentally sensitive land and promote sustainable land management.



DRAFT STRATEGY

Expand the reach of state engagement and communications on flood resilience.

Outreach and engagement with residents and communities must provide accurate information in accessible formats and ensure widespread availability. Standardizing communication products across agencies can enhance efficiency and maximize the impact of resources. Strategies should focus on both the content and delivery of information, with a priority on reaching vulnerable communities to help address related resilience objectives.

OBJECTIVES ADVANCED

B5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

A2: Reduce negative impacts to vulnerable populations from flooding.

B1: Increase understanding of current and potential future flood risks.

GAPS ADDRESSED

P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.

P4: Community knowledge and capacity to take proactive steps to reduce vulnerability to flooding.

P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

POTENTIAL ACTIONS TO IMPLEMENT:

- Engage directly with vulnerable populations about risk assessments and strategies for flood risk reduction.
- Establish standardized public communication materials across agencies, such as an online repository, to ensure consistent and accessible information.
- Enhance coordination with regional and local partners to effectively prioritize and support vulnerable communities in flood resilience efforts.
- Identify and enhance community support networks for flood resilience and provide access to mental health resources.



DRAFT STRATEGY

Further develop technical assistance tools and resources to support local governments in expanding their flood resilience.

To support developing local capacity to plan for and respond to their unique flood risks, state agencies should develop and expand upon technical assistance tools for locality staff across Virginia. If successful, this strategy will enable local governments to become more self-sufficient in enhancing their flood resilience efforts, reducing reliance on state agency support and ultimately increasing the return on investment in resilience initiatives.

OBJECTIVES ADVANCED

B1: Increase understanding of current and potential future flood risks.

A2: Reduce negative impacts to vulnerable populations from flooding.

B5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

GAPS ADDRESSED

P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

P4: Community knowledge and capacity to take proactive steps to reduce vulnerability to flooding.

S2: Staff capacity and funding resources for additional grant application and management support to local governments.

POTENTIAL ACTIONS TO IMPLEMENT:

- Develop programs to help low-capacity communities access state funding and technical assistance for flood resilient planning and flood event response.
- Support the identification and expansion of local projects aimed at addressing harmful pollutants to enhance flood resilience.
- Further develop lines of communication with local governments around accessing CDBG funds for flood resilience.
- Develop online technical assistance tools and resources that localities can access and use independently of staff availability.



DRAFT STRATEGY

Establish land use and property planning guidance and provide technical assistance to local governments/entities to improve resilience.

Commonwealth agencies can support local flood resilience by enhancing coordination, fostering partnerships, and co-developing tools and guidance with local and regional governments and organizations that address parcel and neighborhood level flood risks. While some actions, such as buyouts, are implemented at the local level, statewide coordination can improve efficiency and effectiveness. Strengthening these efforts would also increase resources for long-term resilience planning at the local level.

OBJECTIVES ADVANCED

B1: Increase understanding of current and potential future flood risks.

B5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

A3: Reduce flood damage to buildings and infrastructure.

GAPS ADDRESSED

P4: Community knowledge and capacity to take proactive steps to reduce vulnerability to flooding.

S6: Staff capacity for integration of flood resilience tools.

S7: Staff capacity to address and assist with federal and state regulations.

POTENTIAL ACTIONS TO IMPLEMENT:

- Provide support for the development and implementation of a state-run flood insurance program to enhance coverage and affordability for residents.
- Deploy online technical assistance tools to enhance resilience through improved land use and property planning.
- Explore the implementation of a flood disclosure law to improve community awareness of local flood hazards.
- Combine proactive housing development with the buyout program to ensure seamless transitions for impacted communities and promote long-term resilience.



DRAFT STRATEGY

Provide technical assistance to local governments for identifying and applying for flood resilience funding.

In alignment with the coordination theme, this strategy amplifies funding support for local governments. If successful, access to additional funding for local mitigation measures could allow for reallocation of state funding, expanding overall impacts. Capacity building at the local level can also help address capacity issues at state agencies by reducing reliance on state agencies.

OBJECTIVES ADVANCED

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

B5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

C2: Boost the economy through flood resilience.

GAPS ADDRESSED

P2: Funding resources for long term resilience planning that support a wide breadth of needs at both the state and local government levels.

P4: Community knowledge and capacity to take proactive steps to reduce vulnerability to flooding.

