

Enabling conditions and the evolving role of government in water governance

Watershed investments in the Western US



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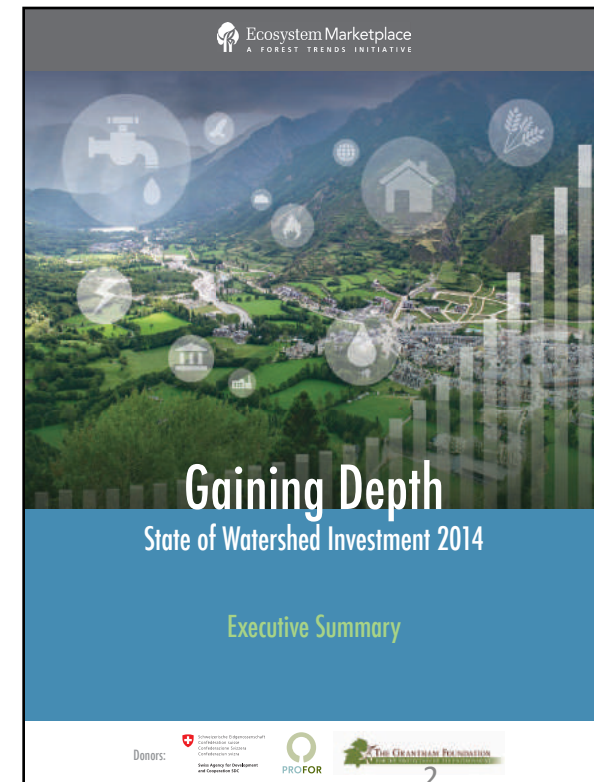
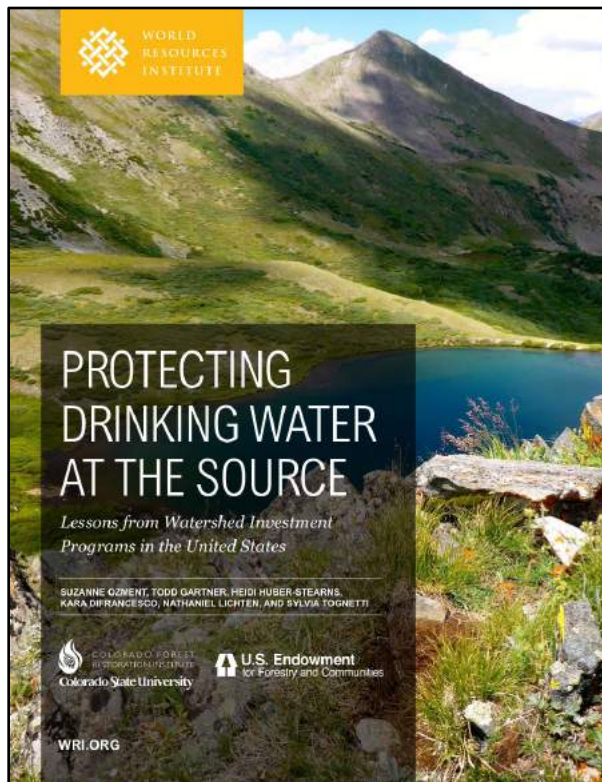
Acknowledgements

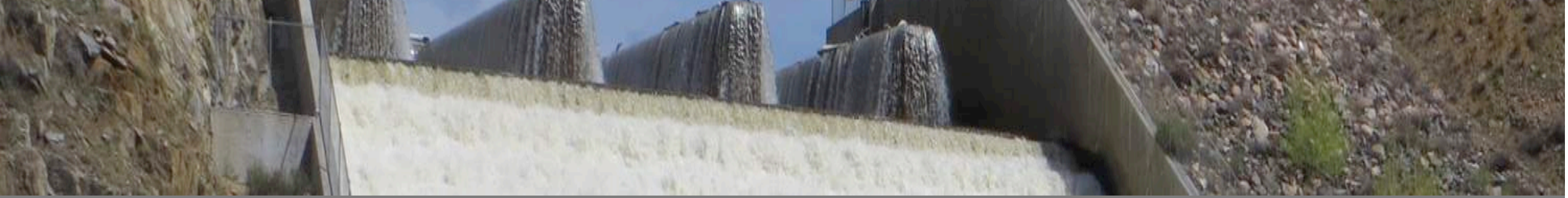
Research support:

