



WATER RESILIENCE STUDY

NATIONAL INFRASTRUCTURE ADVISORY COUNCIL QUARTERLY BUSINESS MEETING

SEPTEMBER 11, 2015

Jack Baylis
President and CEO
The Baylis Group, LLC
Chair

Albert J. Edmonds
Chairman and CEO,
Edmonds Enterprise
Services; CEO, Logistics
Applications, Inc.

Margaret E. Grayson
President-Commercial
Sector, Consulting Services
Group, LLC



AGENDA

- Background
- Study Overview
- Proposed Approach
- Preliminary Schedule
- Questions



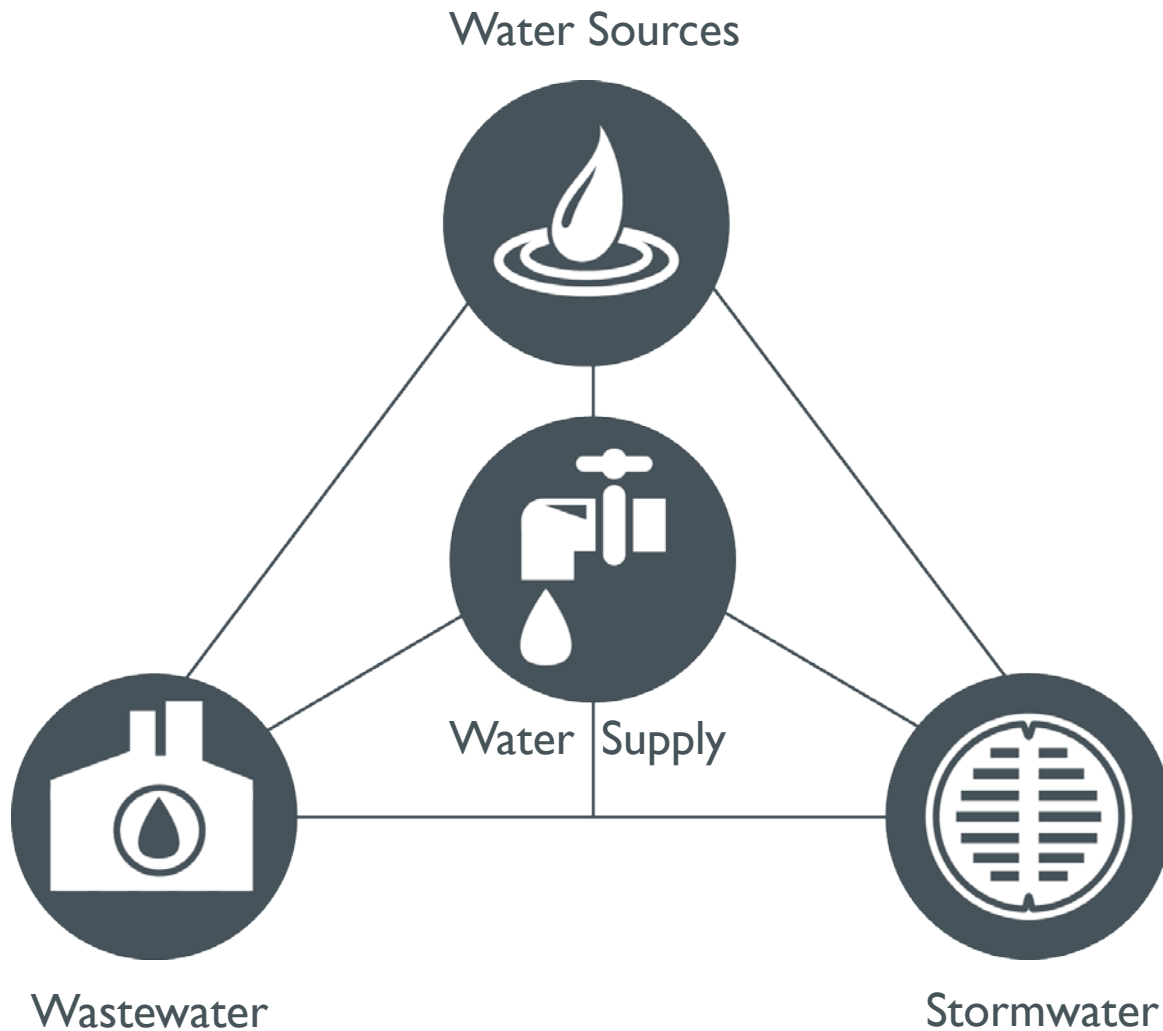
BACKGROUND



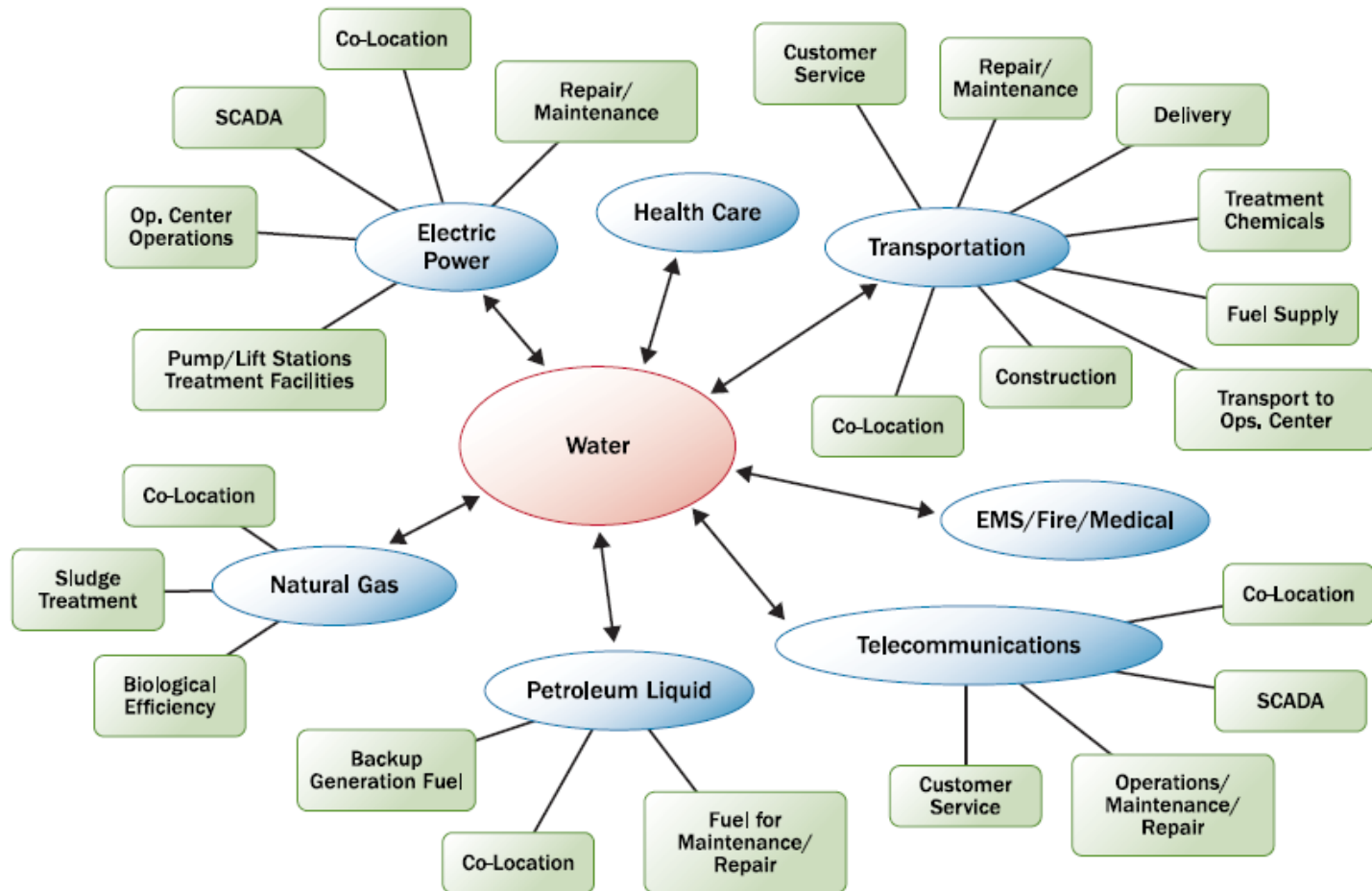
FORMATIVE NIAC STUDIES

- 4 NIAC studies have addressed critical infrastructure resilience:
 - *Critical Infrastructure Resilience* (2009)
 - *A Framework for Establishing CI Resilience Goals (Electricity & Nuclear)* (2010)
 - *Strengthening Regional Resilience* (2013)
 - *Transportation Sector Resilience* (2015)
- Water sector is a lifeline sector that provides indispensable services to nearly all other infrastructures and is critical to the recovery of other essential services following a major disruptive event.
- NIAC: The resilience of the lifeline sectors should be examined to identify potential gaps and seams and opportunities to address them.

