

A National Assessment of Water Availability: Implementing the strategy for Federal science and technology to support water availability and quality in the United States

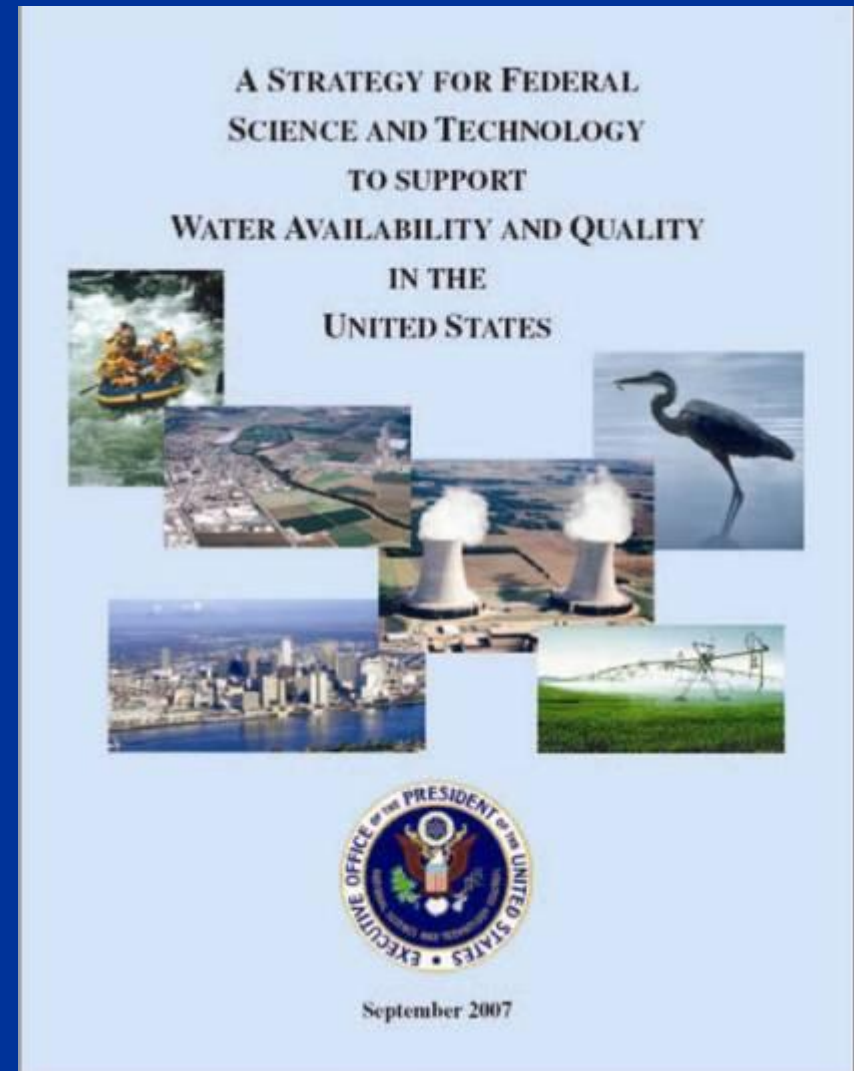
GOI/ADB/OECD INTERNATIONAL WORKSHOP
Sustainable Water Management for Food Security:
An international policy dialogue on progressing water policy
reform in agriculture, with focus on Indonesia

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U.S. Geological Survey
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NSTC Subcommittee on Water Availability and Quality

The Council provides advice to the Executive Office of the President about Federal science and technology programs



Scientific and technical challenges to ensure adequate water supply for the Nation:

- #1: Measure and account for the Nation's water;
- #2: Develop methods that will allow expansion of fresh water supplies while using existing supplies more efficiently; and
- #3: Develop and improve predictive water management tools.

Our objective for the Water Census

To place technical information and tools in the hands of stakeholders, allowing them to answer two questions about water availability:

Does the Nation have enough freshwater to meet both human and ecological needs?

Will this water be present to meet future needs?