- Colorado State University
- National Socio-Environmental Synthesis Center (SESYNC), University of Maryland

Data:

- Forest Trends Ecosystem Marketplace
- World Resources Institute



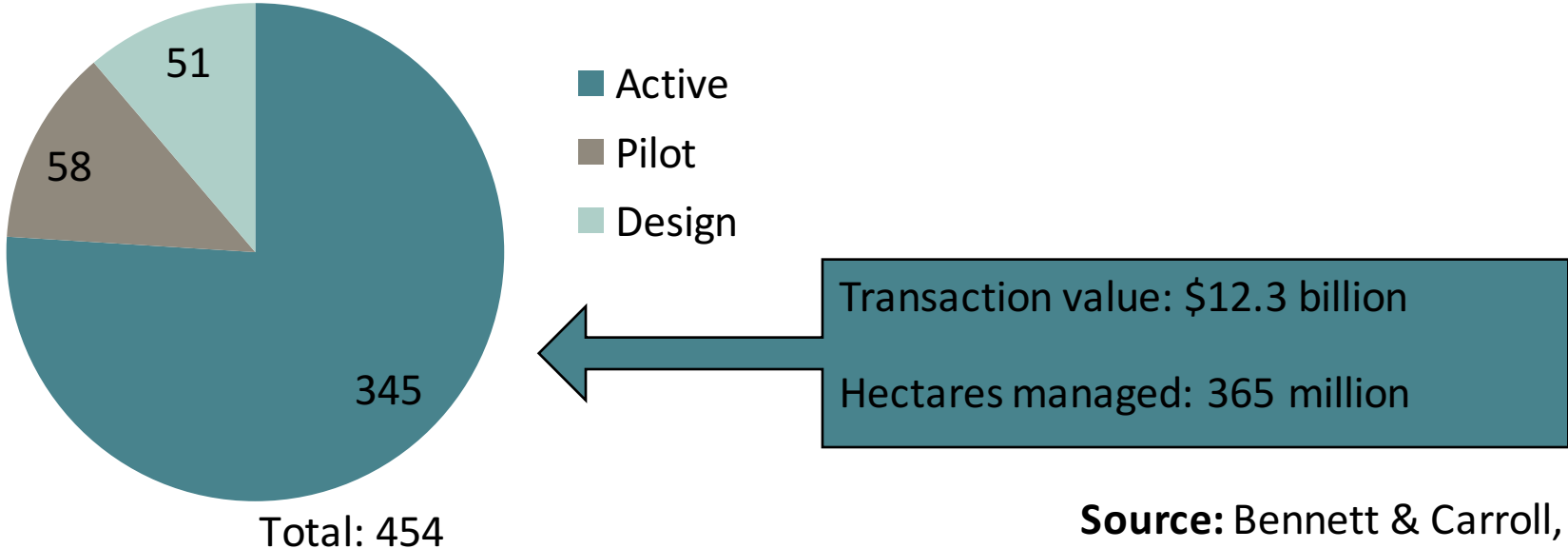


IWS defined and tracked

“Transactional (cash or in-kind) agreements between two or more parties that compensate a land manager for restoring, maintaining or enhancing the natural infrastructure that maintains clean water supplies”