P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

POTENTIAL ACTIONS TO IMPLEMENT:

- Seek additional federal resources to enhance technical assistance, strengthen regional support teams, and improve data collection efforts.
- Incorporate a local hiring requirement into state grant guidelines to enhance community capacity and workforce development.



Meaningful Coordination

DRAFT Strategies:

- Coordinate with key staff across state agencies to increase their awareness of and responsiveness to flood resilience.
- Leverage existing coordination bodies and non-governmental entities to advance flood resilience.



This content on the left will be revised and refined with stakeholder input as part of what will be included in the **Plan document**.

This content on the right will be revised and refined with stakeholder input as part of what will be included in the **Implementation Roadmap appendix**.

DRAFT STRATEGY

Coordinate with key staff across state agencies to increase their awareness of and responsiveness to flood resilience.

Similar to coordination bodies, key staff across state agencies can lead the integration of flood resilience efforts into their own domains of responsibility. This expands capacity, knowledge, and action on flood resilience beyond traditional floodplain manager roles and extends it into other state programs and policies.

OBJECTIVES ADVANCED

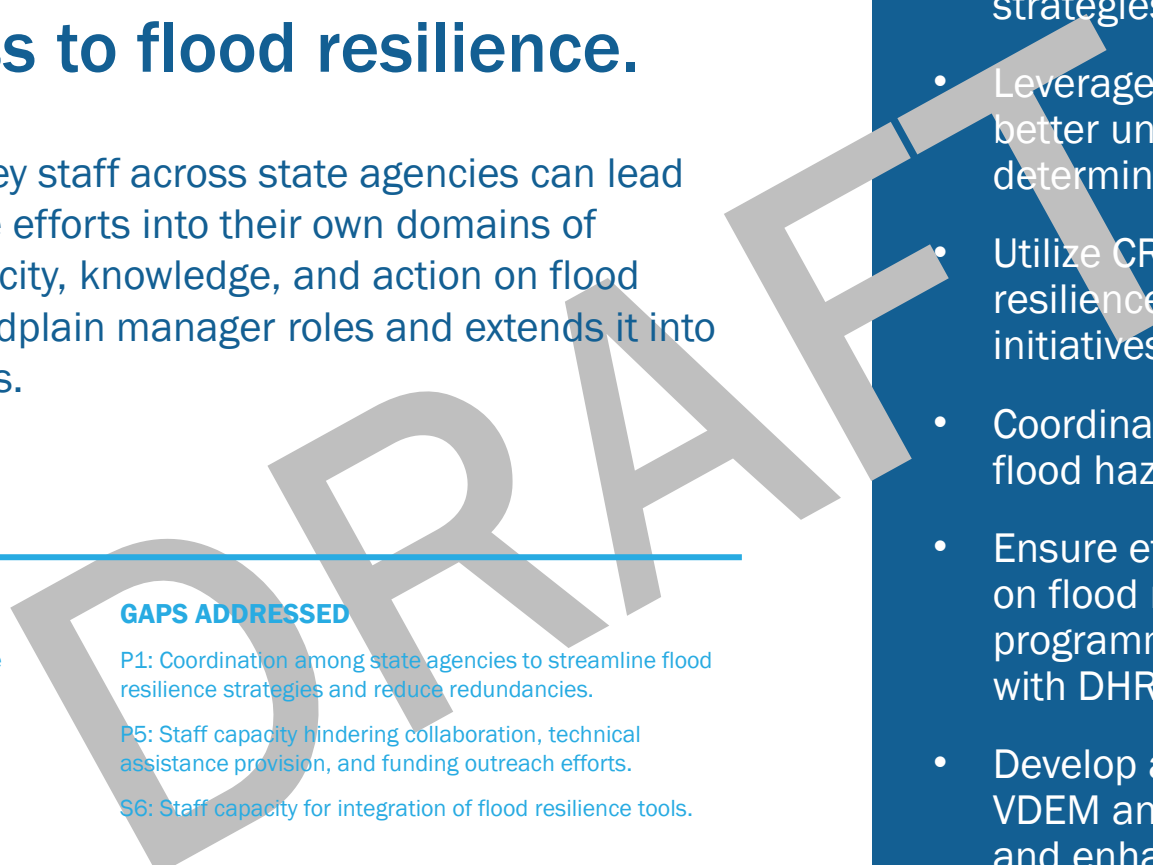
- B1: Increase understanding of current and potential future flood risks.
- B2: Strengthen our ability to prepare for and manage flood risks.
- B4: Increase the return on investments in flood resilience.

