

MINUTES OF THE HOUSE VISION 2020 COMMITTEE

The meeting was called to order by Chairman Tom Sloan at 1:30 p.m. on January 28, 2009, in Room 711 of the Docking State Office Building.

All members were present except:

Representative Joe Seiwert- excused

Committee staff present:

Art Griggs, Office of the Revisor of Statutes
Scott Wells, Office of the Revisor of Statutes
Corey Carnahan, Kansas Legislative Research Department
Chris Courtwright, Kansas Legislative Research Department
Mary Koles, Committee Assistant

Conferees appearing before the committee:

Robert Atkinson, PhD, Information Technology and Innovation Foundation
Steve Irsik, Kansas Water Authority
Mark Jakubauskas, PhD, Kansas Biological Survey
Tracy Streeter, Kansas Water Office
Mike Hayden, Kansas Department of Wildlife and Parks

Others attending:

See attached list.

Chairman Sloan welcomed the conferees to the final day of the committee's education about State water issues and the opportunity to hear Dr. Robert Atkinson who was hosted by KTEC. Chairman Sloan introduced Dr. Atkinson.

Robert Atkinson, PhD, President and Founder of the Information Technology and Innovation Foundation (ITIF), a Washington, DC-based technology policy think tank, and author of *The 2008 State New Economy Index: Benchmarking Economic Transformation in the States* spoke briefly. His research places Kansas 8th in the nation for "Gazelle Jobs," among the top ten states in attracting new knowledge workers, and reveals that Kansas is a "Top Mover" in two other areas. He congratulated Kansas for its strong performance on the index (Attachment 1) and noted that Kansas' pipeline program is good. The index was distributed to each committee member. It is available from ITIF, is currently online at itif.org, and is filed with the Legislative Research Department.

Representative Sloan opened the meeting for questions from the committee. Questions were asked by Representative Sloan and Representatives Doug Gatewood and Tom Hawk; Dr. Atkinson responded.

The following conferees provided a collaborative PowerPoint presentation (Attachment 2 and Attachment 3) focusing on a long-term commitment to protecting our public water supply infrastructure.

Steve Irsik, Chairman, Kansas Water Authority, discussed the work of the Kansas Water Authority and the Basin Advisory Committees: strategic planning and the Kansas water plan. He noted that sixty percent of Kansans receive water from Kansas reservoirs and that impaired reservoirs limit both economic and population growth (Attachment 2, pages 1-4).

Mark Jakubauskas, PhD, Research Associate Professor, Kansas Biological Survey, addressed integrated data collection and management to provide a reservoir information system for Kansas (Attachment 2, pages 5-23).

Tracy Streeter, Director, Kansas Water Office, addressed the need to develop a reservoir maintenance and reclamation strategy. Current practices and potential options to address the problems were discussed as well as issues that need to be addressed (Attachment 3, pages 1-8).

Mike Hayden, Secretary, Kansas Department of Wildlife and Parks, and a former Governor, reviewed the salient issues and actions presented by the previous conferees. He stressed the need to plan ahead to

CONTINUATION SHEET

Minutes of the House Vision 2020 Committee at 1:30 p.m. on January 28, 2009, in Room 711 of the Docking State Office Building.

ensure (1) that our water infrastructure will continue to meet the demands of today as well as those of future generations and (2) that Kansas is positioned to finance the necessary projects. He proposed that ten percent of the funds from the Expanded Lottery Act Revenues Fund be set aside for water infrastructure projects and debt reduction (Attachment 3, pages 9-14).

The documents distributed to committee members on January 21, 2009, have continued relevance: Sedimentation In Our Reservoirs: Executive Summary; Sedimentation in Our Reservoirs (book); and Kansas Water Authority, 2009 Annual Report.

Following the presentations, Chairman Sloan opened the meeting for questions from the Committee. Questions were asked by Representative Sloan and Representatives Tom Hawk, Don Hineman, and Lee Tafanelli.

Responses were provided by the appropriate conferees.

