A Vision for Advanced Water Conservation

Mary Ann Dickinson

Executive Director

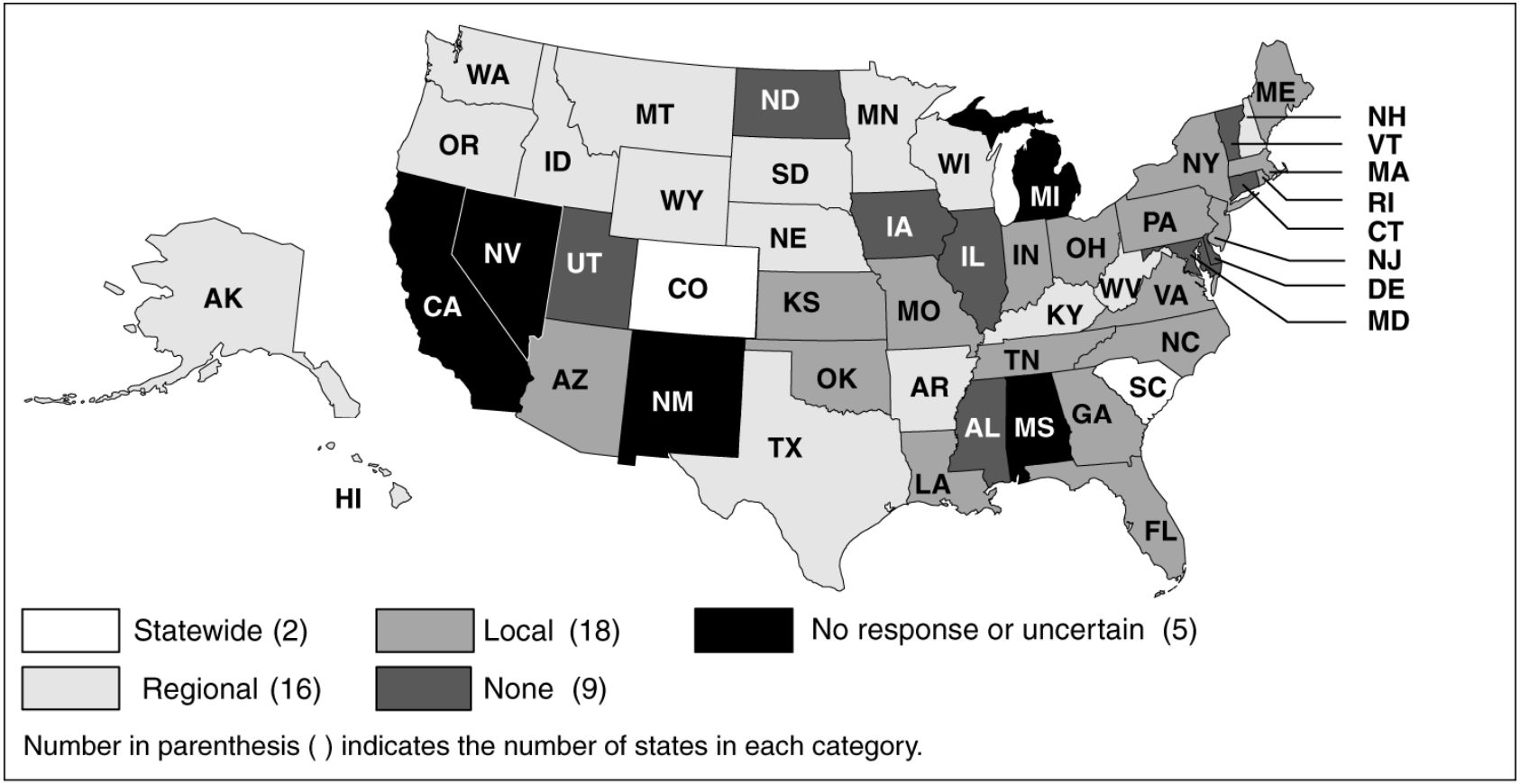
Alliance for Water Efficiency

April 18, 2008

What's our situation?

