



Scenario Planning and Adaptive Management



Interbasin Compact Committee
December 2013



Overview

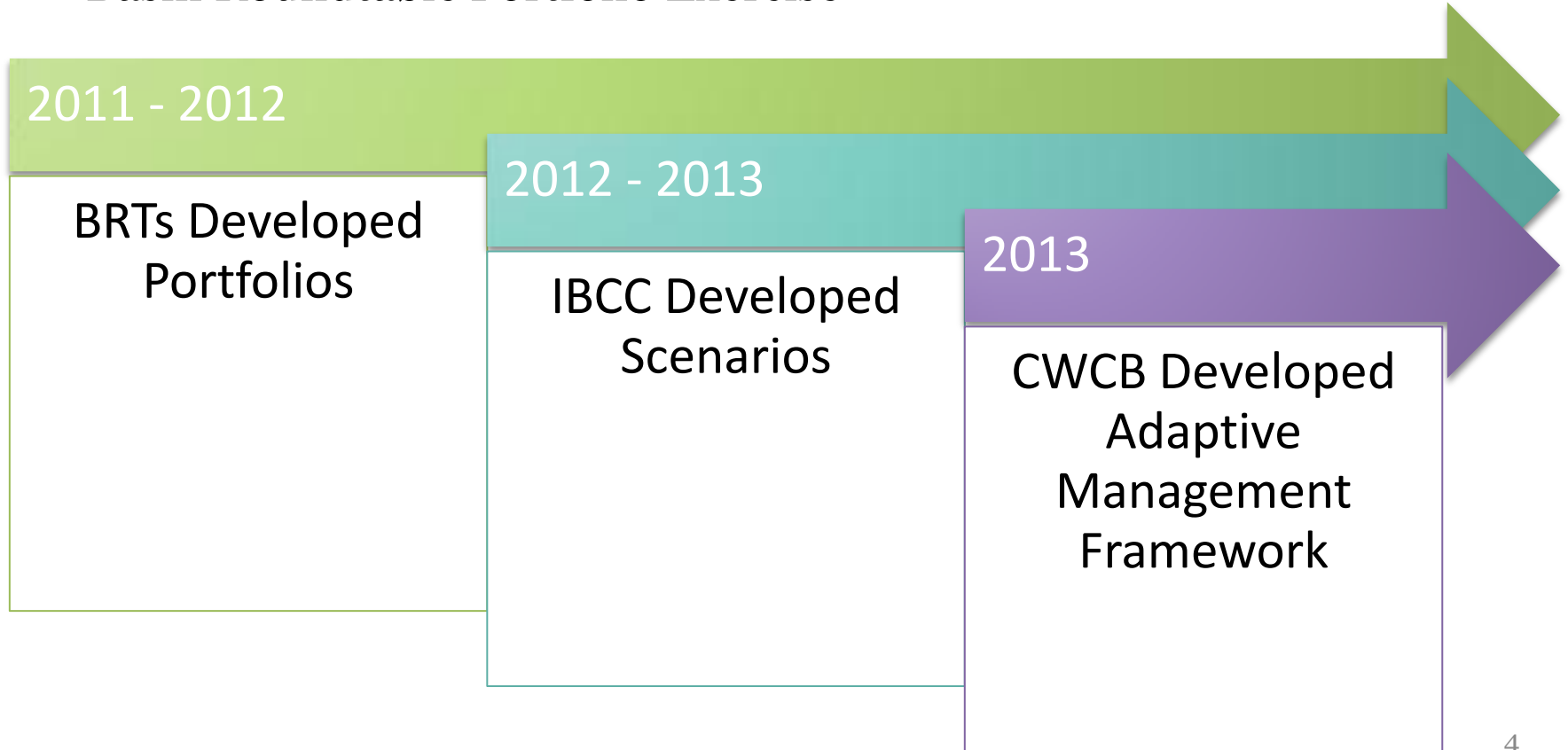
1. Scenario Planning and Adaptive Management
2. New Supply Conceptual Agreement

Scenario Planning and Adaptive Management



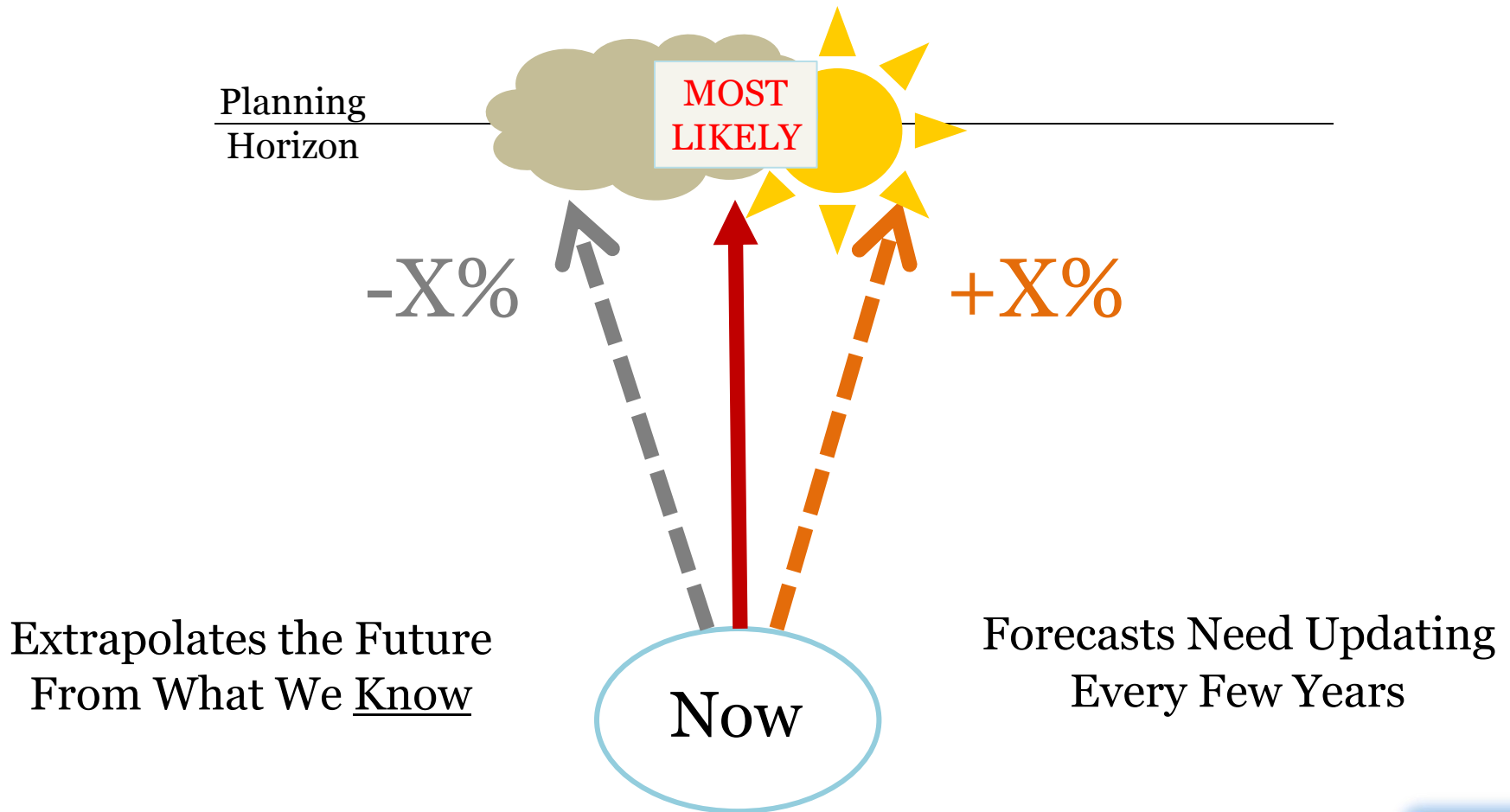
Our Approach Builds on Work of the Basin Roundtables and the IBCC