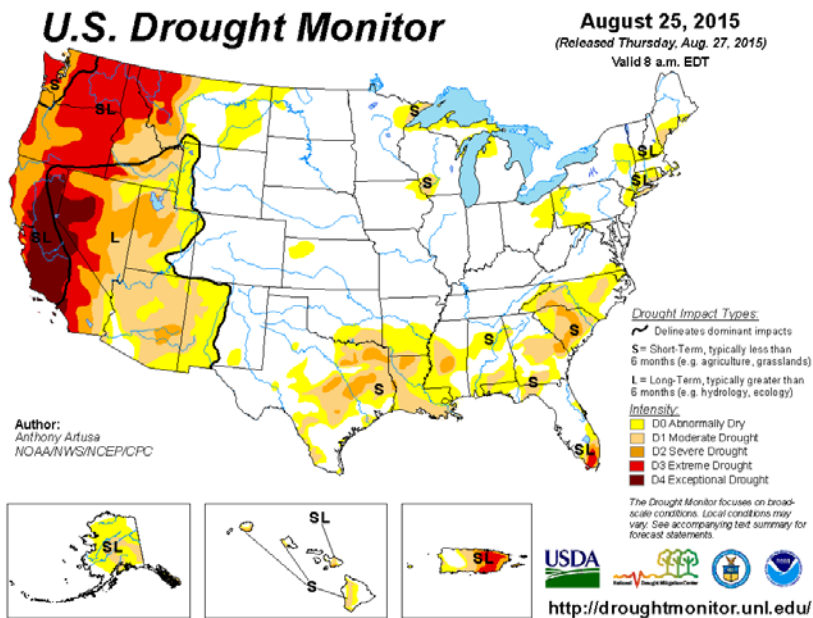
WATER SECTOR STRUCTURE



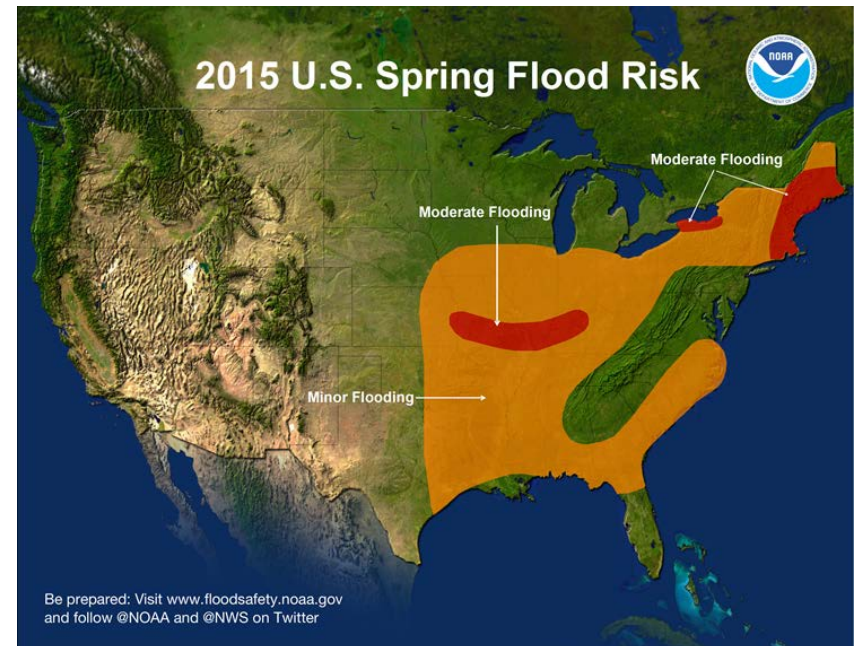
WATER SECTOR INTERDEPENDENCIES



REGIONAL WATER SECTOR ISSUES



Source: NOAA, 2015



Source: NOAA, 2015



STUDY OVERVIEW





WORKING GROUP MEMBERS

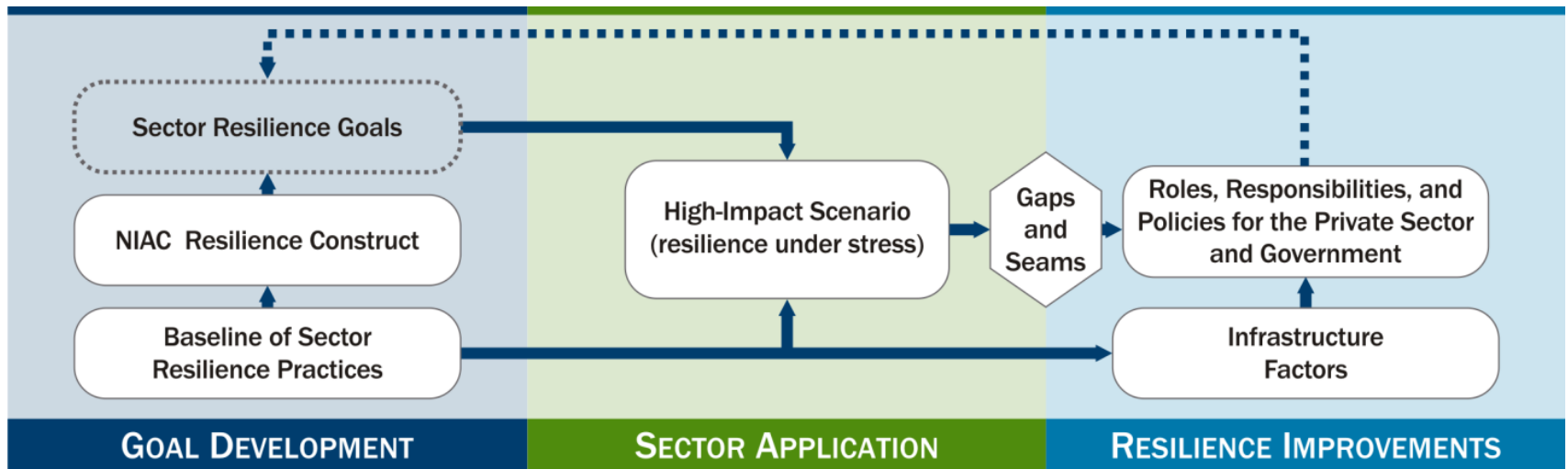
- **Jack Baylis**, *President and CEO, The Baylis Group, LLC (Chair)*
- **Albert J. Edmonds**, *Chairman and CEO, Edmonds Enterprise Services; CEO, Logistics Applications, Inc.*
- **Margaret Grayson**, *President-Commercial Sector, Consulting Services Group, LLC*

STUDY CHARGE

Apply the NIAC-recommended framework for establishing resilience goals (developed in the 2010 study) to the Water Sector in order to:

- Assess security and resilience in the water sector
- Uncover key water resilience issues
- Identify potential opportunities to address them.

FRAMEWORK FOR ESTABLISHING RESILIENCE GOALS



- Establish a baseline of current practices
- Describe and organize practices using the NIAC Resilience Construct
- Set prospective sector goals implied by practices
- Assess sector resilience using a high-impact event (beyond design limits)
- Identify gaps and seams in response
- Clarify sector roles and responsibilities, and infrastructure factors that affect resources
- Modify sector resilience goals based on lessons learned



PROPOSED APPROACH



FRAMING QUESTIONS

1. What **current strategies and practices promote resilience** in the sector?
What **differences or common areas of understanding of resilience** and plan coordination exist across regions and subsectors?
2. What are the implicit resilience goals that are aligned with **common practices for each region or sub-sector, and across the sector?**
3. What considerations and **cascading effects result from interdependencies** among sub-sectors and other infrastructure sectors, including cyber systems and their disruptions, within a region and across the nation?

FRAMING QUESTIONS

4. What **potential gaps and seams** exist that create obstacles for the sector and subsectors to achieve their resilience goals?
5. What **unique factors within the sector influence risk mitigation**? What are the practical realities of risk priorities and risk mitigation, such as those related to investments and operations?
6. What **roles and responsibilities** should private sector and government at all levels play, operationally and at the senior executive level?
7. What **new policies and strategies** may be needed to improve resilience for the sector? What steps can the government take to implement them?

INFORMATION AND DATA SOURCES

The NIAC Working Group will task a non-member Study Group to conduct research, interview subject matter experts, and assess sector resilience using a high-impact event.