What is



A Department of the Interior initiative on water availability and conservation

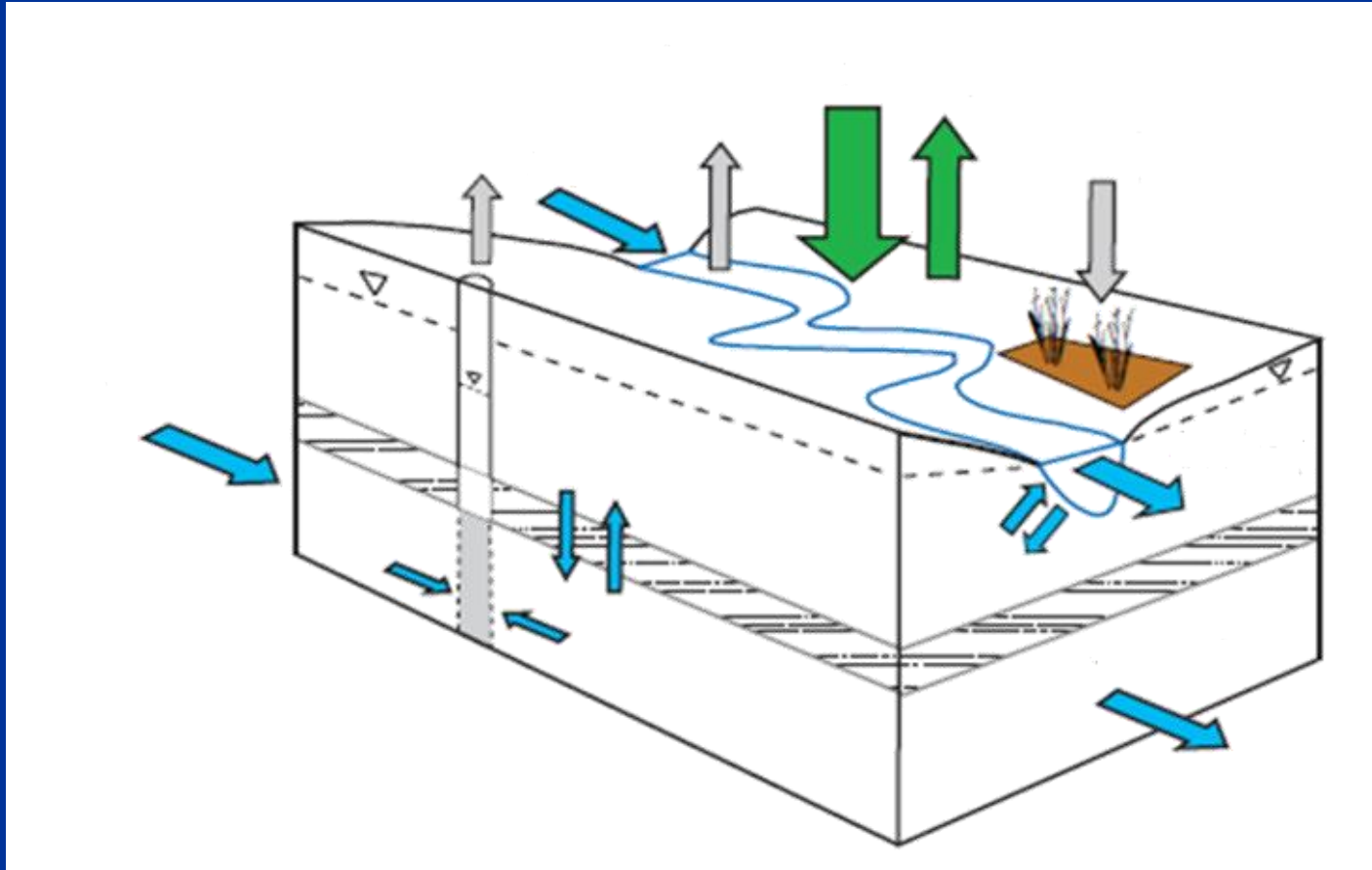


The National Water Census

- River Basin Supply and Demand Studies
- Title XVI Program
- WaterSMART Grants



Account for water with a “budget”



$$P + Q_{in} = ET + \Delta S + Q_{out}$$

$$P + Q_{swin} + Q_{gwin} = ET_{sw} + ET_{gw} + ET_{uz} + \Delta S_{sw} + \Delta S_{snow} + \Delta S_{uz} + \Delta S_{gw} + Q_{gwout} + RO + Q_{bf}$$

A nationwide system to deliver water accounting information about:

- Precipitation
- Evapotranspiration
- Storage in Reservoirs, Lakes, Snow and Ice
- Surface Water
- Groundwater
 - Recharge rates
 - Water level in aquifers
- Ecological Needs
- Water Withdrawals
- Return Flows
- Consumptive Uses
- Run-of-the-River Uses

Information Delivery

A web application for delivering water availability information at scales that are relevant to the user

Select the area of interest.