- Scenario Planning
- Basin Roundtable Portfolio Exercise



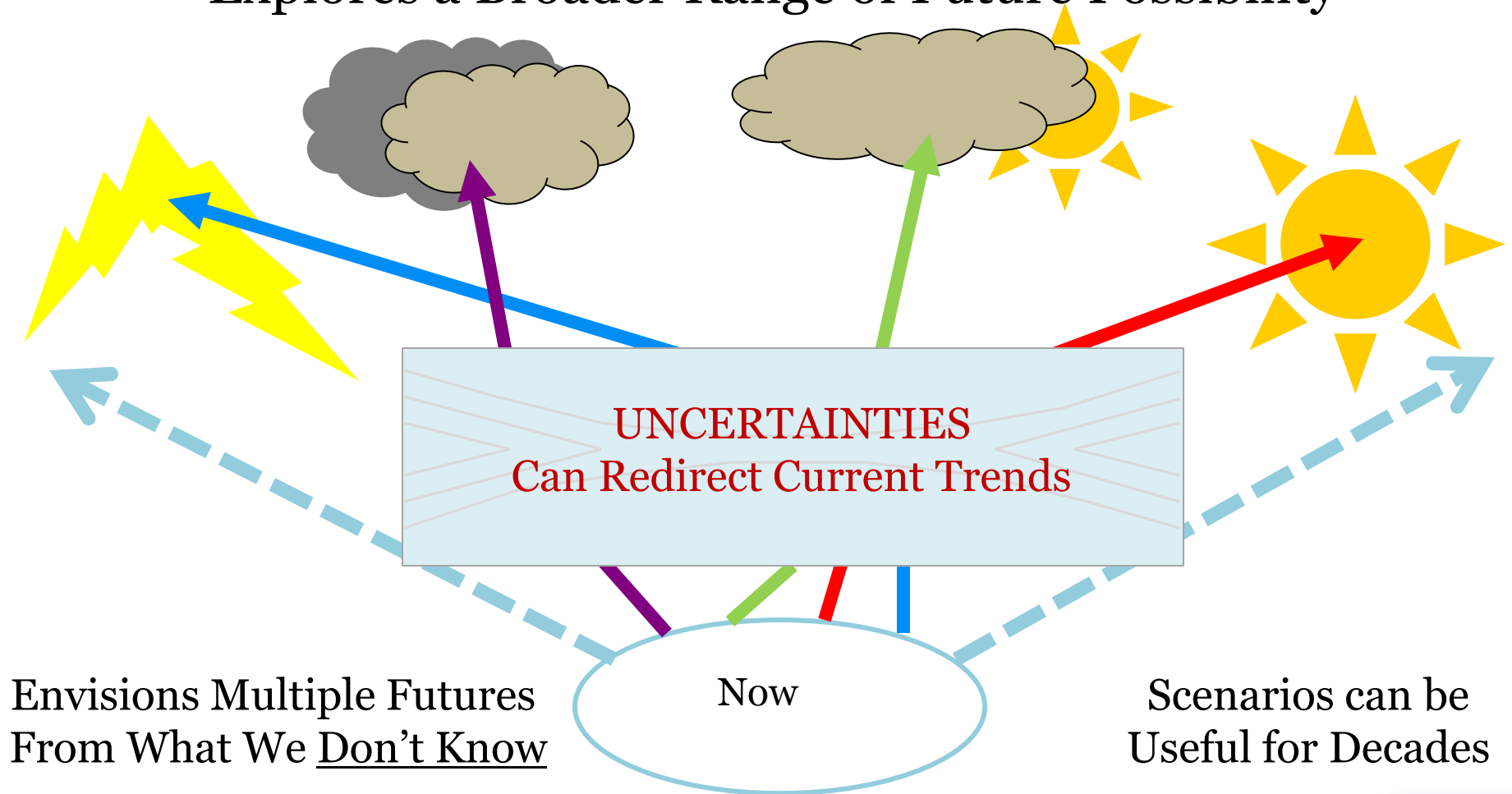
Traditional Predictive Planning

The Past is the Key to the Future

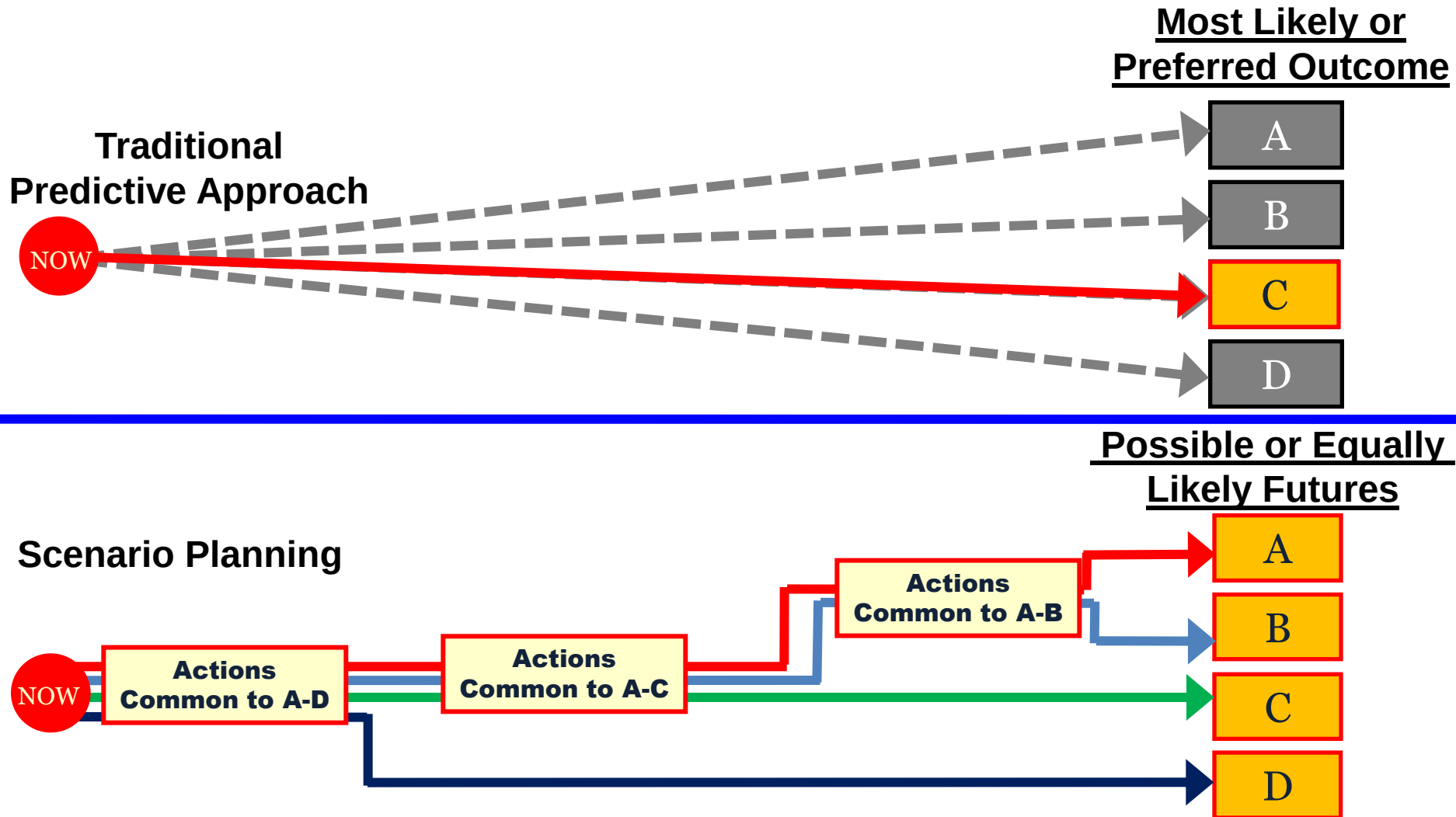


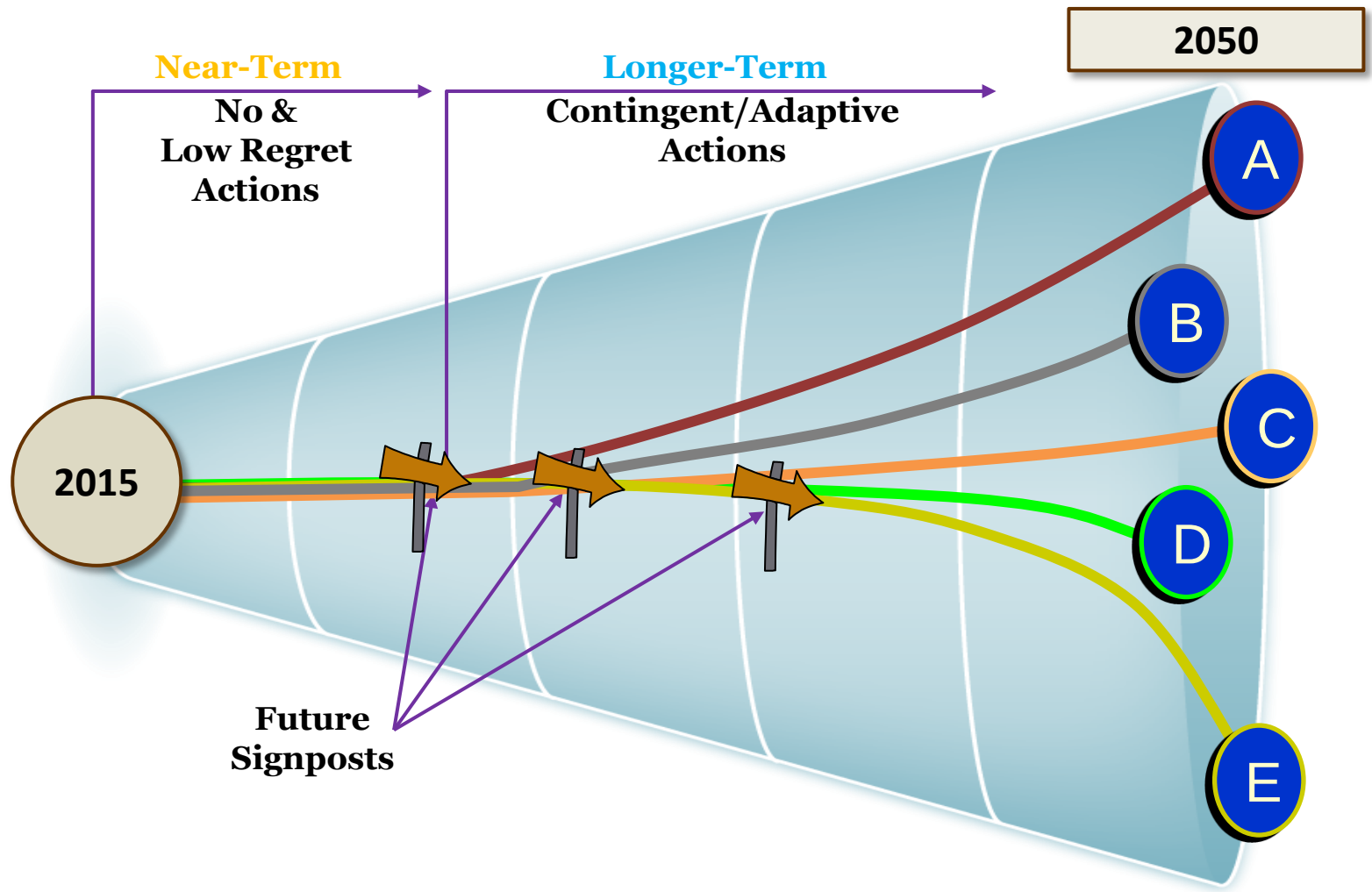
Scenario Planning

Explores a Broader Range of Future Possibility

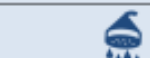
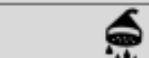
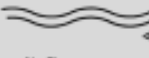
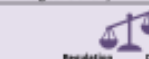


