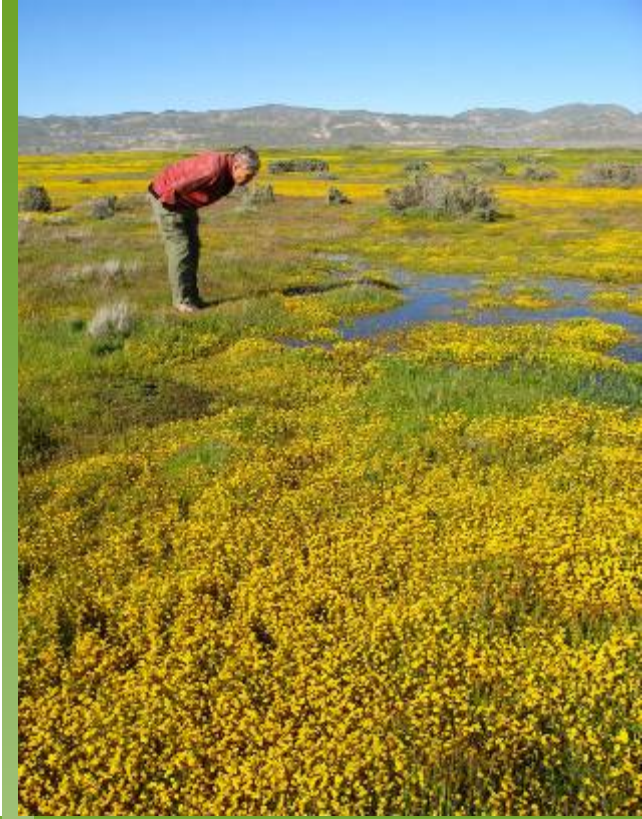


# **A Global and US Perspective: Building a Sustainable Energy Future in a World Adapting to Climate Change**

Nicole Silk, The Nature Conservancy  
Bowdoin College - October 24, 2009



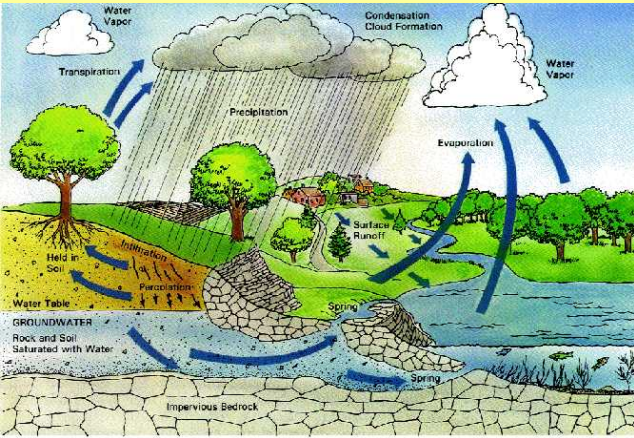
# This Presentation

1. Situation Analysis (Global and US)
2. The Path Forward
3. The Work of The Nature Conservancy

# Situation Analysis: The Overarching Problem

The biggest threat to freshwater ecosystems is the prospect that we will continue to manage and develop water resources in the same manner as we have over the past century.

(Unsustainable → Sustainable )



