

Progress in Planning and Implementing Water Conservation 1970 - 2009



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1. Significant Milestones by Organizations & Laws

Federal Legislation

- Energy Policy Act of 1992 as Amended
- Clean Water Act
- Safe Drinking Water Act

Federal Agencies

- Environmental Protection Agency (WaterSense)
- US Bureau of Reclamation
- US Army of Corps of Engineers
- Department of Energy

Organizations

- Alliance for Water Efficiency
- Urban Water Conservation Council in California, Statewide Organizations in Arizona, Florida, Texas

History of Conservation – Pre 1970 Highlights

1920:

- Lubbock, TX built and operates a water reuse plant

1960:

- US Postal Service Issues a stamp “Water Conservation”



1970:

- El Paso, TX began municipal water conservation efforts

Major Publications Started 1980s

AWWA Publications

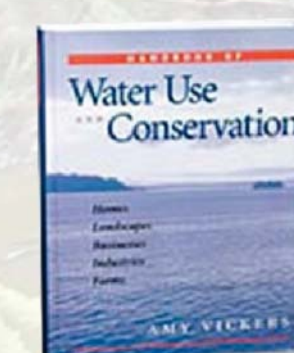
- Water Conservation Management, 1981
- Water Conservation Handbook, 1987
- Residential End Uses of Water, AWWARF (Mayer et al, 1999)
- AWWA Manual M52, Water Conservation Programs—A Planning Manual, 2006
- AWWA Manual M50, Water Resources Planning Manual, 2007
- Water Conservation for Small and Medium-Sized Utilities, 2010



Major Publications Started 1980s

Highlights of Other Major Publications

- North Marin’s Little Compendium of Water Saving Devices, (Nelson, 1974)
- Residential Water Conservation Projects Summary Report (Brown and Caldwell, 1984)
- Evaluating Urban Water Conservation Programs: A Procedures Manual (Dziegielewski et al, 1993)
- Water Conservation Plan Guidelines, US EPA, 1998
- Handbook of Water Use and Conservation: Homes, Landscapes, Businesses, Industries, Farms (Vickers, 2001)
- Many Journal Articles