Contrasting the Methods



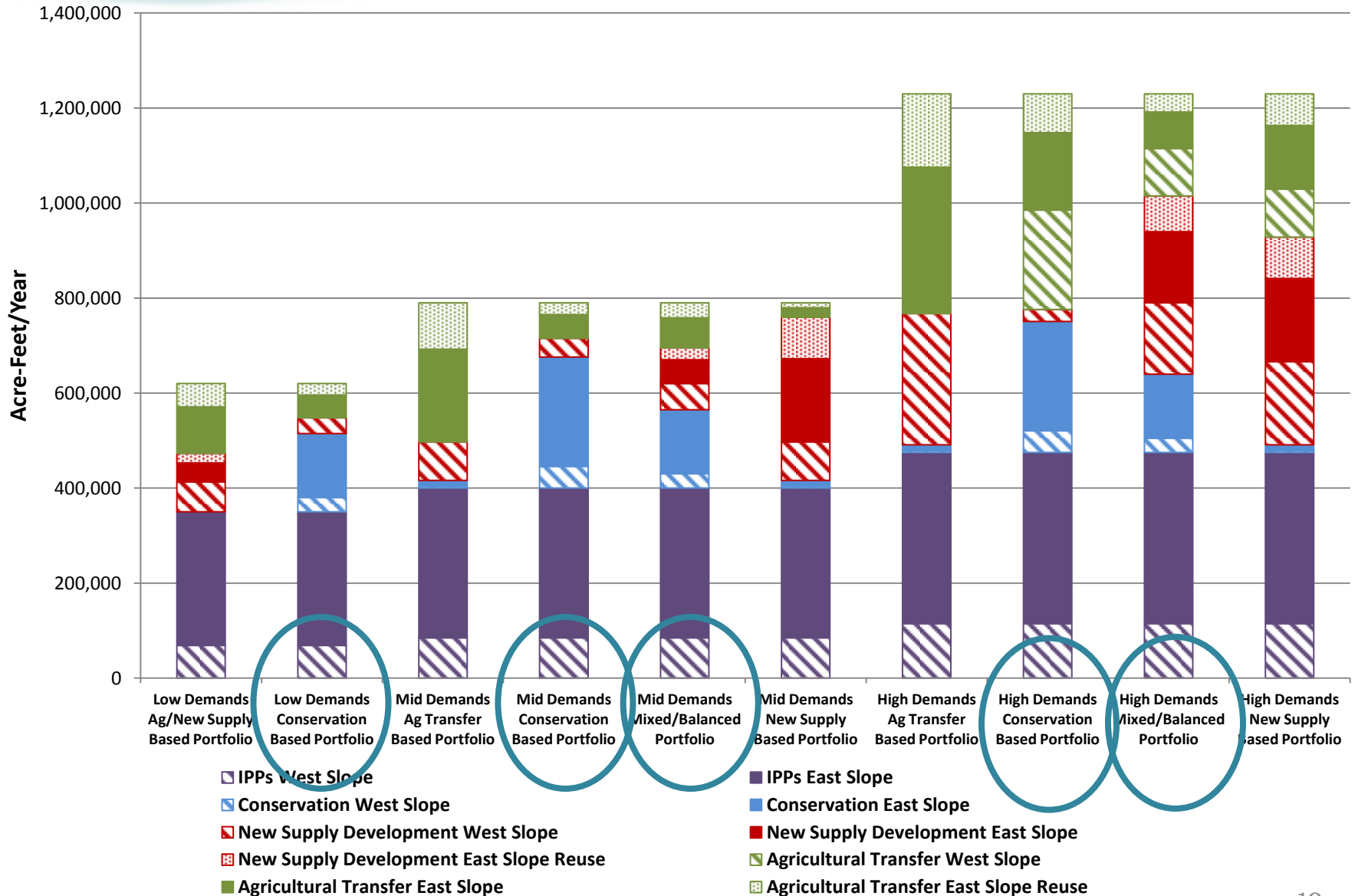


Five Scenarios Developed by IBCC

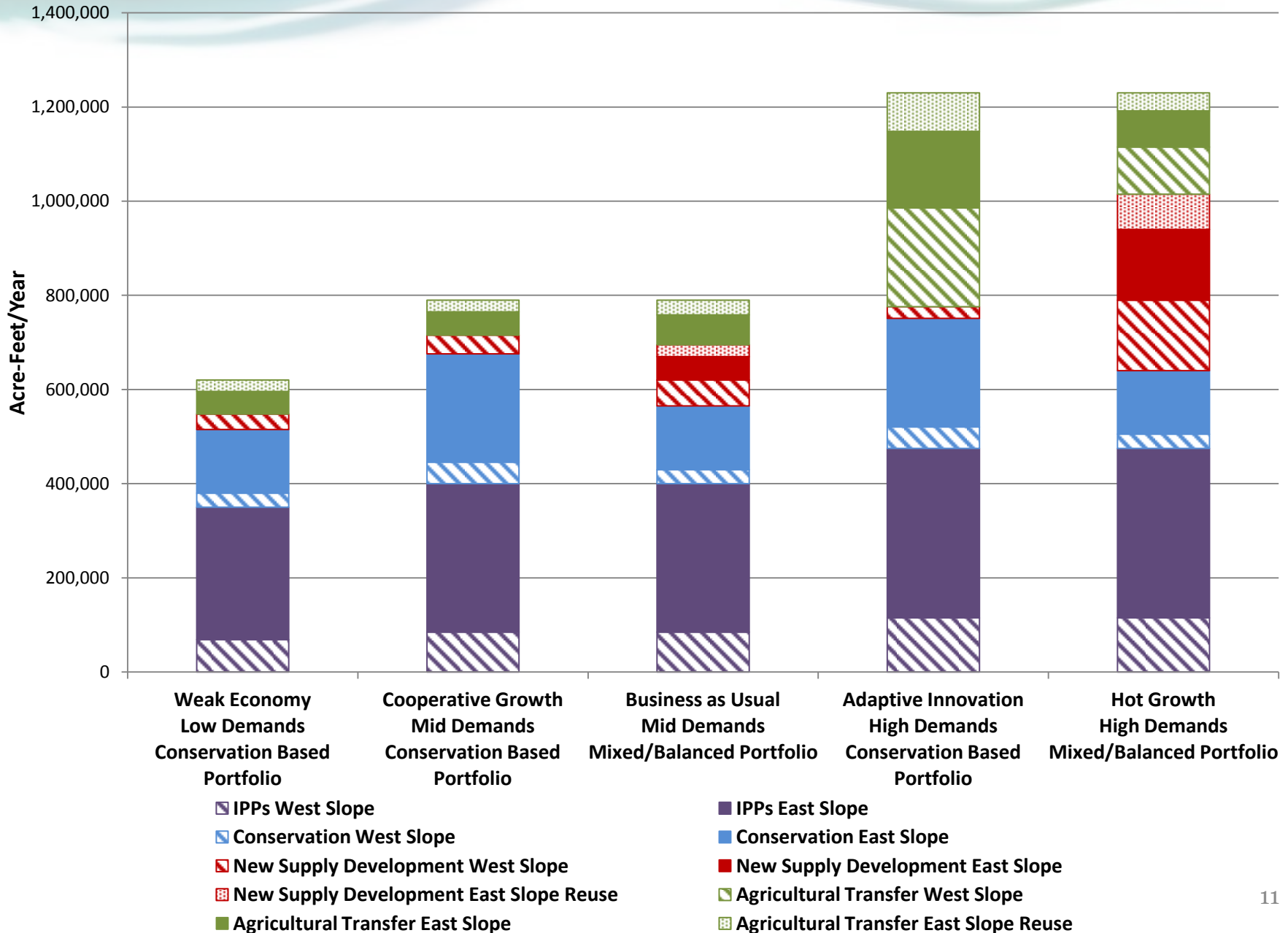
Drivers	Weak Economy	Business as Usual	Cooperative Growth	Adaptive Innovation	Hot Growth
A. Population Growth / Economic Growth	 • 8.6 Million	 • 9.1 Million	 • 9.1 Million	 • 10.0 Million	 • 10.0 Million
B. Climate Status / Water Supply	 • Same as 20th Century Observed	 • Same as 20th Century Observed	 • Between Hot and Dry and 20th Century Observed	 • Hot and Dry	 • Hot and Dry
C. Energy Water Needs	 • Low (no oil shale)	 • Moderate (no oil shale)	 • Low (no oil shale)	 • Low (no oil shale)	 • High (oil shale)
D. Agricultural Demand and Agricultural Water Demand	 Total ag water demands slightly higher • Decrease in irrigated acres due to urbanization • Ag exports and demands lower • Ag is less able to compete with urban areas for water	 Total ag water demands decrease • Decrease in irrigated acres due to urbanization • Ag exports and demands constant • Ag is less able to compete with urban areas for water	 Total ag water demands slightly higher • Slight decrease in irrigated acres due to urbanization • Ag exports down and local demands up • Ag is better able to compete with urban areas for water • Increased ET due to climate change	 Total ag water demands slightly higher • Slight decrease in irrigated acres due to urbanization • Ag exports down and local demands up • Ag is better able to compete with urban areas for water • Increased ET due to climate change	 Total ag water demands higher • Significant decrease in irrigated acres due to urbanization • Ag exports and demands high • Ag is better able to compete with urban areas for water • Increased ET due to climate change
E. Availability of Water Efficiency Technology	 • M&I: Moderate/Passive • Ag: same as today	 • M&I: Moderate/Passive • Ag: same as today	 • M&I: High • Ag: Efficiencies are Implemented	 • M&I: High • Ag: Efficiencies are Implemented	 • M&I: Moderate/Passive • Ag: same as today
F. Social / Environmental Values	 • No Change	 • No Change	 • Increased Awareness • Increased willingness to protect environment and stream recreation	 • Increased Awareness • Increased willingness to protect environment and stream recreation	 • Full Use of Resources • Low willingness to protect environment and stream recreation
G. Urban Land Use	 • No Change	 • No Change	 • Higher Density	 • Higher Density	 • Lower Density
H. Regulatory Constraints	 • No Change	 • No Change	 • Increased	 • Increased but expedited	 • Reduced
I. M&I Water Demands*	 • Lowest of the five scenarios	 • Middle of the five scenarios	 • Second lowest of the five scenarios	 • Second highest of the five scenarios	 • Highest of the five scenarios

* The M&I Water Demands ranking includes for drivers A, C, E, and G, and may include further analysis incorporating climate change at a later date.