**THE SOURCE:  
RAINFALL,  
RIVER, LAKE  
OR AQUIFER**

**WATER EXTRACTED  
DIRECTLY FROM  
SOURCE**

**WATER SUPPLIED BY  
PUBLIC OR PRIVATE  
WATER UTILITY**

**WATER USED TO  
PRODUCE  
ELECTRICITY**

**WATER USED TO  
PRODUCE OTHER  
CONSUMER GOODS**

49% of global water use

8%

3%

40%

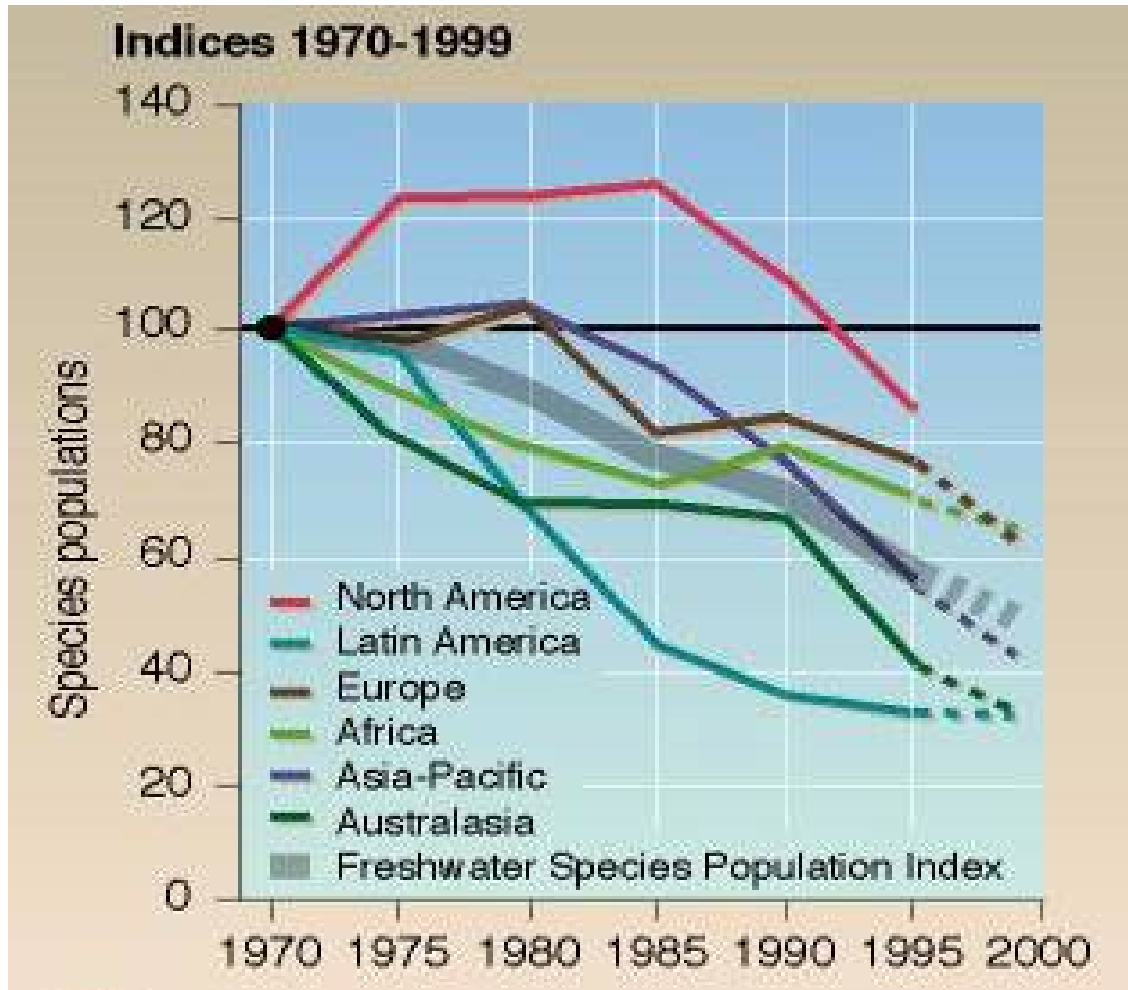


**YOUR  
WATER  
NEEDS**

(90 bathtubs per day)



# Situation Analysis: Freshwater Biodiversity



"Massive mismanagement and growing human needs for water are causing freshwater ecosystems to collapse, making freshwater species the most threatened on Earth," according to Diversitas, an international grouping of biodiversity experts.

Extinction rates for species living in freshwater were "four to six times higher than their terrestrial and marine cousins."

# Situation Analysis: Forecasting the Future

- Global population increasing to 9 billion by 2050.
- Already more than 1 billion lack access to clean water and 2 billion lack electricity.
- More than ½ will live in water-stressed areas by 2030.
- 50% more water will be needed to meet human needs, placing freshwater ecosystems at ever-greater threat.
- Climate change will impact freshwater ecosystems.
- Thousands of new dams will be built.