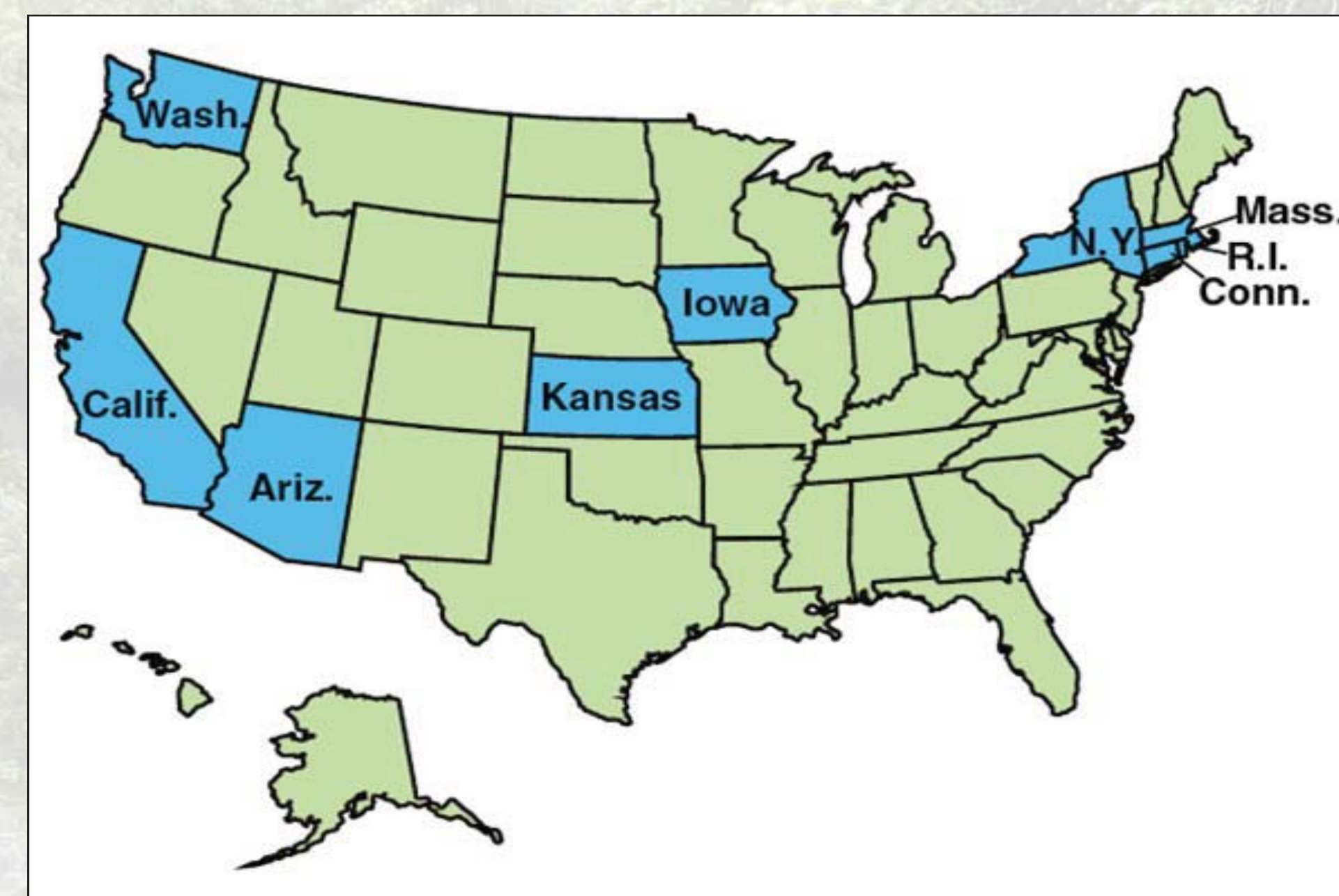


2. Categorizing State Actions

Quantify the Action Level - Four Categories

Category One	State Mandate for Conservation Planning/Programs by Utilities
Category Two	State Recommends Planning & Programs to Utilities
Category Three	State Encourages Utilities to Pursue Conservation Only
Category Four	No State Program