1. **Increased shortages**
2. Expensive infrastructure
3. Inefficient growth
4. Climate change
5. Unprepared public

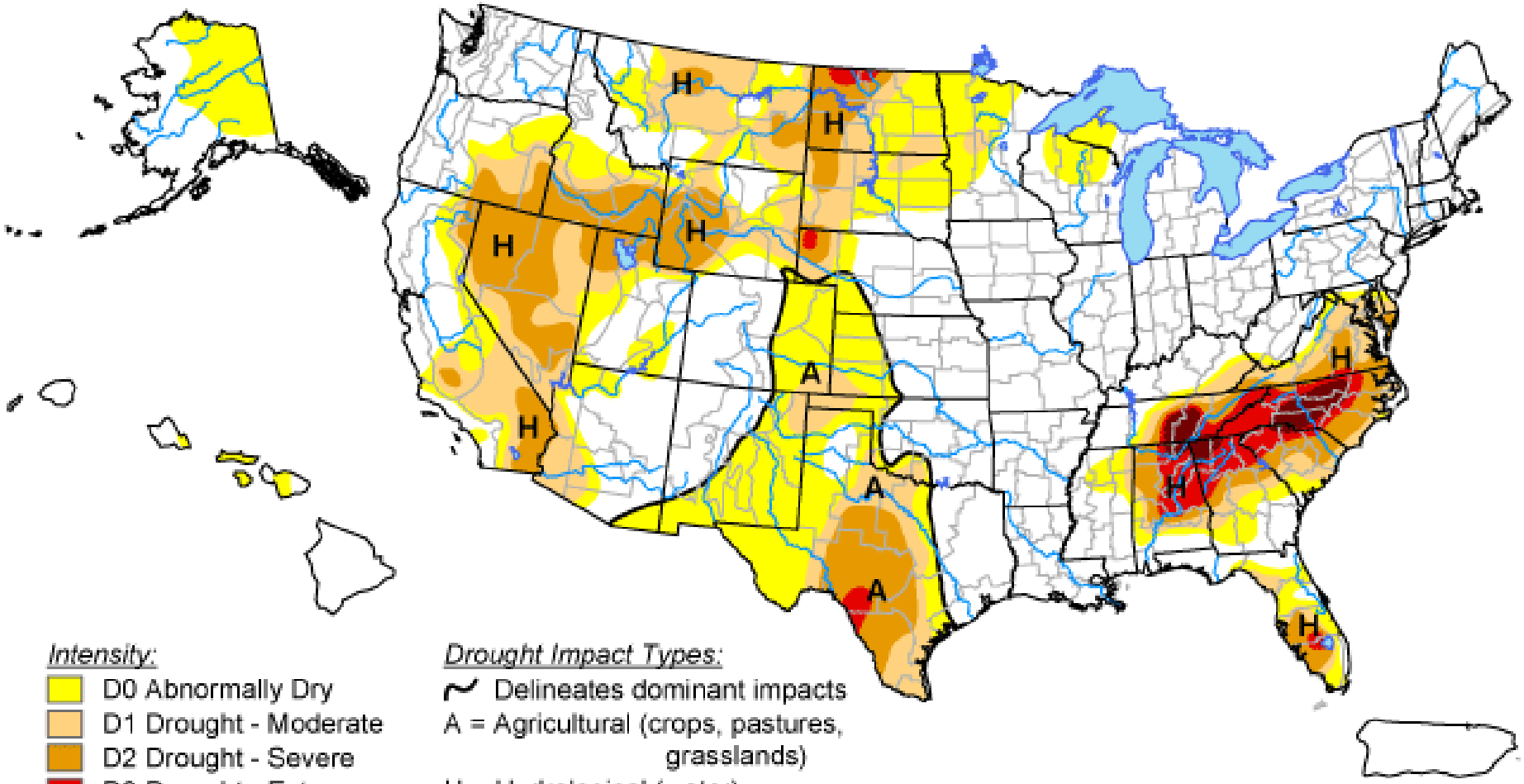
Where are these shortages?