10 Summary M&I Portfolios from Basin Roundtables



5 Representative Portfolios Matched to Scenarios

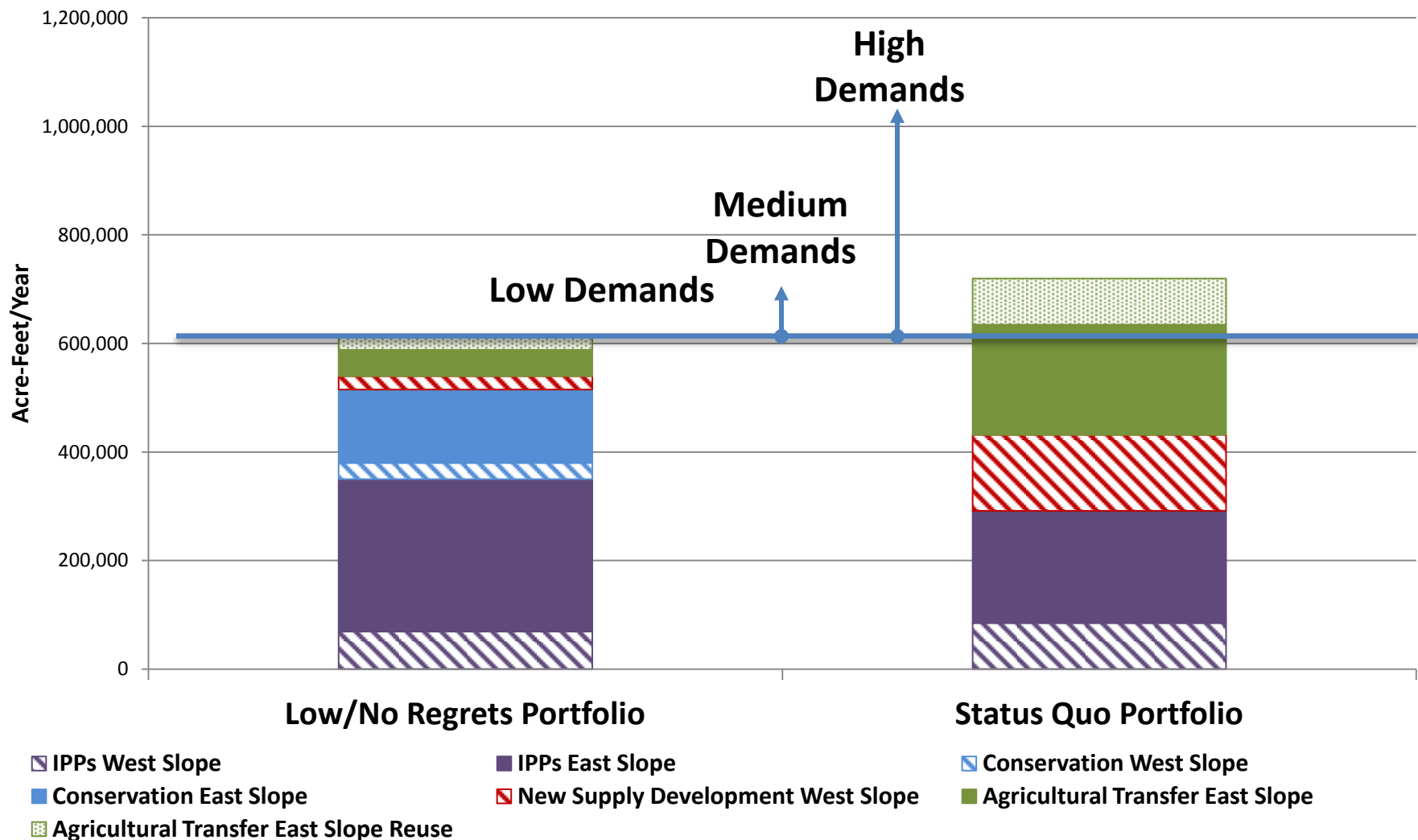




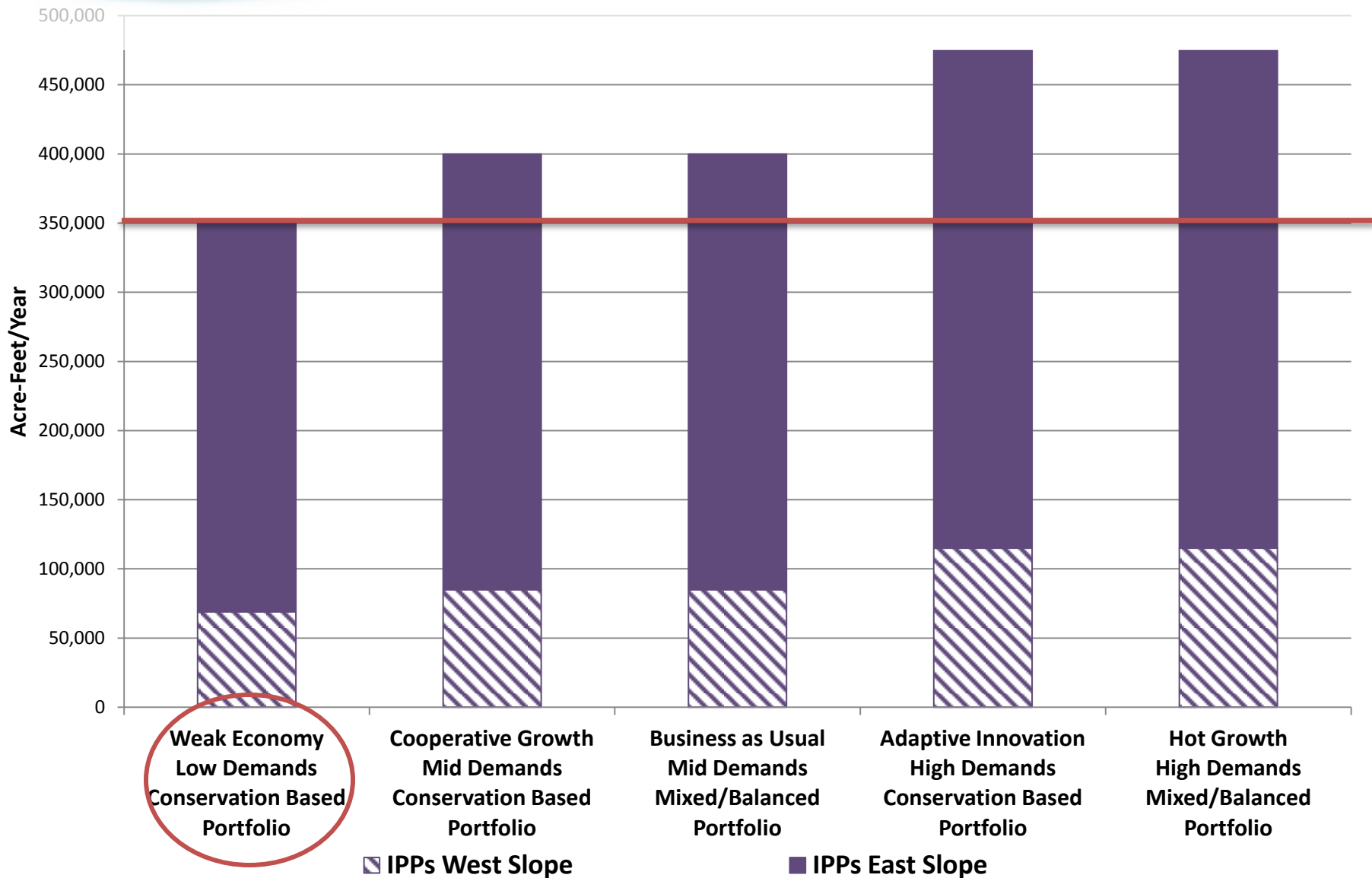
No/Low Regrets Strategies

- Designed to provide benefits under all/most scenarios of the future, and hence should be prioritized for near-term implementation
- For each portfolio, identify strategies and yield amounts common to all scenarios
- Compare no/low regrets actions to status quo portfolio from SWSI 2010

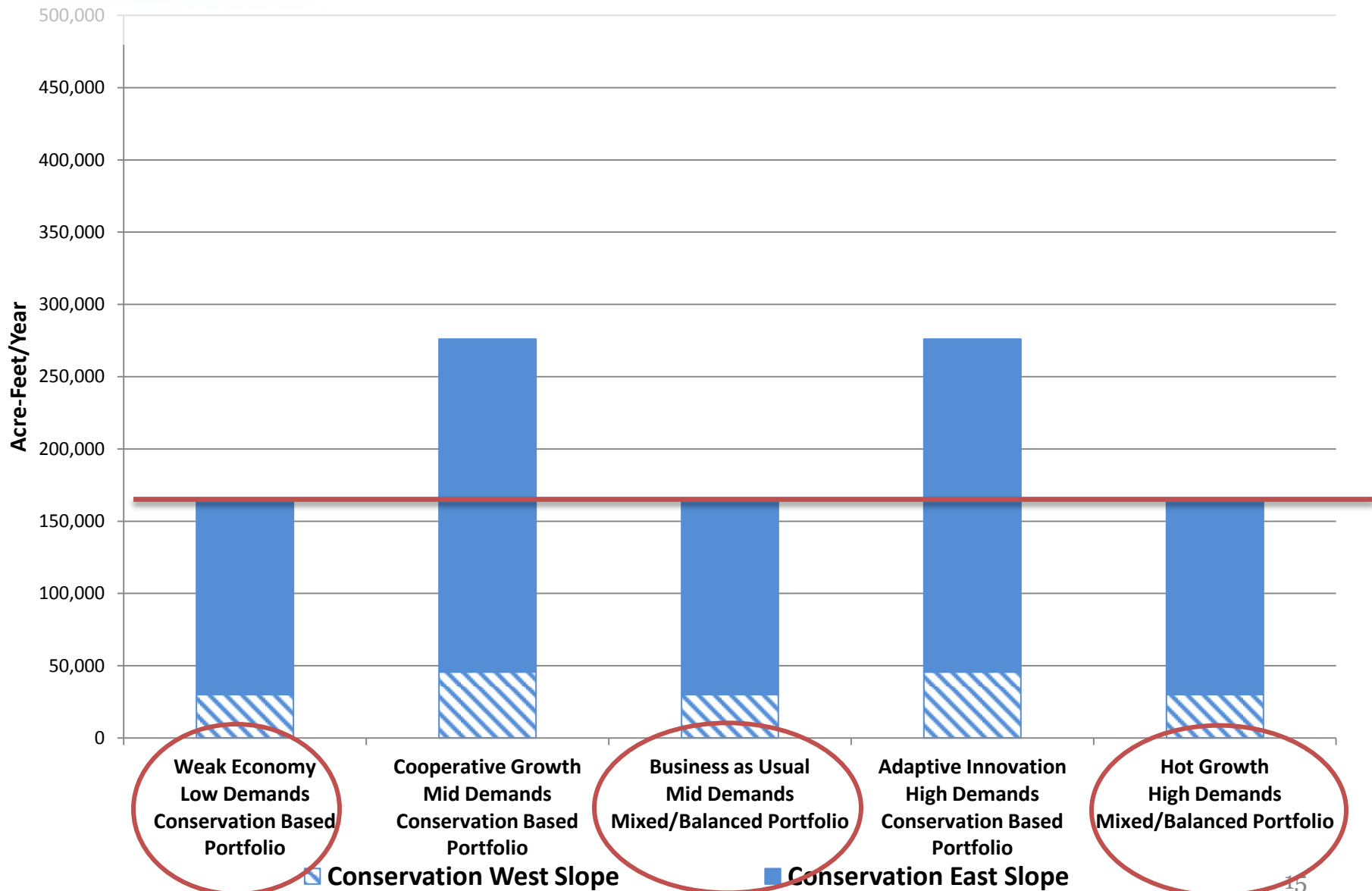
No/Low Regrets Portfolio vs. Status Quo Portfolio