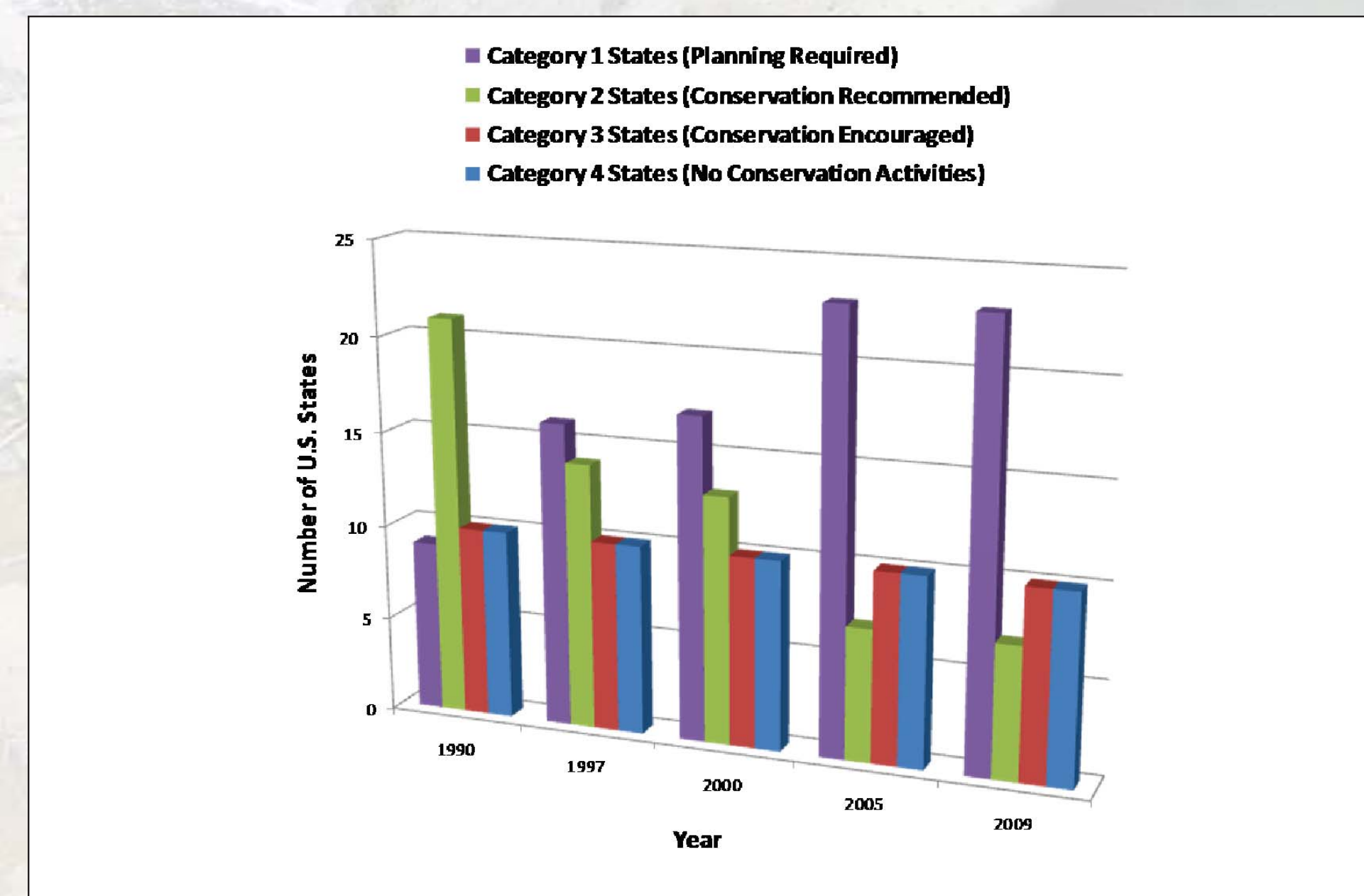
Nine Category One States by 1990



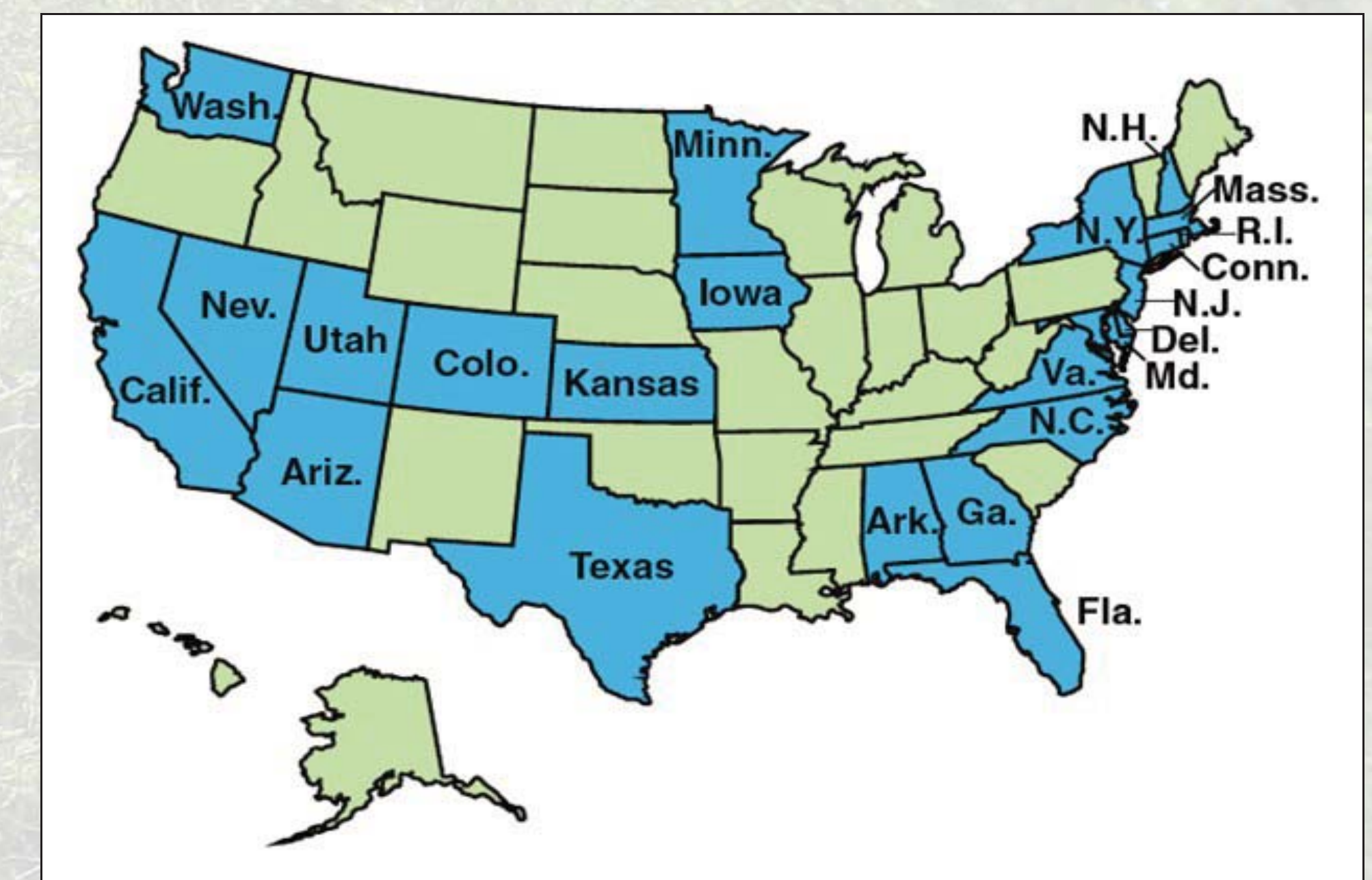
Significant Conservation Actions by States

1980	Arizona	Groundwater Management Act passed to reduce usage and dependence on groundwater.
1983	California	First state to require water conservation plans.
1989	Massachusetts	First state to require installation of 1.6 gpf Ultra Low Flush Toilets and other water efficient plumbing fixtures.
1994-1997	New York	NYC completed the world’s largest toilet replacement program through the replacement of 1.3 million toilets.

Overall Progress Since 1990



Twenty Three Category One States in 2009



3. Factors That Drive State Progress

Population Growth and need for new Water Supplies

- All 14 States with >31% growth 1995-2025 Have Made Significant Conservation Progress
- 64% Have Mandates

Water Shortages

- More than 65% of States with a Mandate for Conservation (Category One) Expect a Water Shortage by 2013

4. Conclusions

- Significant Progress in Implementing Conservation (Plans and Programs) has Been Made Since the 1980’s
- Progress has Been at the Rate of One New Category One State Added per Year (1990-2005)
- Federal Agency Programs and Federal and State Legislation has Been Helpful
- There are Many Valuable Published Books, Manuals and Planning Tools
- Population Growth and Water Shortages Have been the Main Drivers to Encourage Progress

5. Recommendations

- Municipal and Regional Agencies Should Consider Water Conservation as One Method to Alleviate Chronic Water Shortages
- Public Interest Groups Recommend Conservation Planning and Programs
- State and Federal Legislation and Planning Grants/Loans Could Accelerate Adoption of Planning and Programs