Source: GAO analysis of state water managers' responses to GAO survey.

U.S. Drought Monitor

March 4, 2008
Valid 7 a.m. EST



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

USDA | National Drought Mitigation Center | NOAA

Released Thursday, March 6, 2008

Author: Brian Fuchs, National Drought Mitigation Center

http://drought.unl.edu/dm

The once mighty Lake Mead

Magnitude of Lake Mead shortage

- Now at 52% of capacity
- 50% chance Lake Mead could be dry by 2021 given climate change and current water use
- Colorado River States grew 10% with rest of US growing at 5.6%

Other shortage stories

- **Atlanta region:** in 2007 down to a 3-month supply
- **California:** a judge orders 20% reduction in water supply deliveries to protect delta smelt
- **Massachusetts:** the Ipswich River runs dry every other year in summer because of excessive pumping
- **Texas:** as much as 10 feet of land subsidence has been measured since 1977 north and west of Houston due to excessive groundwater pumping
- **Tennessee:** a town completely out of water

What's our situation?

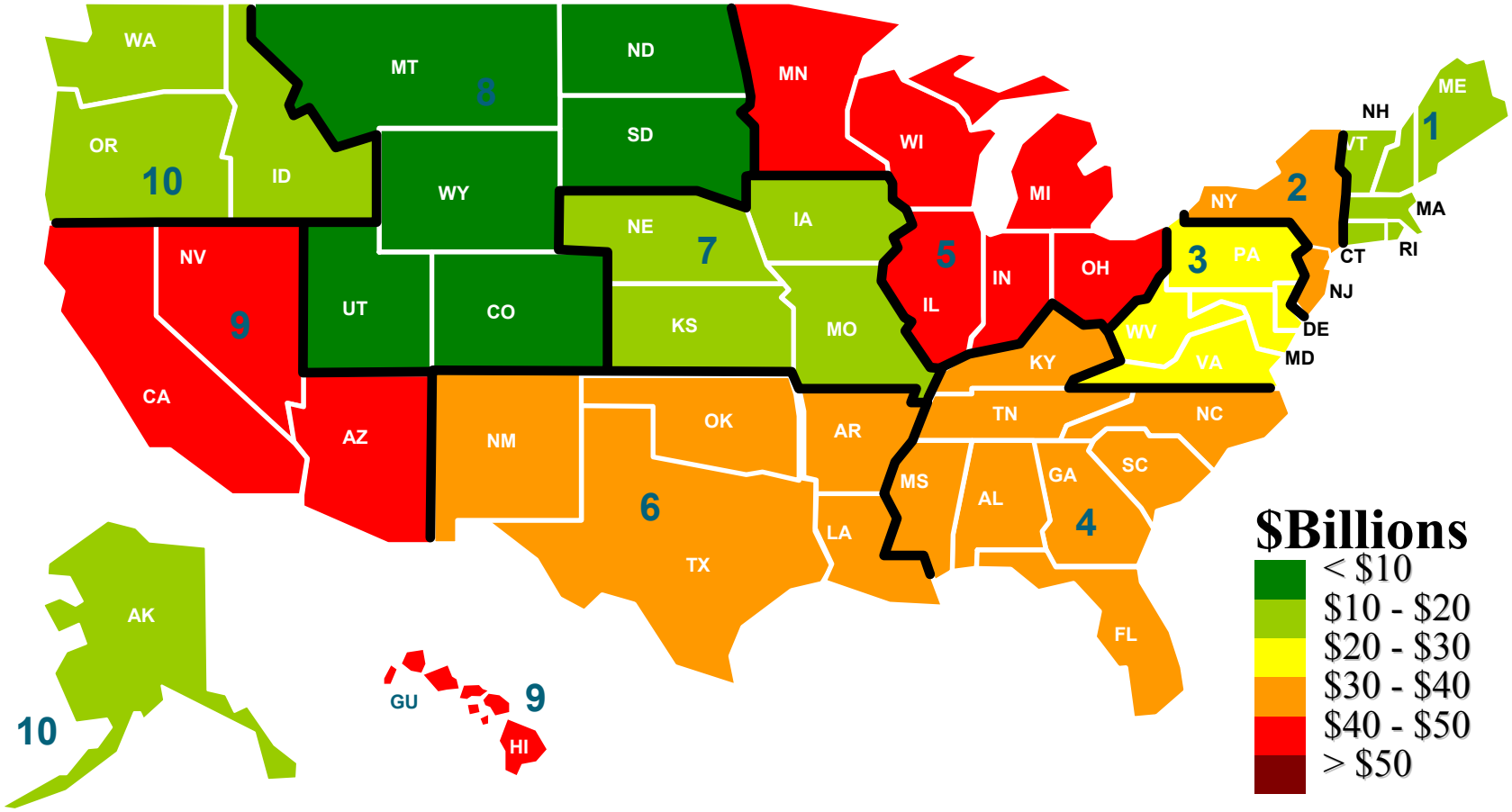
1. Increased shortages
2. **Expensive infrastructure**
3. Inefficient growth
4. Climate change
5. Unprepared public