Generate information on water accounting components

Work with the online tool to construct your water budget

Access trend information

The screenshot displays the USGS Idaho StreamStats web application. At the top left is the USGS logo and the title "Idaho StreamStats". Below this is a toolbar with various interactive tools: ZoomIn, ZoomOut, Pan, GetInfo, FullExtent, LastExtent, EditBasin, FlowStats, BasinChar, ClearBasin, Download, GageInfo, Print, and Help. The main map area shows a topographic map of Idaho with a cyan-colored polygon highlighting a specific watershed area. Major cities like Seattle and Portland are labeled on the left. A scale bar and a "Zoom To" dropdown menu (set to "water") are visible on the right side of the map. Below the map is a "Map Layers" panel with tabs for "Map Layers" and "Locator Map". The "Map Layers" panel shows three categories: "BASE LAYERS", "WATER", and "POLITICAL". At the bottom of the map area, there are "Refresh Map" and "Reset Layers" buttons. The footer contains navigation links for "Accessibility", "FOIA", "Privacy", and "Policies and Notices", along with contact information for the U.S. Department of the Interior | U.S. Geological Survey, including the URL <http://streamstats.usgs.gov/idstreamstats/> and the page last modified date of September 17, 2007. There are also logos for "FIRST GOV .GOV" and "TAKE PRIDE IN AMERICA".