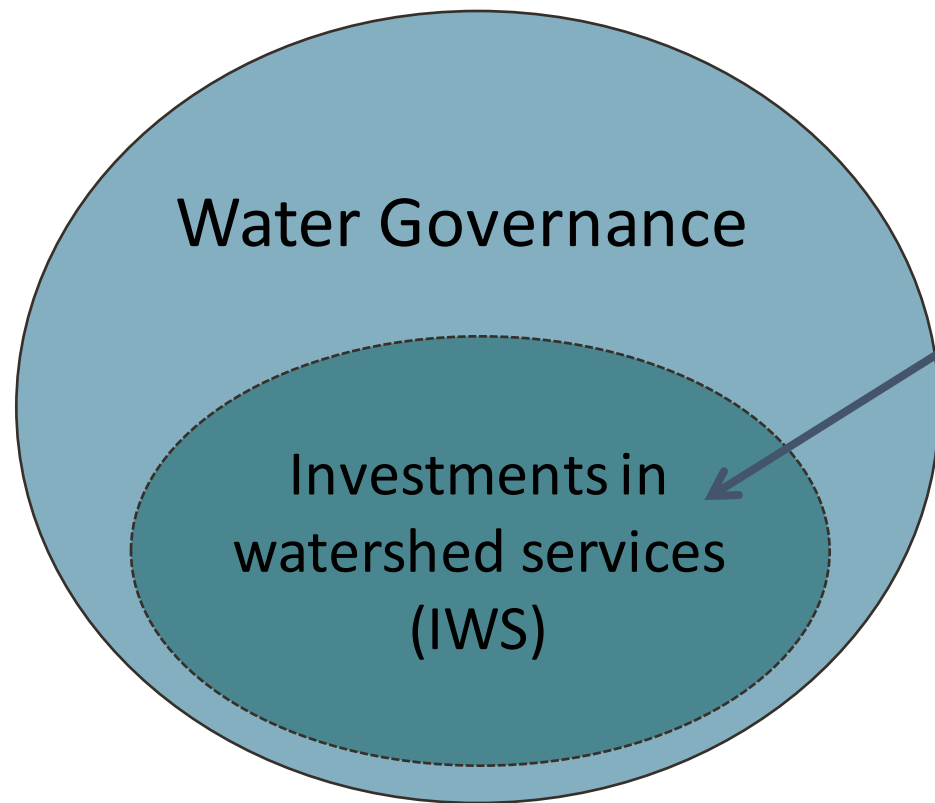
(Bennett & Carroll, 2014, p. xxii).

Global IWS tracked in 2014:



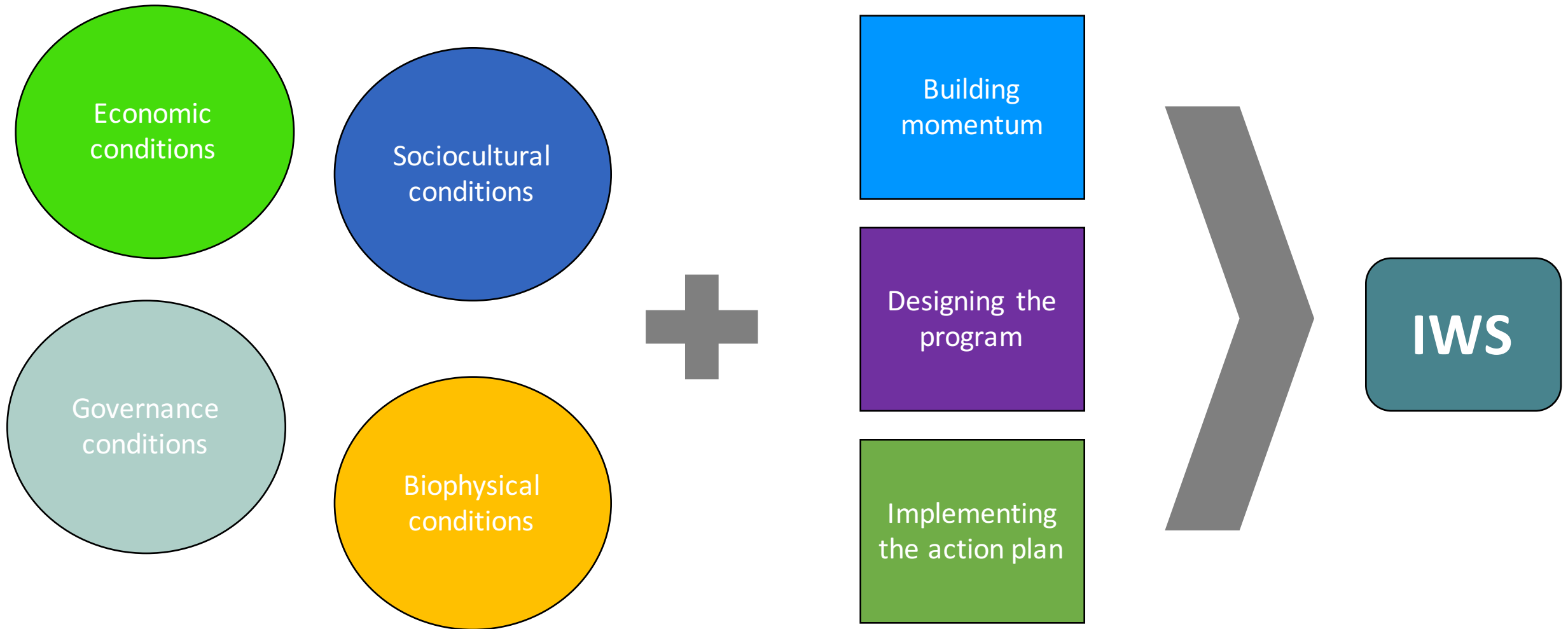


Water governance and investments in watershed services



“Water governance refers to **the range of political, social, economic and administrative systems that are in place** to regulate development and management of water resources and provisions of water services at different levels of society”
(UNDP, 2000)

What factors might impact IWS?



Enabling the creation of IWS

Designing and maintaining IWS

Enabling the creation of IWS

Biophysical conditions

- Small resource area
- Resource location & arrangement
- Well-defined boundaries of PES system
- Existing fundamental ecosystem science and baseline data
- Linkages between ES provision and management practices
- Clear threat or risk to ES

Economic conditions

- Significant value of ES
- Low opportunity costs
- Manageable transaction costs
- Defining ES as an economic good or service
- Economic growth

Governance conditions

- Presence/absence of intermediaries
- Strong capacity among actors
- Influential champion
- Strong existing institutions
- Secure land tenure & property type
- Fit of governance structure with scale of PES
- Multiple/single PES objectives

Sociocultural conditions

- Trust & transparency among actors
- Stakeholder communication & engagement
- Pre-existing market-based culture
- Participant willingness
- Proximity of actors to each other
- Large/small number of actors

Designing and maintaining IWS



PHASE OF PROGRAM DEVELOPMENT	DESCRIPTION	LESSONS
Building momentum	Identifying a clear need and purpose for a watershed investment program; securing commitment from key stakeholders	<ol style="list-style-type: none"> 1. Identify risks (wildfire, drought, etc.) and seize opportunities to rally support 2. Build partnerships to fill essential roles and responsibilities 3. Articulate a clear vision of success 4. Cultivate champions and advocates to build support (from water utilities, local government, NGOs, landowners, etc.)
Designing the program	Assessing the scientific and economic underpinnings of the program; creating a strategy to achieve program goals	<ol style="list-style-type: none"> 5. Develop a scientifically informed watershed plan 6. Evaluate the business case for investment 7. Identify investors (water utilities, companies, foundations, etc.) and financing mechanisms for initial and long-term funding
Implementing the action plan	Actively and adaptively managing the program to make investments; tracking the results of those investments	<ol style="list-style-type: none"> 8. Engage landowners and public managers to conserve, restore, and sustainably manage natural infrastructure 9. Define roles and plans for program administration 10. Monitor and evaluate performance (acres of forestland protected, acres treated for fire risk reduction, pounds of sediment avoided from filling waterways, etc.)