The effects of shortage

The capital and O&M payment gap for water infrastructure is estimated at $533 billion from 2000 to 2020.

USEPA (2002)

Where is it most expensive?

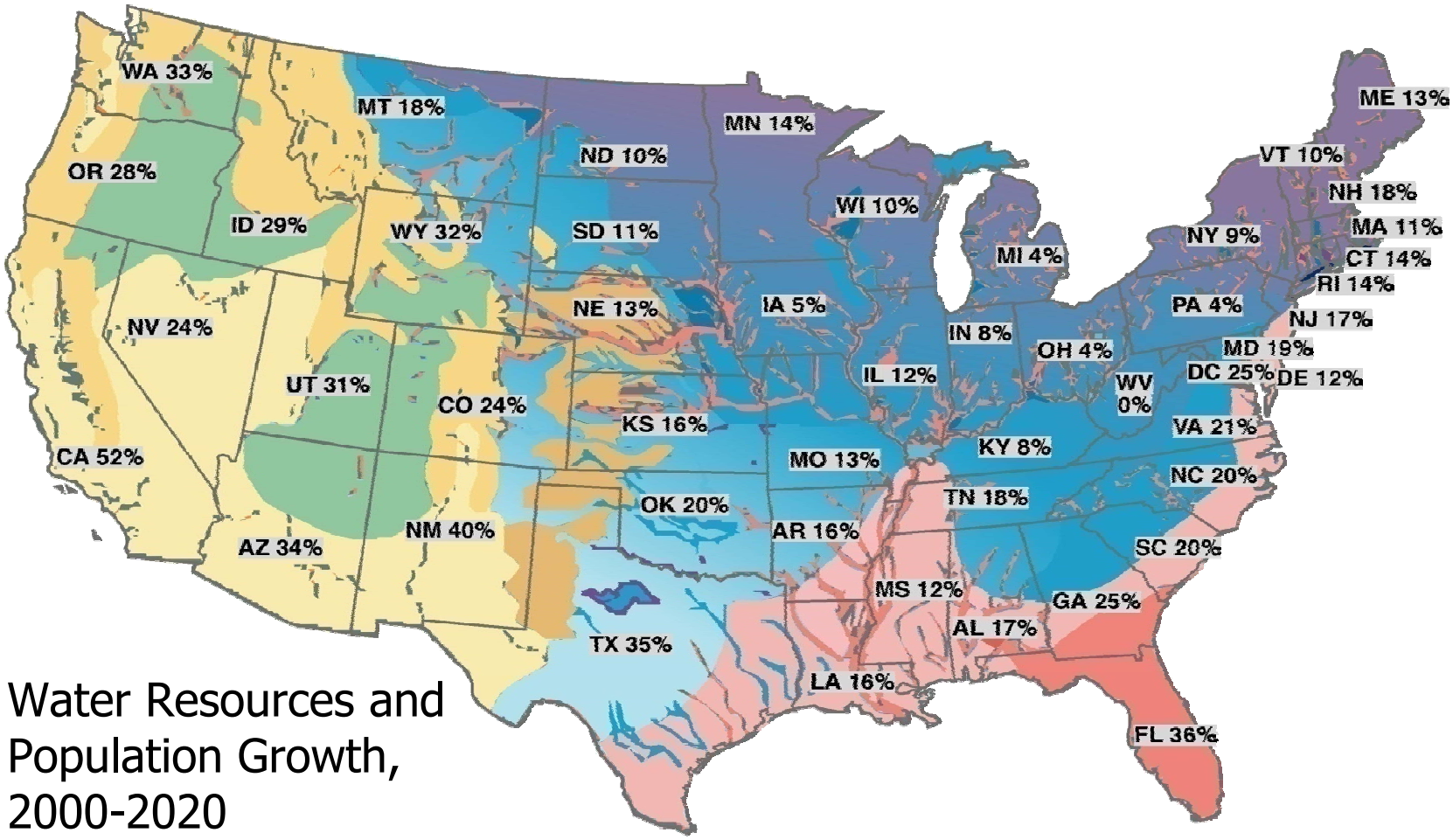


20 Year Drinking Water and Clean Water Infrastructure Needs by EPA Region

What's our situation?

1. Increased shortages
2. Expensive infrastructure
3. **Inefficient growth**
4. Climate change
5. Unprepared public

Where are we growing?



Water Resources and Population Growth, 2000-2020

Source: DOE/NETL (M. Chan, July 2002)