GAPS ADDRESSED

- P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.
- P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.
- S6: Staff capacity for integration of flood resilience tools.

POTENTIAL ACTIONS TO IMPLEMENT:

- Enhance coordination with DWR to develop and implement effective managed retreat strategies for flood-prone areas.
- Leverage the expertise of DSS and DHS to better understand the health and social determinants associated with flooding.
- Utilize CRO to oversee and coordinate resilience strategies across agencies and initiatives.
- Coordinate with the Hazard Mitigation Plan’s flood hazard mitigation actions.
- Ensure effective interagency communication on flood resilience planning and programmatic efforts, including collaboration with DHR.
- Develop an interagency agreement between VDEM and DCR to collaboratively oversee and enhance the floodplain management program.





DRAFT STRATEGY

Leverage existing coordination bodies and non-governmental entities to advance flood resilience.

The State of Virginia currently has several existing bodies with overlapping flood resilience responsibilities (e.g., Office of CRO, Interagency Resilience Management Team, Flood Resilience Advisory Committee). This strategy is intended to provide additional venues for interagency coordination on flood resilience through existing required meetings, which could increase the return on investment of time and effort for these meetings while also addressing stakeholder-identified gaps in coordination across programs.

OBJECTIVES ADVANCED

- B4: Increase the return on investments in flood resilience.
- B2: Strengthen our ability to prepare for and manage flood risks.
- B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

GAPS ADDRESSED

- P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.
- P6: Robust decision-making frameworks and capacities to facilitate long-term planning efforts and resource allocation decisions.

POTENTIAL ACTIONS TO IMPLEMENT:

- Leverage the expertise of DEQ's Coastal Zone Management (CZM) Coastal Policy Team to support effective coastal resilience planning and policy development.
- The Resilience Officer's responsibilities will be expanded to enhance coordination across departments.
- Improve coordination between the State Hazard Mitigation plan and Flood Protection Master Plan to maximize impacts.
- Establish an Interagency Resilience Management Team (IRMT) to enhance coordination and collaboration on resilience initiatives across agencies.



Enhanced Capacity

DRAFT Strategies:

- Expand the flood resilience knowledge base of state agency employees.
- Explore future human resource needs to expand state flood resilience programs and policies.

DRAFT



DRAFT STRATEGY

Expand the flood resilience knowledge base of state agency employees.

Cross-train state employees on flood resilience strategies to integrate flood resilience into agency practices and develop uniform expertise among relevant agency staff. A shared understanding of flood resilience concepts and strategies will facilitate collaboration both internally and externally across agencies, further supporting the Coordination and Management strategies.

OBJECTIVES ADVANCED

B2: Strengthen our ability to prepare for and manage flood risks.

B4: Increase the return on public investments in flood resilience.

B1: Increase understanding of current and potential future flood risks.

GAPS ADDRESSED

P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

S5: Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals.

S7: Staff capacity to address and assist with federal and state regulations.

POTENTIAL ACTIONS TO IMPLEMENT:

- Maximize the impact of conferences and trainings by sending staff to diverse events and establishing sharing sessions or an online repository to broaden access and knowledge exchange.
- Implement a structured, phased training schedule to ensure all staff receive necessary training while maintaining daily operations.
- Cross-train employees outside of response roles, as appropriate, to expand response capacity and strengthen overall preparedness.
- Develop clear SOPs and data management systems with comprehensive documentation to ensure continuity, transparency, and coordination of work and decisions across agencies.



DRAFT STRATEGY

Explore future human resource needs to expand state flood resilience programs and policies.

To successfully and efficiently carry out all strategies, agencies will need to determine the staff capacities required to expand and support flood resilience efforts. Based on this evaluation, each agency should develop a plan for hiring personnel, conducting staff training, and optimizing resource allocation. Identifying these needs will also help establish a uniform knowledge base of flood resilience across all state agencies.

OBJECTIVES ADVANCED

B2: Strengthen our ability to prepare for and manage flood risks.

B4: Increase the return on public investments in flood resilience.

GAPS ADDRESSED

P5: Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts.

P7: Staff capacity and resources for interdepartmental data aggregation and coordination for comprehensive flood risk assessments, including those for state-owned assets.

S5: Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals.

POTENTIAL ACTIONS TO IMPLEMENT:

- Support identification and expansion of local projects targeting harmful pollutants for flood resilience.
- Develop a specialized grant writing team focused on securing funding for flood resilience projects and initiatives.
- Examine the capacity needs that undercut the management of state-owned assets and their flood risks.