The Western United States

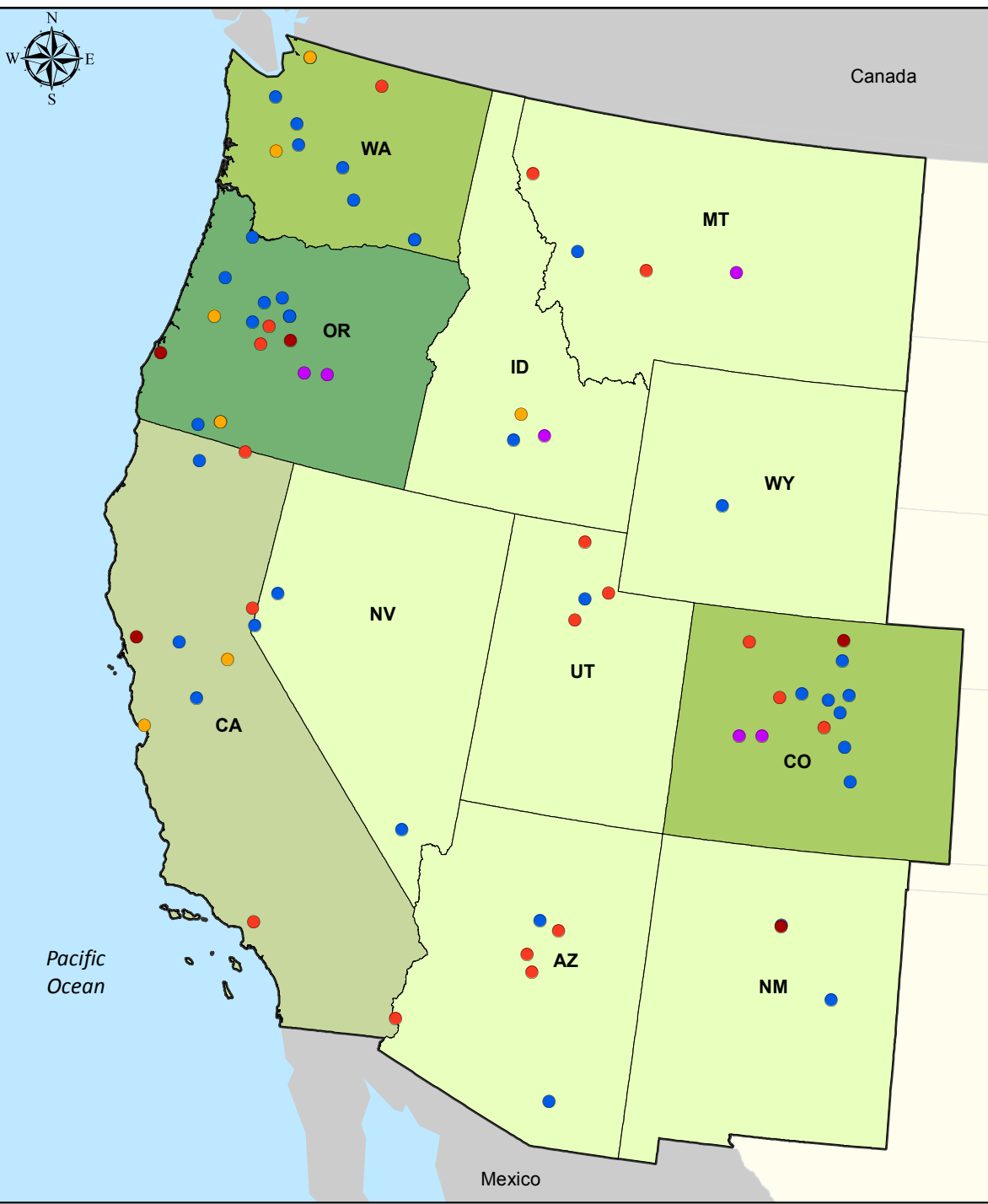


- Complex social-ecological issues of water access, quality, availability all contributing to implementation and expansion of IWS
- One of the most concentrated regions globally for active IWS
- Institutional conditions:
 - Common regionally: US federal policies, western US water law
 - Diverse locally: state management of instream flows, land ownership patterns

IWS in the Western US

As of 2014:

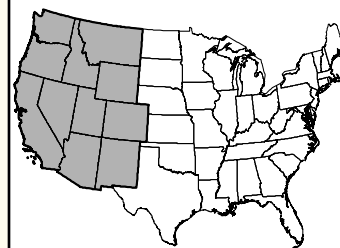
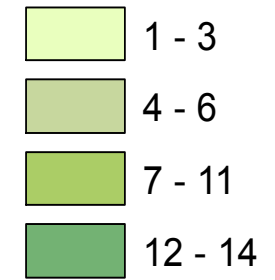
- 48 active programs
- 12 pilot or design programs



Program Status and Scale

- Program In Design
- Demonstration/Pilot Program
- Active Program
- Regional Program
- Statewide Program