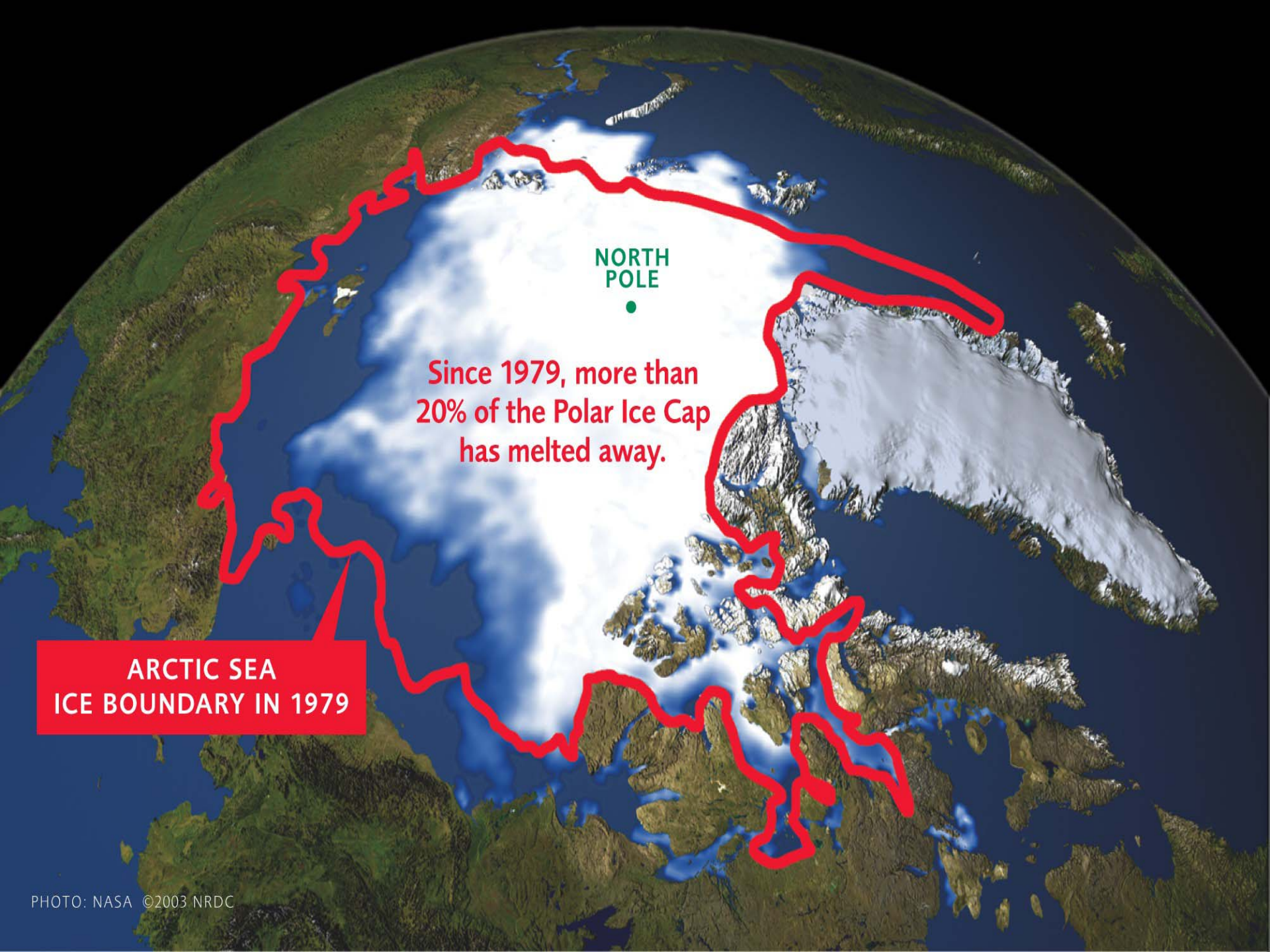
Less Water — More Water

Unfortunate growth facts

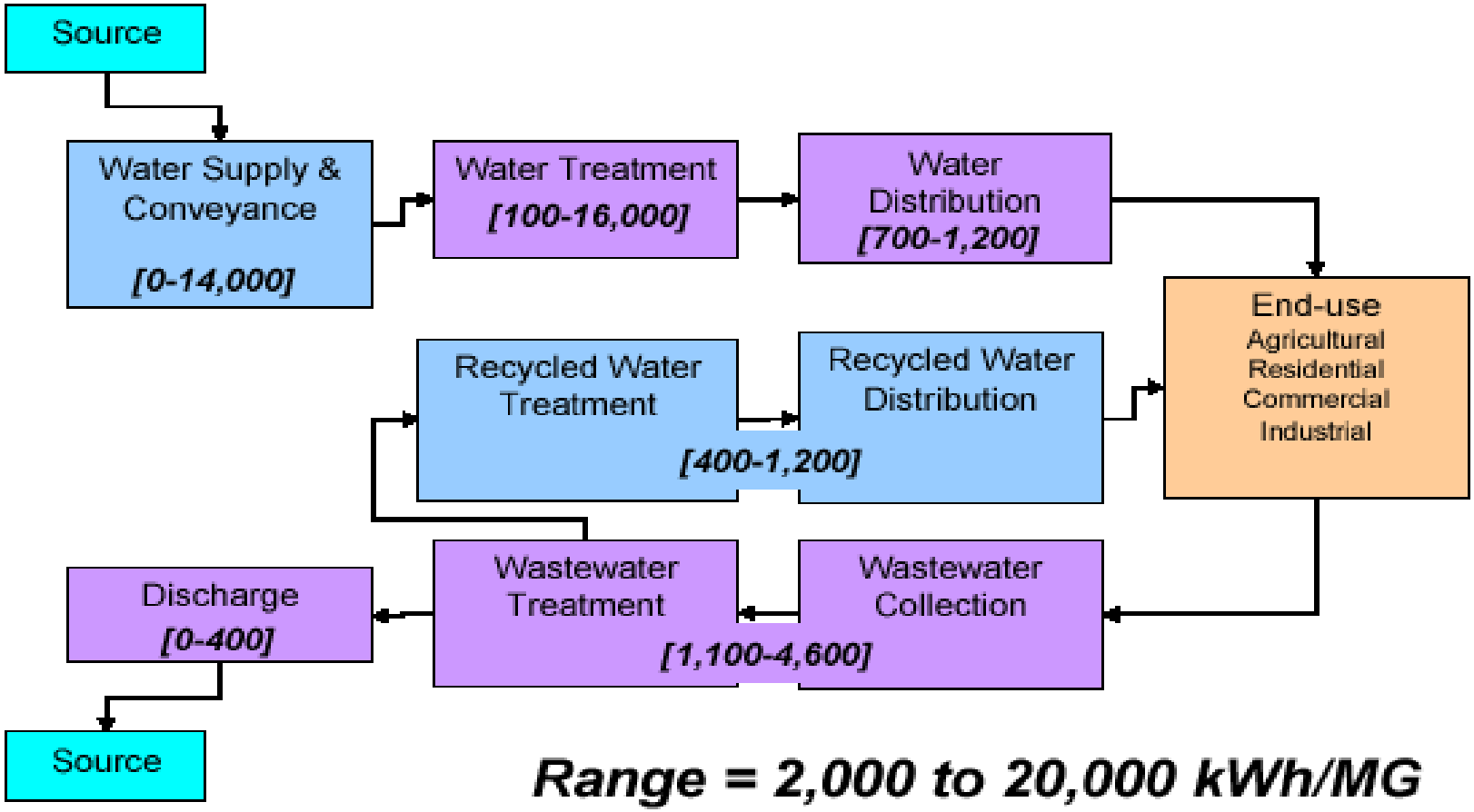
- Studies are showing that new homes are using **12-60%** more water than their existing counterparts
- By 2030 the US will have doubled its built environment
- Not just high-end homes
  - *Hot Water Waste*
  - *Automatic and unmonitored irrigation*
  - *Shower "systems"*