Sustainable Funding

DRAFT Strategies:

- Inventory and optimize existing funding resources for flood resilience.
- Explore new funding mechanisms to expand flood resilience (programs, infrastructure, etc.).

DRAFT



DRAFT STRATEGY

Inventory and optimize existing funding resources for flood resilience.

The State has indicated a preference for leveraging existing resources where possible. Understanding the current funding sources and levels will help identify efficiencies to maximize their impact. These strategies seek opportunities to apply existing funding to policies and programs that enhance flood resilience by aligning funding criteria and optimizing resource allocation.

OBJECTIVES ADVANCED

B4: Increase the return on public investments in flood resilience.

B5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

GAPS ADDRESSED

P2: Funding resources for long term resilience planning that support a wide breadth of needs at both the state and local government levels.

S2: Staff capacity and funding resources for additional grant application and management support to local governments.

S5: Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals.

POTENTIAL ACTIONS TO IMPLEMENT:

- Add representatives from VDEM and DCR to the CFPF review committee to enhance expertise and coordination in the funding process.
- Assess how CDBG funds have been used for hazard mitigation and recovery and determine how to strategically allocate future CDBG funds to aid in flood resilience planning in the future.
- Align CFPF criteria with CDBG requirements from DHCD to improve coordination and funding efficiency.
- Adapt DEQ's SLAF scoring criteria and eligibility requirements to fund resilience projects that overlap with and support water quality goals, enhancing financial support and coordination.
- Identify existing funding sources that could be reassigned to support priority initiatives.





DRAFT STRATEGY

Explore new funding mechanisms to expand flood resilience (programs, infrastructure, etc.).

In addition to optimizing existing funding, new financial resources and structures, such as tax credits, rebate programs, financing mechanisms, and bonds may be needed to expand flood resilience.

OBJECTIVES ADVANCED

B4: Increase the return on public investments in flood resilience.

B5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

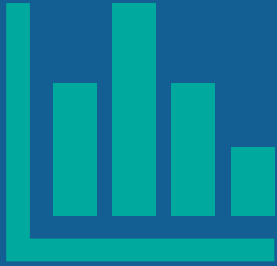
GAPS ADDRESSED

P2: Funding resources for long term resilience planning that support a wide breadth of needs at both the state and local government levels.

S3: Funding resources for asset maintenance.

POTENTIAL ACTIONS TO IMPLEMENT:

- Create additional financial incentives, such as tax credits and rebate programs, to promote flood-resilient design and construction.
- Explore opportunities for a Green Bank to target funding to flood resilience efforts.
- Align CFPF criteria with CDBG requirements from DHCD to streamline funding processes and maximize impact.
- Assess the need for and viability of state-issued municipal bonds to finance flood resilience infrastructure projects.



Reliable Data Systems

DRAFT Strategies:

- Establish a state-wide comprehensive flood data management program.
- Establish real-time event response data access program (establish protocols, obtain necessary data resources).
- Establish data-informed decision-making frameworks for prioritizing flood resilience actions.
- Develop state-wide standards for comprehensive data content related to flood resilience.

DRAFT



DRAFT STRATEGY

Establish a state-wide comprehensive flood data management program.

This strategy promotes the shared use of common resources, such as data sets, across agencies to ensure consistency in analysis and messaging. It could establish statewide data standards for flood-related information, similar to the Florida model, and prioritize addressing data gaps identified through the VFPMP development. Additionally, it may include protocols for acquiring new data and updating existing datasets. Other components could involve creating a centralized data hub for state agency use, which may require additional funding.

OBJECTIVES ADVANCED

- B1) Increase understanding of current and potential future flood risks.
- B2) Strengthen our ability to prepare for and manage flood risks.
- B4) Increase the return on public investments in flood resilience

GAPS ADDRESSED

- P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.
- P3: Access to up-to-date data resources that support long-term flood resilience planning and resource allocation decisions.
- P7: Staff capacity and resources for interdepartmental data aggregation and coordination for comprehensive flood risk assessments, including those for state-owned assets.

POTENTIAL ACTIONS TO IMPLEMENT:

- Establish statewide data standards for flood-related information, modeled after Florida's model, to ensure uniformity and reliability across agencies.
- Focus on addressing data gaps identified during VFPMP development to improve flood risk assessment and planning.
- Systematically update data sets at regular intervals to ensure accuracy and reliability.
- Develop a plan for additional data acquisition in preparation for the next five-year VFPMP update.
- Create a centralized data hub to streamline access, sharing, and coordination among state agencies.
- Seek expanded federal resources for direct technical assistance, regional support teams, and data collection.