Water Use

Livestock



Less than 1 percent

Self-Supplied Domestic



1 percent

Public Supply

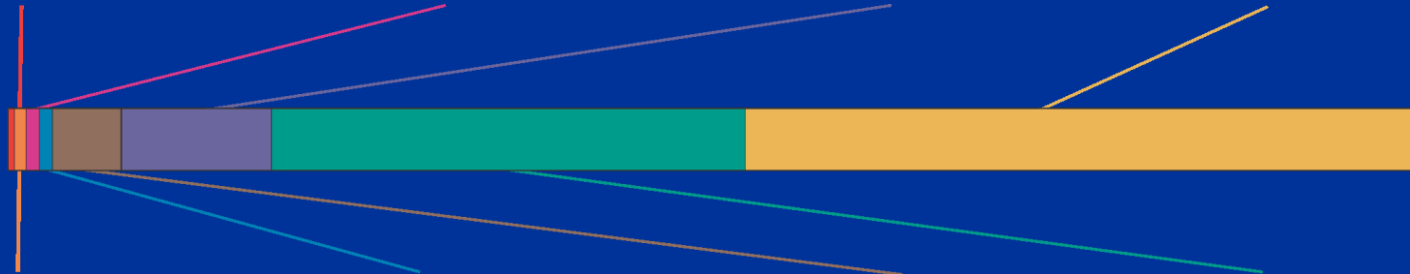


11 percent

Thermoelectric Power



49 percent



1 percent



2 percent



4 percent



31 percent

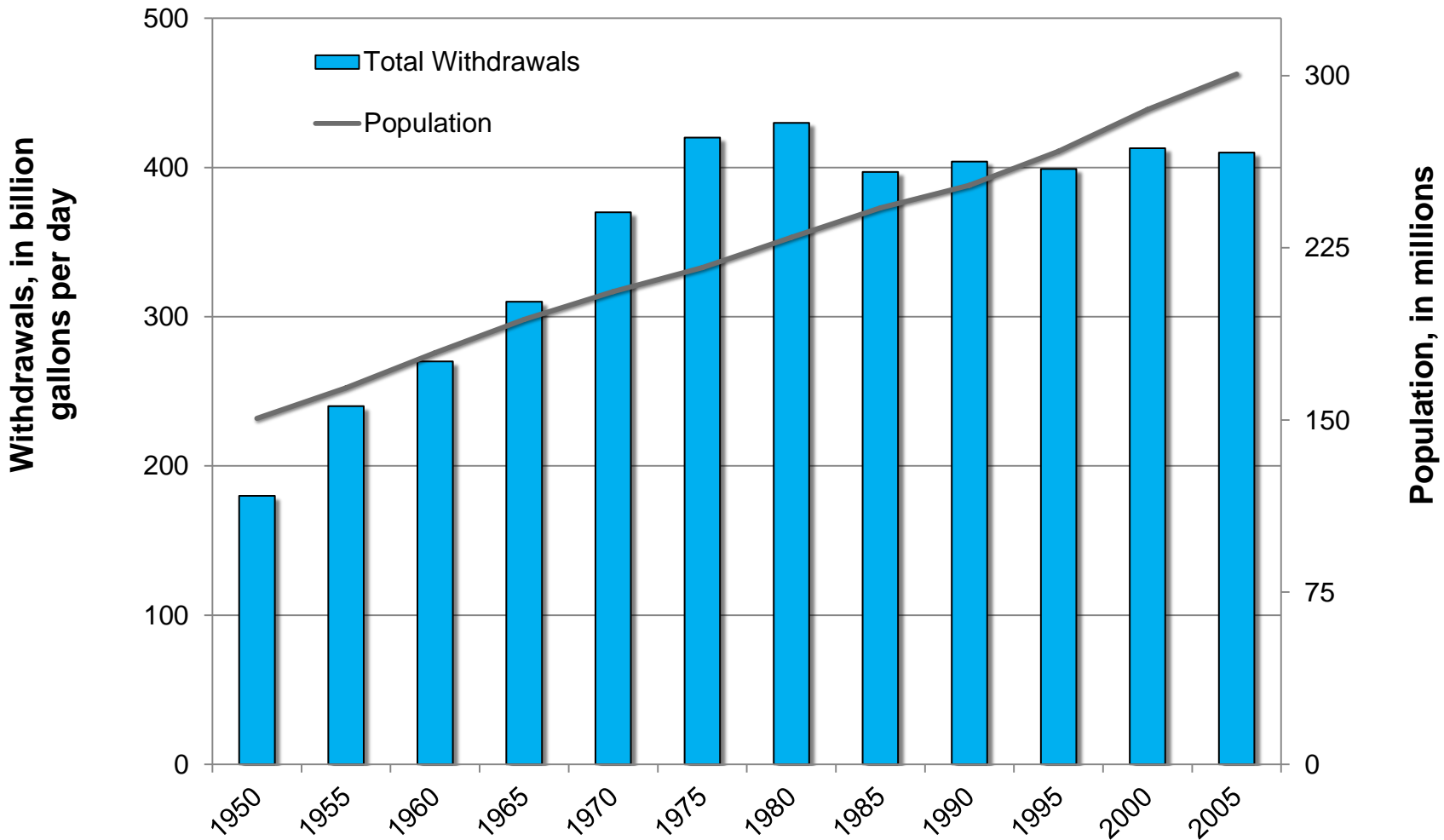


Aquaculture

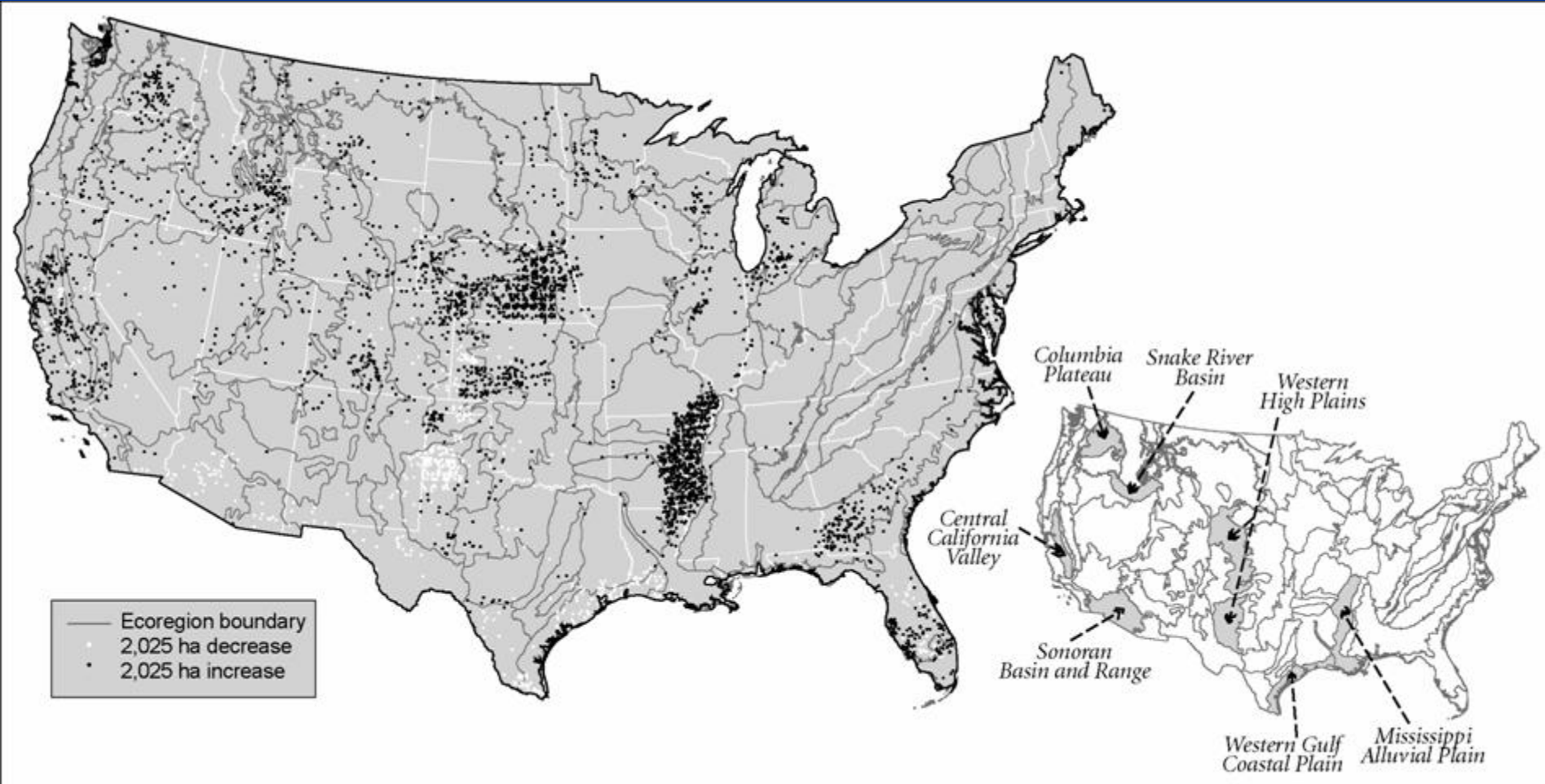
Self-Supplied Industrial

Irrigation

Trends in population and total withdrawals, 1950-2005



Changes in Irrigated Lands: 1974-1997

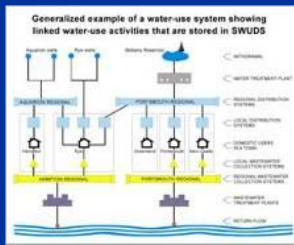
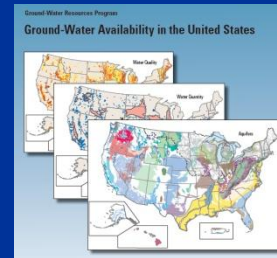
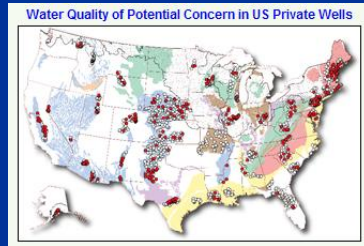


Flows Needs for Wildlife and Habitat

- Assist classifying water bodies for their hydro-ecological type
- Provide tools and data to systematically assess the ecological affects of hydrologic alteration
- Assist users to develop flow or water level alteration – ecological response relationships by type of water body



Focused Water Availability Assessments



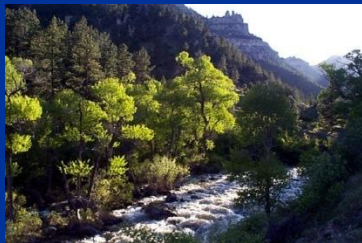
Water Quality

Groundwater Resources



Surface Water Trends, Precipitation, etc

Water Use



Global Change

State, Local, Regional Stakeholder Involvement

Defined Technical Questions to be Answered



The objective of the national water census is to place technical information and tools into the hands of our stakeholders to answer their questions about availability of water:

Does the Nation have enough freshwater to meet both human and ecological needs?

Will this water be present to meet future needs?