# Situation Analysis: Climate Change

“Freshwater resources are vulnerable to and will be heavily impacted by climate change.”

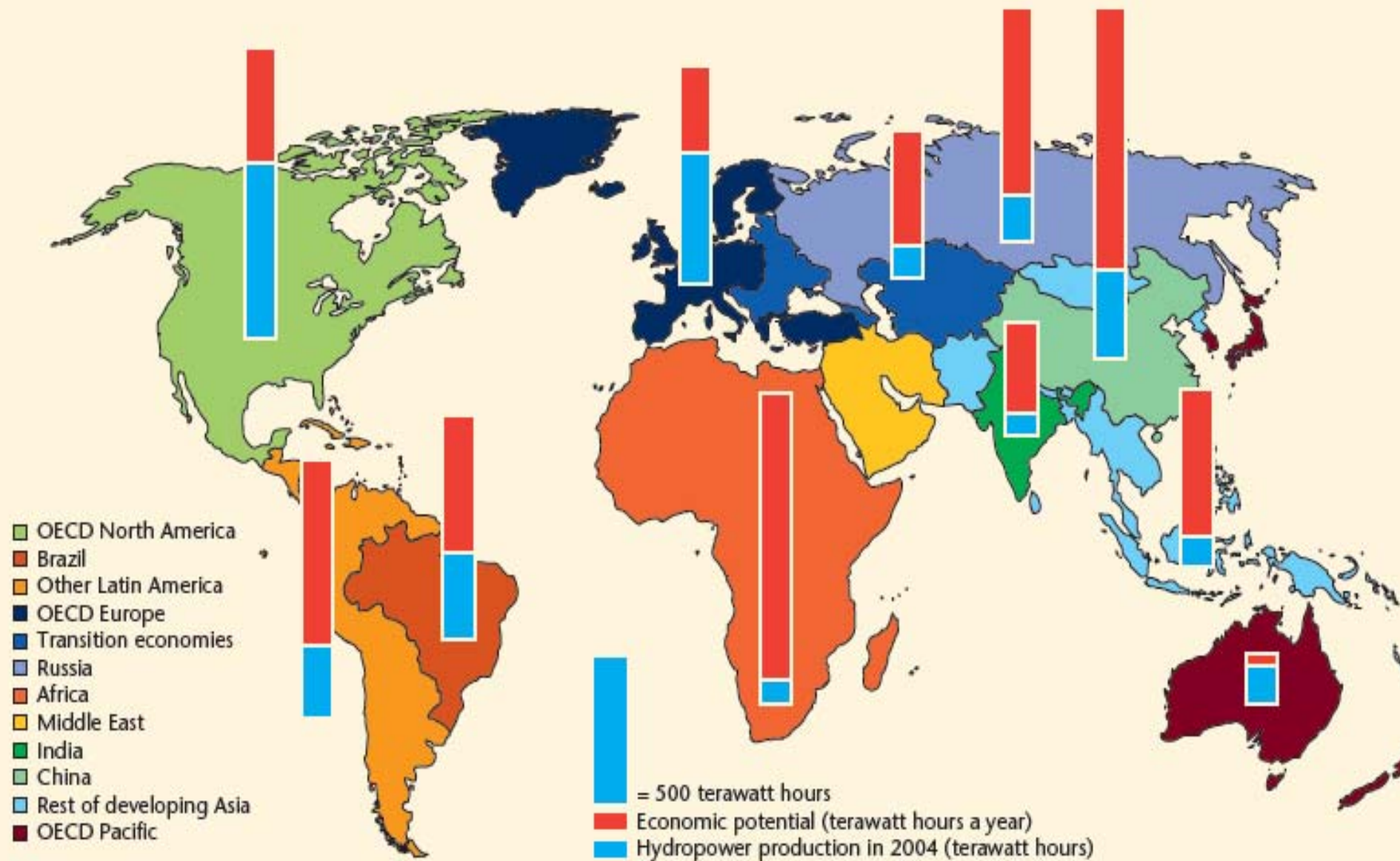
-- Intergovernmental Panel on Climate Change

- Precipitation patterns locally and globally
  - Water supply
  - Increased water scarcity
- Hydrologic variability
  - Changes in seasonal timing, frequency, duration & magnitude of flows
  - Increased inter-annual variability
- Fisheries production / food crops

# Situation Analysis: Climate Change

"Nature can adjust to the circumstances, it's just people who are much more fragile about living conditions."