What's our situation?

1. Increased shortages
2. Expensive infrastructure
3. Inefficient growth
4. **Climate change**
5. Unprepared public


NORTH
POLE
Since 1979, more than
20% of the Polar Ice Cap
has melted away.
ARCTIC SEA
ICE BOUNDARY IN 1979
PHOTO: NASA ©2003 NRDC

Energy intensities of water



The astounding California facts

1. ***19%*** *of electric energy load*
2. ***32%*** *of natural gas energy load*
3. ***95%*** *of energy efficiency goals can be met by water efficiency programs at* ***58%*** *of the cost*
4. **33%** of a city's budget for water pumping
5. **34%** of water facility's O&M budget for energy

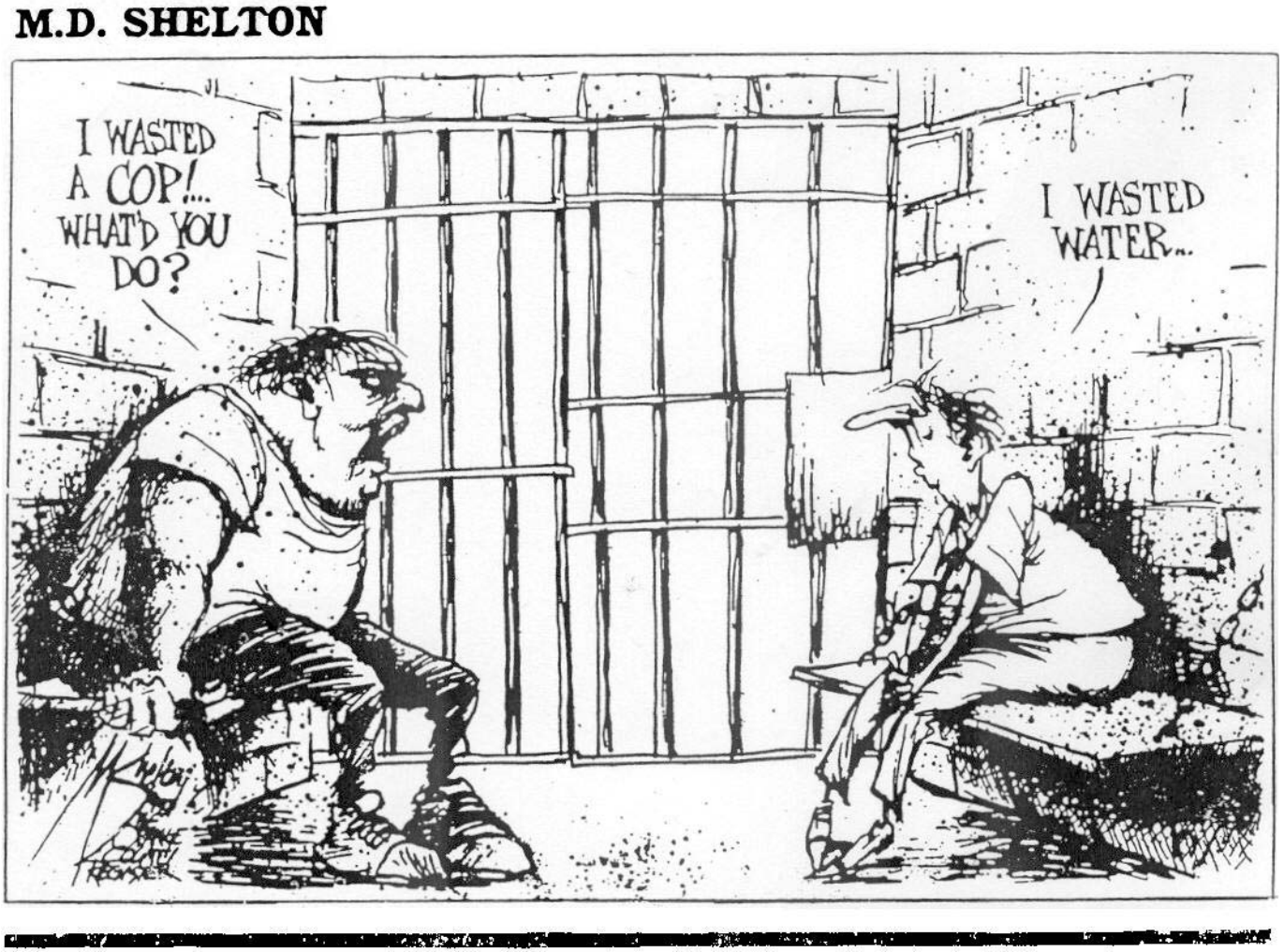

APRIL 3, 2006
www.time.com AOL Keyword: TIME
SPECIAL REPORT GLOBAL WARMING
TIME
BE WORRIED. BE VERY WORRIED.
Climate change isn't some vague future problem—it's already damaging the planet at an alarming pace. Here's how it affects you, your kids and their kids as well
EARTH AT THE TIPPING POINT
HOW IT THREATENS YOUR HEALTH
HOW CHINA & INDIA CAN HELP SAVE THE WORLD—OR DESTROY IT
THE CLIMATE CRUSADERS


2ND-QTR SIZZLE PROFITS AT 900 COMPANIES (P. 74)
PAYING FOR COLLEGE BEWARE OF THOSE HIGH 529 FEES (P. 96)
TERRORISM WHAT COMPANIES STILL NEED TO DO (P. 26)
The McGraw-Hill Companies
BusinessWeek
GLOBAL WARMING
Why Business Is Taking It So Seriously
BY JOHN CAREY (P. 60)

What's our situation?

1. Increased shortages
2. Expensive infrastructure
3. Inefficient growth
4. Climate change
5. **Unprepared public**

What the public perceives….



Why is this happening?

- Conservation seen as a deprivation program
- Consumers unaware of actual water use
- Consumers unaware of true resource impacts
- Water not priced to its true value
- Underlying ethic still missing

So…..what's our solution?

1. **Strive for higher product efficiencies**
2. Connect water and energy
3. Build green
4. Price water appropriately
5. Educate and motivate the consumer
6. Develop alternate sources
7. Partner for positive change