Representative Sloan thanked the conferees for their presentations during the last three meetings. He requested that they or their agencies collaborate and formulate an Action Plan to present to the committee on February 25, 2009. Priorities are to be established during the summer and fall and presented to the committee in January, 2010.

The next meeting is scheduled for February 2, 2009.

The meeting was adjourned at 3:05 p.m.

House Vision 2020 Committee Guest List

Date: Wed. Jan. 28, 2009

Name	Representing Client/Authority
Mark Jakubauskas	Kansas Biological Survey
Ed MARTINKO	KS-BIOLOGICAL SURVEY
Jerry deNOYER	KS BIOLOGICAL SURVEY
Scott Campbell	KS Biological Survey
John Selk	Landplan
Anna Betzen	Kansas Water Office
Dan Korber	Kansas, Inc.
Hakim Saadi, PE	STATE CONSERVATION COMMISSION
SCOTT CARLSON	See
Quinn Gaggero	KDHE
✓ Matt Casey	GBA
Joni Conko	KTEC PIPELINES
Steve Adams	KDWP
Mick Hayden	KDWP
Steve Irsik	KWA
Tracy Street	KWO
Darci Mase	Water One

House Vision 2020 Committee Guest List

Date: Jan. 28, 2009
(continued)

Name	Representing Client/Authority
Andrew Peery	Rep. Mario Goico
Lindsey Douglas	KDA

FOR IMMEDIATE RELEASE

CONTACT: K. Pearl (KTEC) 785-215-0934

Topeka, Kan. (November 18, 2008) – The 2008 State New Economy Index released today rated Kansas 8th in the nation for "Gazelle jobs," along with "top mover" ratings in many categories that reflect on the state's technology sector. Nationally, Kansas' overall ranking improved and moved to #31– according to the report released by the Ewing Marion Kauffman Foundation and the Information Technology and Innovation Foundation (ITIF) during Global Entrepreneurship Week.

The 2008 Index ranks the 50 states according to how their economies are structured to compete nationally and globally. The report places heavy emphasis on "new economy" measures such as technology jobs, broadband access and R&D investment. According to the report, the "New Economy" is a "global, entrepreneurial and knowledge-based economy in which the keys to success lie in the extent to which knowledge, technology, and innovation are embedded in products and services."

According to the 2008 Index, Kansas enhanced its overall ranking from 34 to 31 and, over the past year, the state made major inroads in improving key measures. Kansas performed especially well in the category of economic dynamism, with its national rank jumping twelve points over the course of the past year. This improved score resulted from Kansas' strong performance in terms of supporting new entrepreneurial companies. According to the report, Kansas made many gains in other areas as well, specifically, with regard to technology related firms and jobs. The report highlights include:

- **Ranked 8th in Nation for "Gazelle Jobs"** – "Gazelle" companies are the nation's real engines of growth. Nationally, they account for 80% of new jobs created by entrepreneurs. Kansas' strong performance indicates that the state is home to a high proportion of world-class companies.
- **"Top Mover" in "Fastest Growing Firms"** – Kansas also enjoyed large increase in the number of "fast growing firms" (i.e. those with growth exceeding 200% over 4 years). These firms provide a strong base for the state's current and future growth.
- **Top 10 Ranking For Immigration of Knowledge Workers:** Fast growing firms need smart people, and, as the Index shows, Kansas is doing a good job of attracting new knowledge workers. Smart people are coming to Kansas for great economic opportunities.
- **"Top Mover" in High Wage Traded Service Sector:** Kansas also showed great improvement in growing high wage jobs in leading service sectors, like financial services, publishing, and advertising. This improvement is an indicator that Kansas is creating "good jobs" with strong career potential.

"The New Economy Index report comes at a critical time for our state," said Tracy Taylor, President and CEO of KTEC. "As we struggle through the current economic downturn, it's important that we identify economic engines and resources that will help speed our recovery. For Kansas, this return to prosperity is going to be led by home grown entrepreneurs building world class companies. Kansas' strong performance on the Index, particularly in the area of economic dynamism, shows that we are well-positioned to lead—and to profit—from the coming economic recovery."