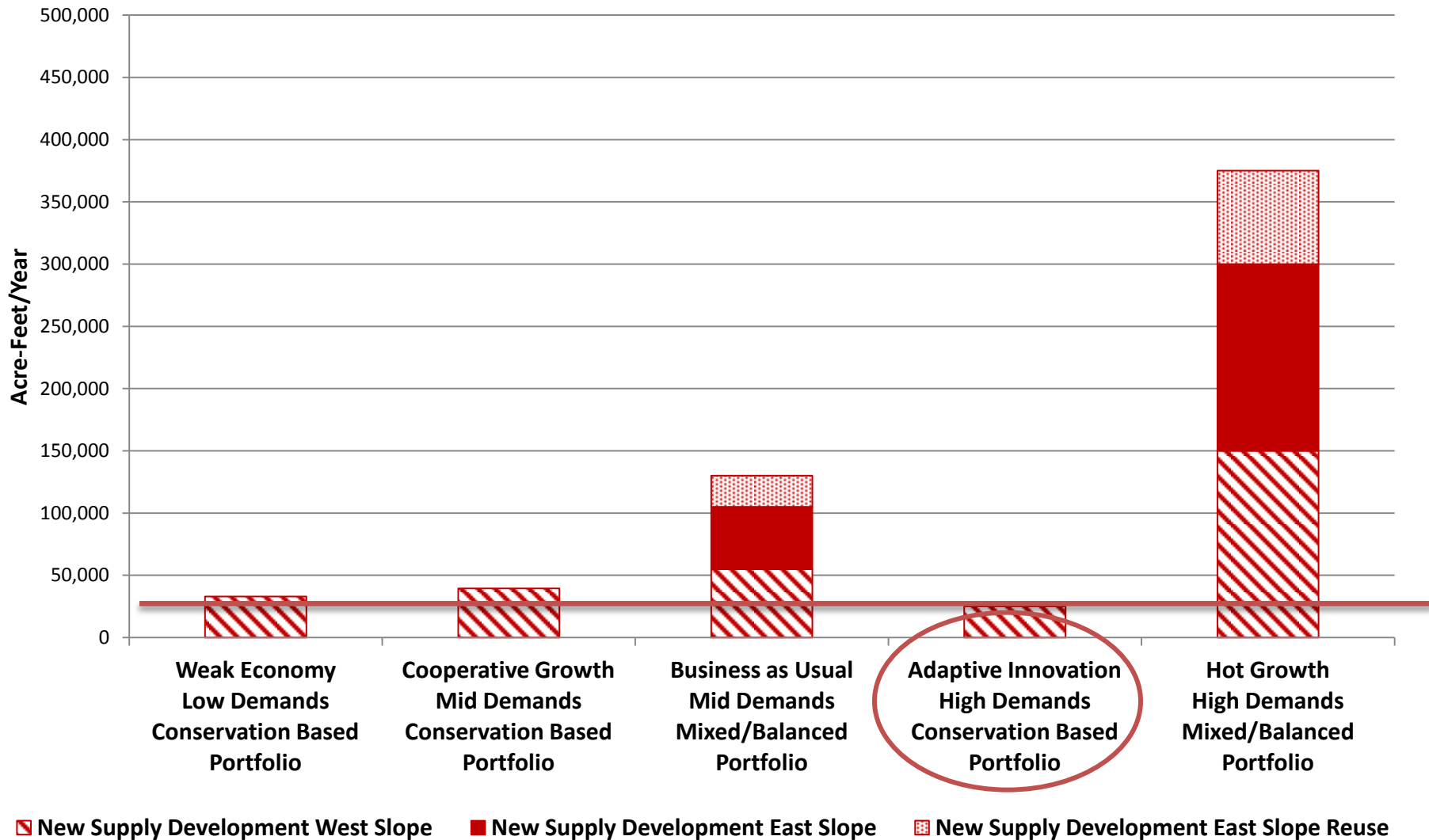
IPP Low/No Regrets



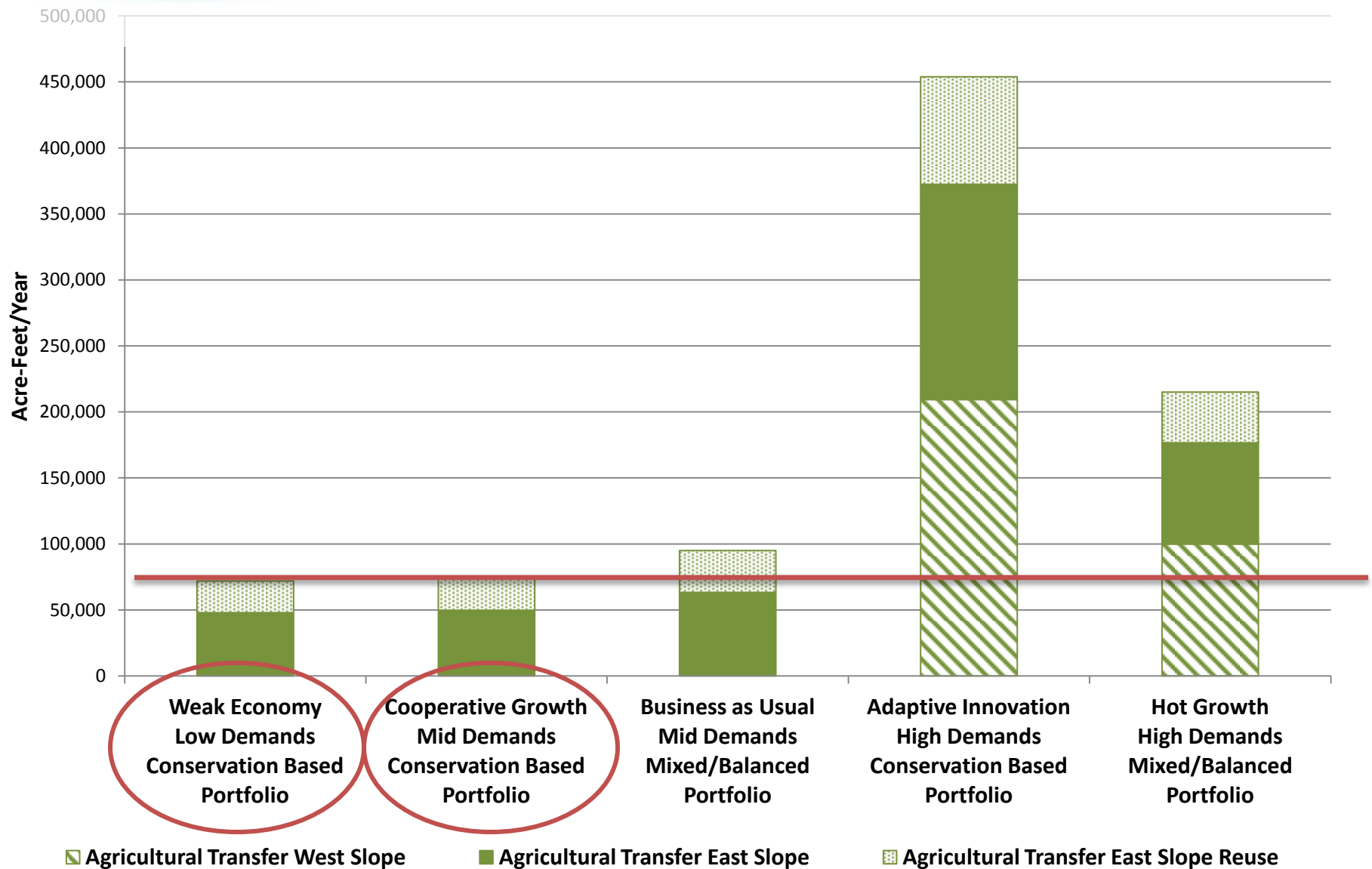
Active Conservation No/Low Regrets



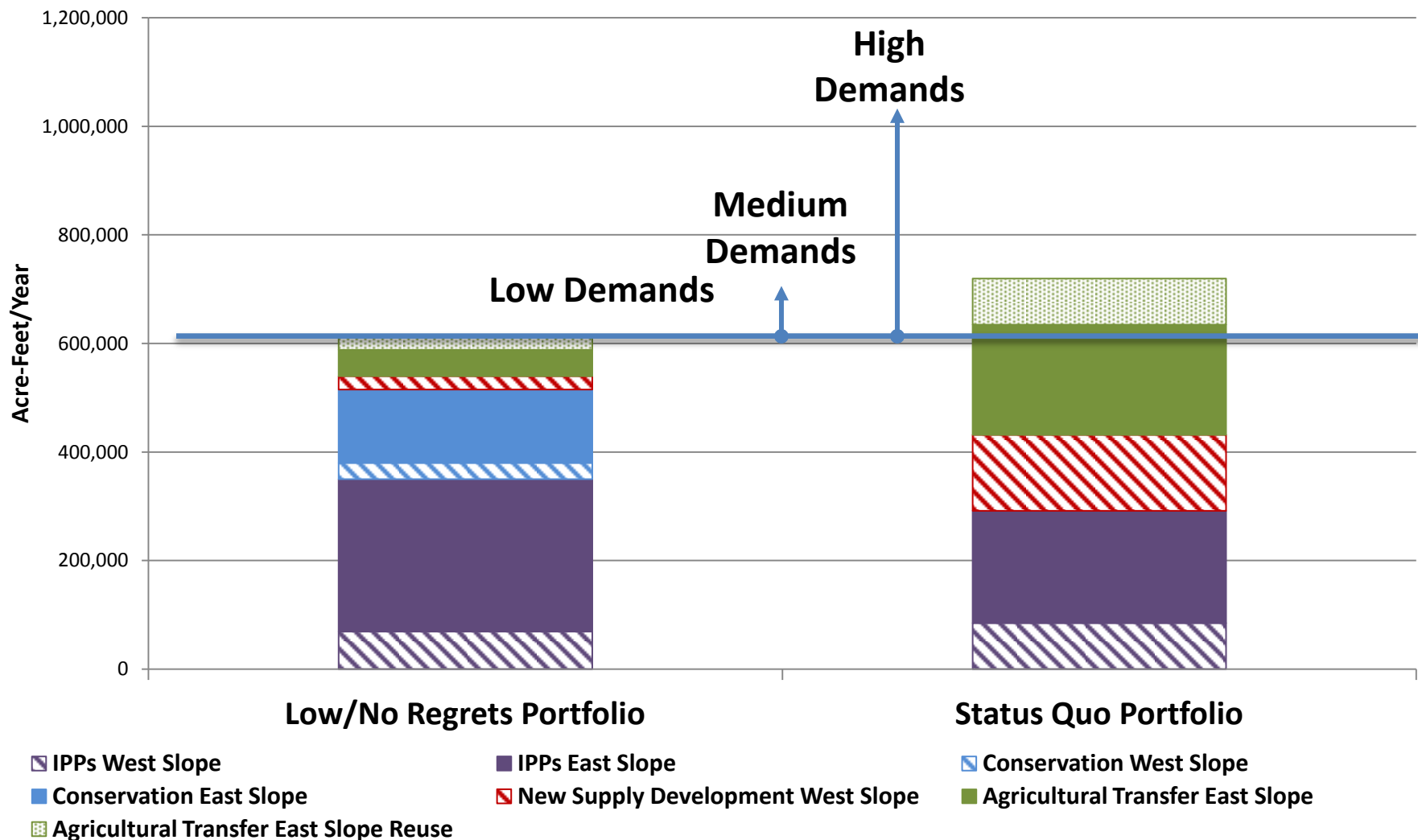
New Supply Development No/Low Regrets



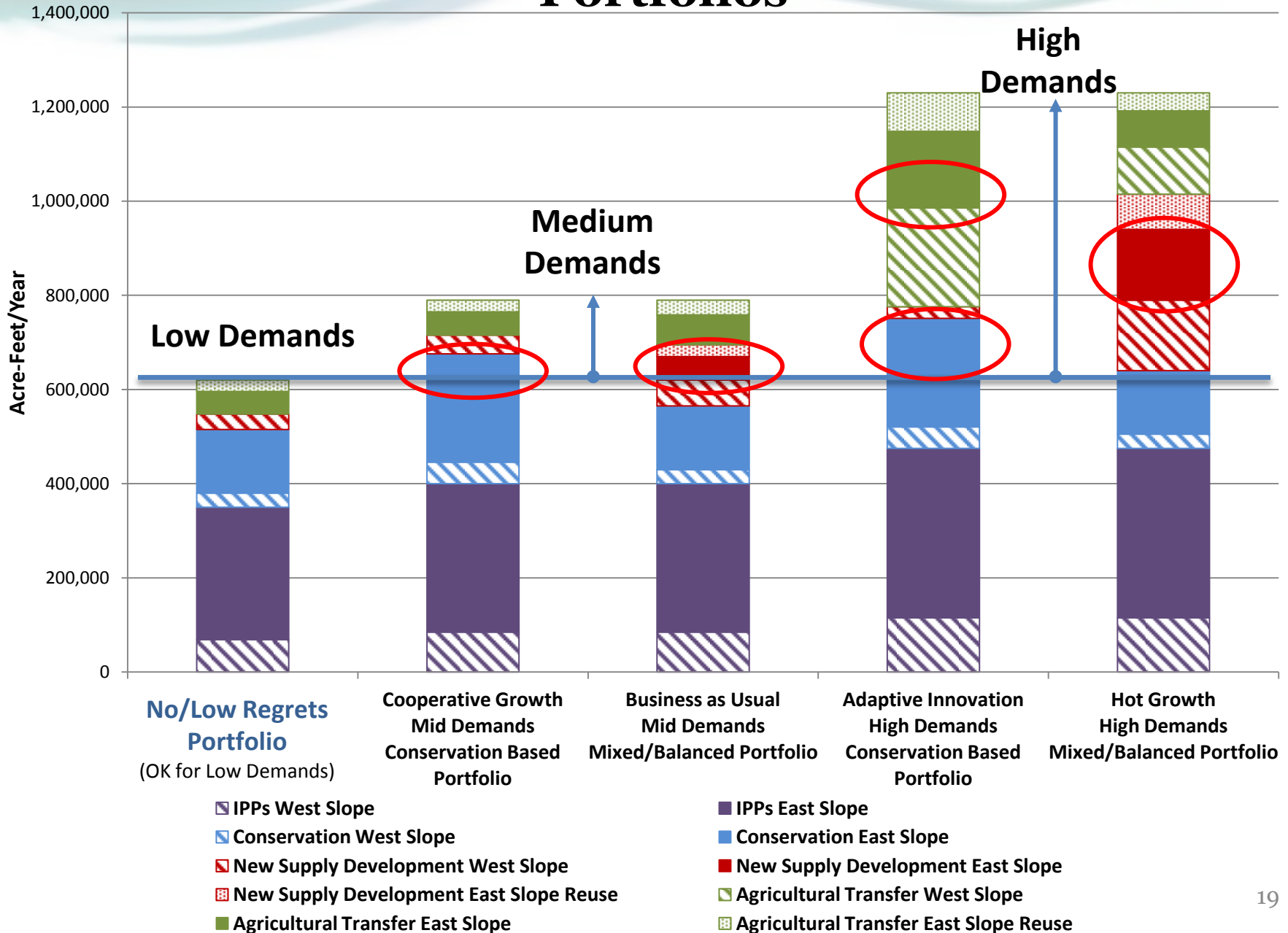
Ag Transfer No/Low Regrets



No/Low Regrets Portfolio vs. Status Quo Portfolio



No/Low Regrets Portfolio Compared to the other Portfolios

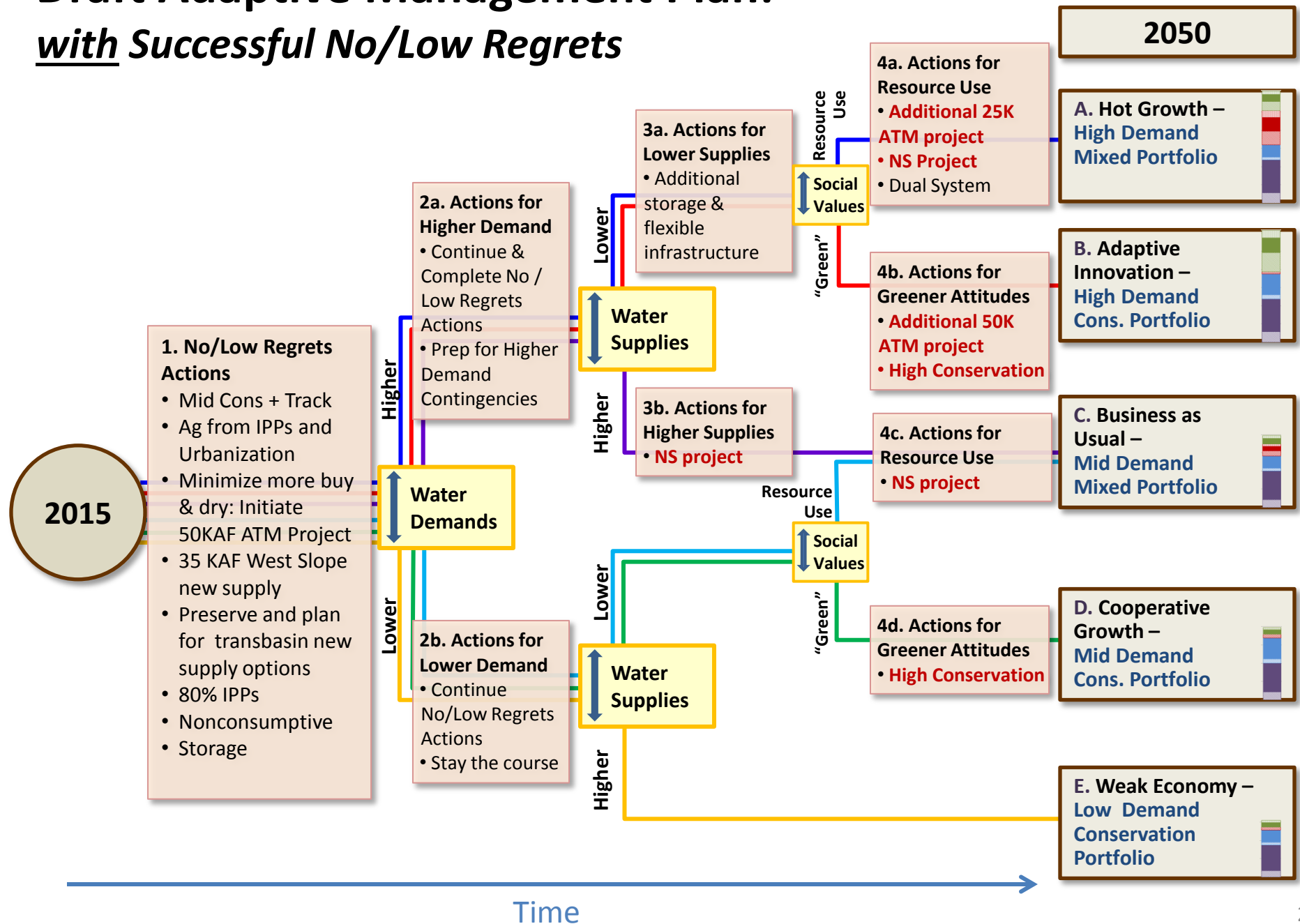




Adaptive Management Overview

- As stated, the No/Low Regrets actions only get us so far in meeting water demands. If demands are greater or supplies lower, then additional strategies are needed.