The Study Group will leverage the following:

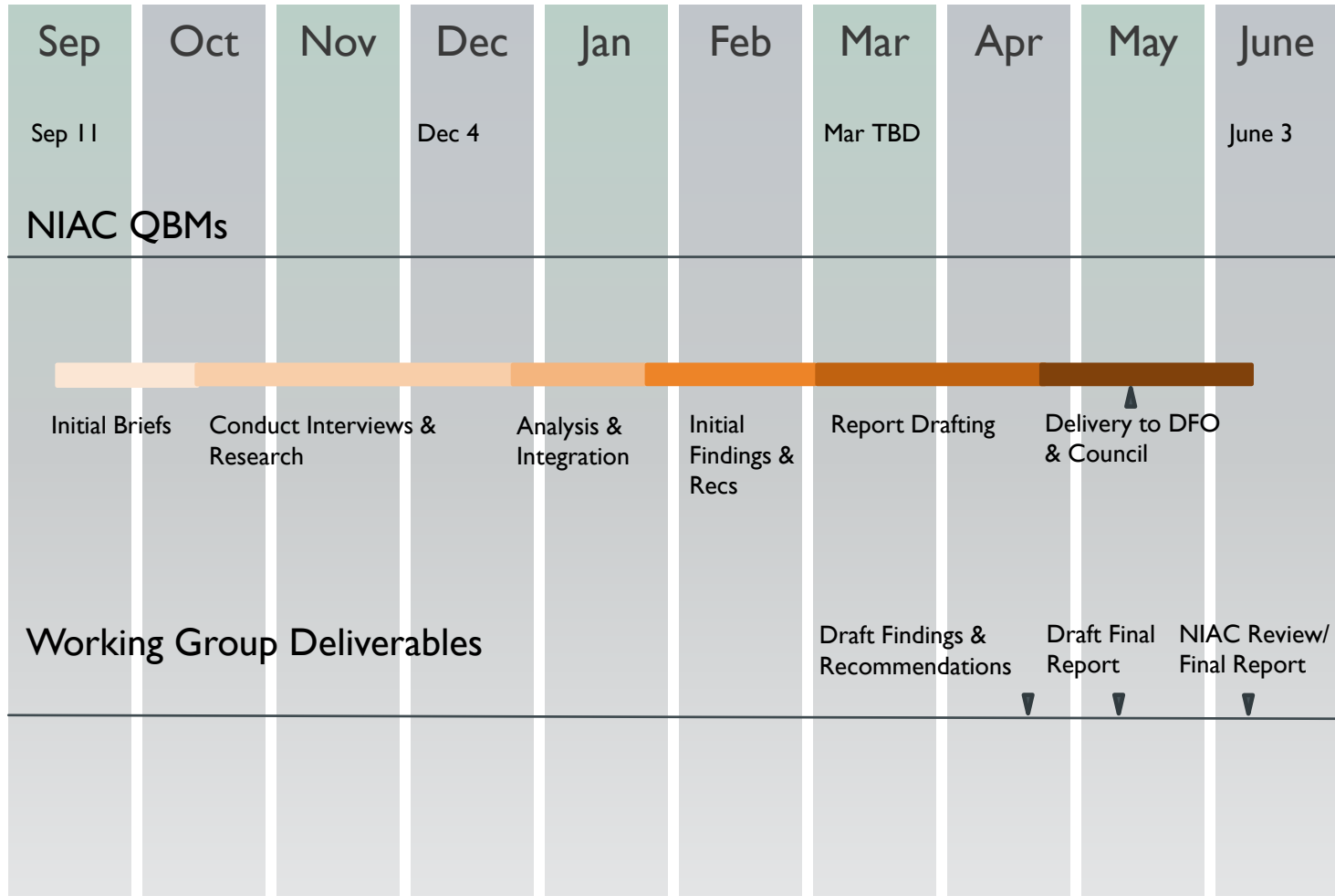
- Interviews with infrastructure owners and operators, national leaders, State and local government representatives, and Federal agencies
- Research and analyze reports, studies, videos, news articles, testimonies, and policy directives
- Public sector briefings provided to the NIAC at-large
- Council member experience and expertise



PRELIMINARY SCHEDULE



STUDY TIMELINE





NEXT STEPS

- Refine study approach and schedule for execution
- Identify additional critical resources for interviews and programmatic briefings, and develop additional study questions and taskings for study group
- Conduct interviews and briefings to collect data



QUESTIONS?