-- Glaciologist Andreas Bauder in Reuters (Oct 21, 2009)



# Situation Analysis: Expanding Hydropower

Of the 80,000 dams in the United States, only 3 percent are used for energy production. . . .

“We need to use all the weapons in our arsenal and hydropower is certainly underutilized.”

-- Edward Rendell, the Governor of Pennsylvania

“US hydropower capacity could be increased by 60%.”

-- NHA Report

“Our role is to create a sustainable energy future.”

-- Department of Energy Official

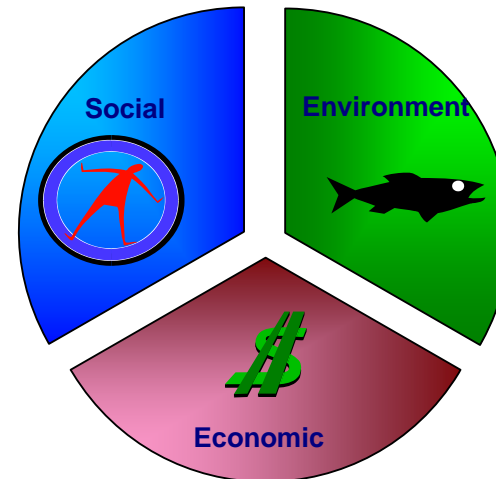
# The Path Forward: Corporations

**“At a time when companies are looking to secure long-term growth strategies, we have to develop approaches that are sustainable in both business and societal terms.”**

**Michael Treschow, Chairman of Unilever**

**“To minimize risk, companies should consider the following: Understand your water footprint. Companies need to think about their water footprint and take this information into account when making decisions about agricultural practices, manufacturing and packaging.”**

**Tim Carey, Director of Sustainability, PepsiCo**



# The Path Forward: Government



**"The Nature Conservancy is one of our most important partners and the *Sustainable Rivers Project* with its nation-wide focus, is at the forefront of our collaborations."**

Lt. Gen. Carl A. Strock  
Commander in Chief, Army Corps of Engineers



# The Nature Conservancy: Strategies / Solutions

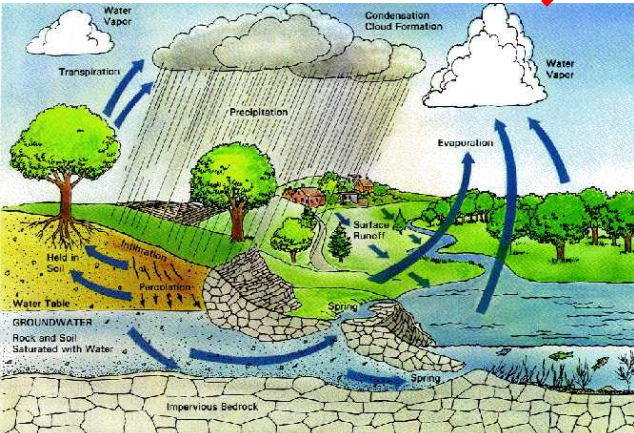
## **Building a Sustainable Healthy Water Future**

- **Protecting Watersheds and Funding Conservation**
- **Governmental Policies that Protect Water**
- **Certification of Companies for Responsible Water Use**
- **“Greening” Dams**

# Our Strategies:

- Watershed Protection
- Governmental Policies
- Greening Dams
- Certification

## Watershed Protection



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3%

40%

# Current TNC Geographic Priorities for Freshwater Conservation



1. Pacific Salmon Ecosystems
2. Colorado River Basin
3. Mississippi River Basin
4. Great lakes
5. Southern U.S. Rivers

6. Tropical Andes
7. Paraguay-Parana River Basin
8. Zambezi River Basin
9. Yangtze River Basin
10. Mexico Mosaics