- Adaptive management provides the mechanism by which sign posts are identified, along with actions that get us to one of the five future scenarios we defined earlier.
- Signposts are based on some of the most critical drivers of the scenarios (e.g., demand levels, supply availability and social values)

Draft Adaptive Management Plan: *with Successful No/Low Regrets*

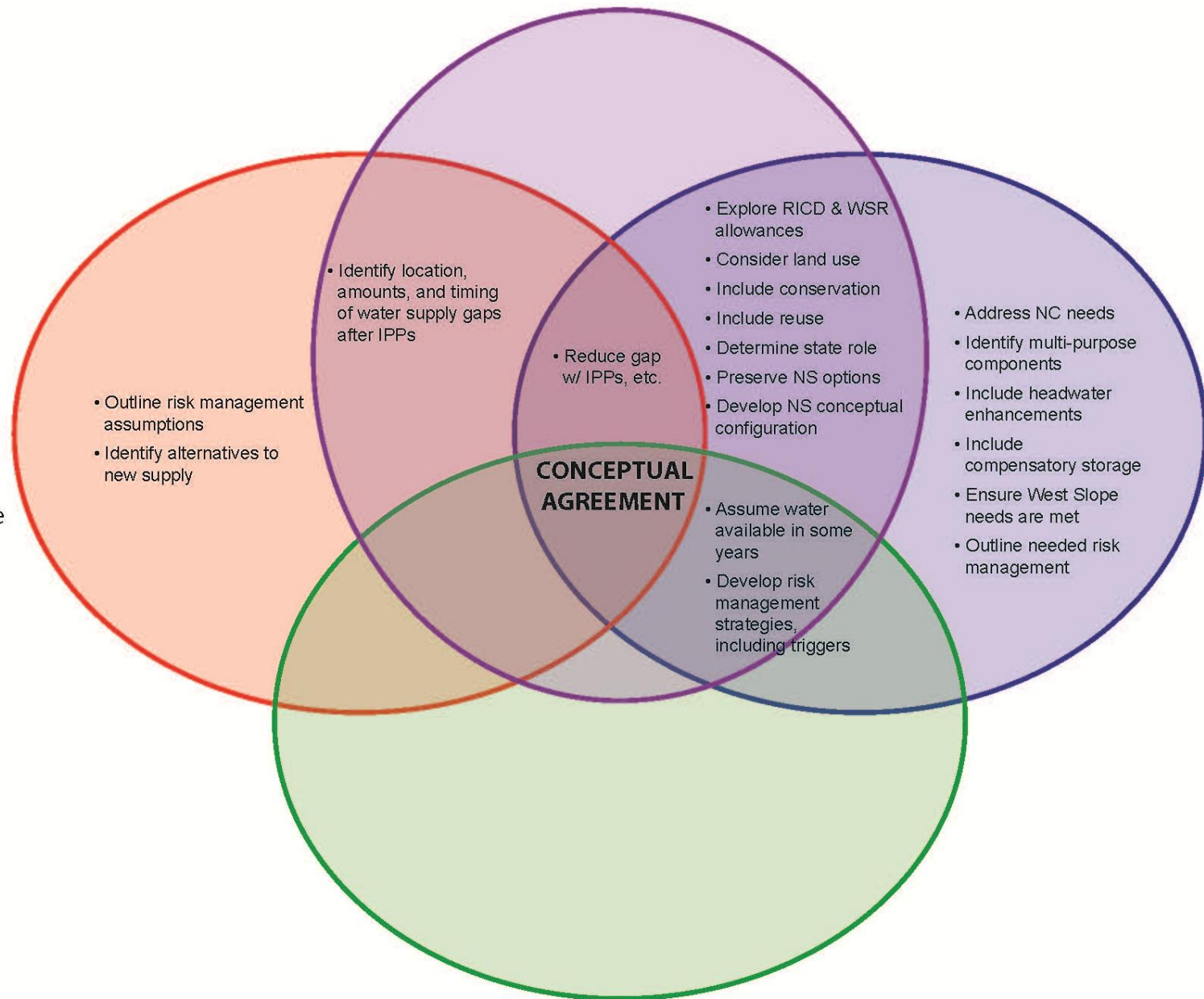


Draft Adaptive Management Plan: *without Successful No/Low Regrets*



New Supply Conceptual Agreement







New Supply Work

1. New Supply Conceptual Agreement

- Topics: Items on the Venn diagram will serve as discussion topics. Additionally, the following components will be explored and included as needed:
 - Colorado River Cooperative Agreement, Flaming Gorge Task Force, and Windy Gap Firming as starting points
 - Feasibility discussion as appropriate
 - Project sponsorship discussion
 - Cooperative agreements
- Process: IBCC conversation with CWCB members participating and concerted outreach to the roundtables and other stakeholder groups (agriculture, environment, etc.) at the beginning, middle, and end
- Outcome and Timing: Deliver best agreement to Board in one year, including any remaining areas of disagreement and reasons for disagreement

2. Further Explore/Understand the Gap

- Regional assessment of needs
- Also further examine needs at a sub-county level
- Update/overlap gap data with scenario planning
- Identify potential customers for new supply
- Dig down into West Slope data