DRAFT STRATEGY

Establish real-time event response data access program (establish protocols, obtain necessary data resources).

Improving real-time data access, protocols, resources, personnel, and operations will significantly enhance the Commonwealth's ability to respond to flood emergencies statewide. Gaining a real-time understanding of impacts in communities will help prioritize and direct resources to areas of greatest need. To ensure success, staff across all relevant state agencies must be thoroughly trained on these protocols.

OBJECTIVES ADVANCED

B1: Increase understanding of current and potential future flood risks.

B2: Strengthen our ability to prepare for and manage flood risks.

A2: Reduce negative impacts to vulnerable populations from flooding.

GAPS ADDRESSED

P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.

P2: Funding resources for long term resilience planning that support a wide breadth of needs at both the state and local government levels.

S1: Staff capacity and data management resources for coordination between federal, state, and local agencies during events to ensure targeted event response.

POTENTIAL ACTIONS TO IMPLEMENT:

- Establish a centralized data hub for state agencies to improve data access, sharing, and coordination.
- Create interagency agreements to enhance data sharing and improve collaboration among agencies.
- Coordinate with the Weather Service on data for gauges to improve flood models and real-time data during flood events.
- Further build out the capabilities of the Pollution Response and Emergency Preparedness arm of DEQ to respond to pollution in flood events.
- Explore the development of an early warning system for non-coastal flooding, similar to the one created by RISE for coastal flooding, as discussed in the DHCD interview.
- Seek expanded federal resources for direct technical assistance, regional support teams, and data collection.



DRAFT STRATEGY

Establish data-informed decision-making frameworks for prioritizing flood resilience actions.

Having tailored data tools, resources, and processes for state agencies to use in evaluating and implementing flood resilience strategies. These resources will primarily assist state agency staff in translating and flood resilience data into decision-relevant findings. In order for this strategy to be successful, state agency staff will need to have the expertise and capacity to employ these data-informed decision frameworks.

OBJECTIVES ADVANCED

B1: Increase understanding of current and potential future flood risks.

B2: Strengthen our ability to prepare for and manage flood risks.

A1: Reduce negative effects on human health from flooding.

GAPS ADDRESSED

P6: Robust decision-making frameworks and capacities to facilitate long-term planning efforts and resource allocation decisions

P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies

P3: Access to up-to-date data resources that support long-term flood resilience planning and resource allocation decisions

POTENTIAL ACTIONS TO IMPLEMENT:

- In the short term, integrate asset inventory with flood impact summaries to enhance risk assessment and decision-making.
- Integrate population growth into flood impact projections and flood risk reduction strategies to improve long-term planning and mitigation efforts.
- Evaluate criteria for state-administered grants that assess the social vulnerability of a community.
- Incorporate future flood risk considerations into updates to building codes and design standards to enhance long-term safety and resilience.
- Provide training on adaptive design criteria and implement their use, as identified in the VDOT interview.
- Prioritize policies that support communities at the highest risk of flooding, based on Flood Impact Summary (FIS) or other relevant data.



DRAFT STRATEGY

Develop state-wide standards for comprehensive data content related to flood resilience.

Beyond establishing the framework for statewide data collection and management, this strategy emphasizes the importance of a unified vision for identifying, collecting, and updating data to support informed flood resilience planning.

OBJECTIVES ADVANCED

B1: Increase understanding of current and potential future flood risks.

B2: Strengthen our ability to prepare for and manage flood risks.

B3: Increase the adaptability and effectiveness of flood resilience strategies to different potential future conditions and regional interests.

GAPS ADDRESSED

P6: Robust decision-making frameworks and capacities to facilitate long-term planning efforts and resource allocation decisions.

P1: Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.

P3: Access to up-to-date data resources that support long-term flood resilience planning and resource allocation decisions.

POTENTIAL ACTIONS TO IMPLEMENT:

- Focus on addressing data gaps identified during VFPMP development to improve flood risk assessment and planning.
- Coordinate with agencies to collect up-to-date topographic and bathymetric information.
- Prioritize closing data gaps identified through VFPMP development to enhance flood risk assessment and management.
- Develop state-owned flood risk maps that are independently created and provided separately from NFIP regulatory products.
- Integrate population growth into flood impact projections and flood risk reduction strategies to improve long-term planning and mitigation efforts.