Program Count



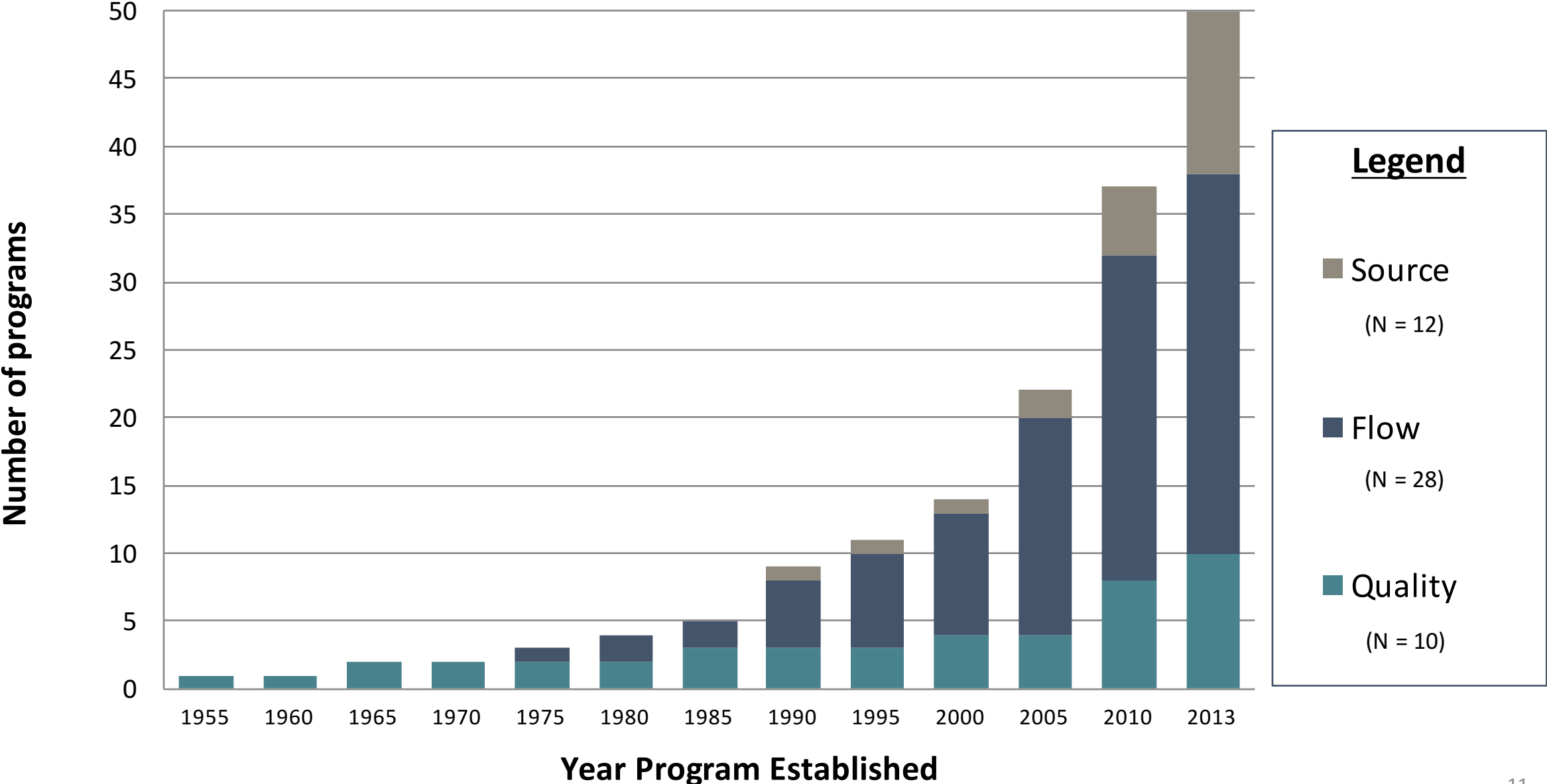
Author: Katherine Sever
Colorado State University
Projection: North America
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Date: 04/20/2015



Government presence in IWS

- Historic role of government has been in regulating water quality at the federal level and water quantity at the state-level
- IWS is an important component of governance in the western US
- 2014 Survey Data identified 48 active programs:
 1. 92%: government participation as main program actor
 2. 65%: policies as motivations for program inception
 3. 58%: presence of government-managed land

Government regulations and actors in IWS by main water concern





Government as a key factor impacting IWS in western US

- Historically (and still) government regulatory frameworks motivate IWS
- The influence and roles of government have changed over time in response to different water resource concerns
- Government is **expanding**: more direct participation in voluntary, incentive-based approaches, and more supporting program roles



Government as a key factor impacting IWS in western US

- Water governance structures still need government, and nongovernmental actors as well to work across boundaries
- Government is key to IWS, and more broadly, water governance in the region, as:
 - Policies and regulations to motivate IWS
 - Land managers and ecosystem services suppliers
 - Investors and support roles



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