(MORE)

*House Vision 2020
2-28-2009
attachment 1-1*

"We are in a "new day" in Kansas- and America- right now," said KTEC Board Chair, Linda Reinhardt. "Innovative solutions to our economic, energy, and environmental challenges demand smart, innovative and persistent strategies. Kansas has a leg up in this environment in that it equipped our state with organizations like KTEC that focus daily on navigating innovation opportunities, challenges for the good of our state's economy."

To read the full 2008 States New Economy Index, visit: http://www.itif.org/files/2008_State_New_Economy_Index.pdf

About KTEC: Kansas Technology Enterprise Corporation (KTEC) is a private/public partnership, created by the State to support technology-based economic development in Kansas. Central to this mission, KTEC serves as steward of the state's commercialization "value chain," which works to transform scientific discoveries into market-driven businesses. <http://www.ktec.com>

About ITIF: The Information Technology and Innovation Foundation (ITIF) is a non-partisan research and educational institute – a think tank – whose mission is to formulate and promote public policies to advance technological innovation and productivity internationally, in Washington, and in the states. Recognizing the vital role of technology in ensuring American prosperity, ITIF focuses on innovation, productivity, and digital economy issues. <http://www.itif.org>

About Kauffman Foundation: The Ewing Marion Kauffman Foundation is a private, nonpartisan foundation that works to harness the power of entrepreneurship and innovation to grow economies and improve human welfare. Through its research and other initiatives, the Kauffman Foundation aims to open young people's eyes to the possibility of entrepreneurship, promote entrepreneurship education, raise awareness of entrepreneurship-friendly policies, and find alternative pathways for the commercialization of new knowledge and technologies. <http://www.kauffman.org/>

Vision 20/20: Day 3

A Long-Term Commitment to
Protecting our Public Water
Supply Infrastructure

Dr. Robert Atkinson

Federal Reservoirs and
Drinking Water Lakes.

*Information Technology and Innovation
Foundation, a Washington, DC-based
technology policy think tank*

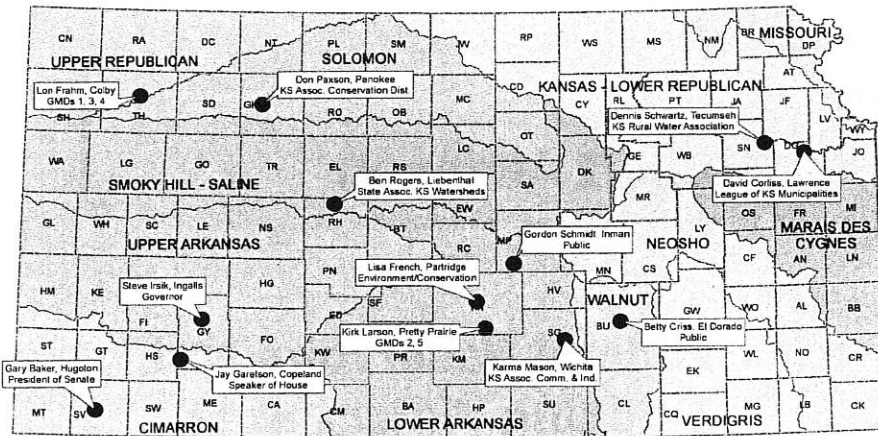
*House Vision 20/20
2-28-2009
Attachment 2-1*

Steve Irsik

A Commitment to Long-Term Action to Protect Our Water Infrastructure.

Kansas Water Authority

Kansas Water Authority Members



Kansas Water Authority Ex Officio Members

David Barfield
Division of Water Resources
KS Dept. of Agriculture

Fred Cholic
Ag Experiment Station
KS State University

Greg Feley
State Conservation Commission

William Harrison
KS Geological Survey

Mike Hayden
KS Dept. of Wildlife & Parks

David Kerr
KS Dept. of Commerce

Edward Martinko
KS Biological Survey

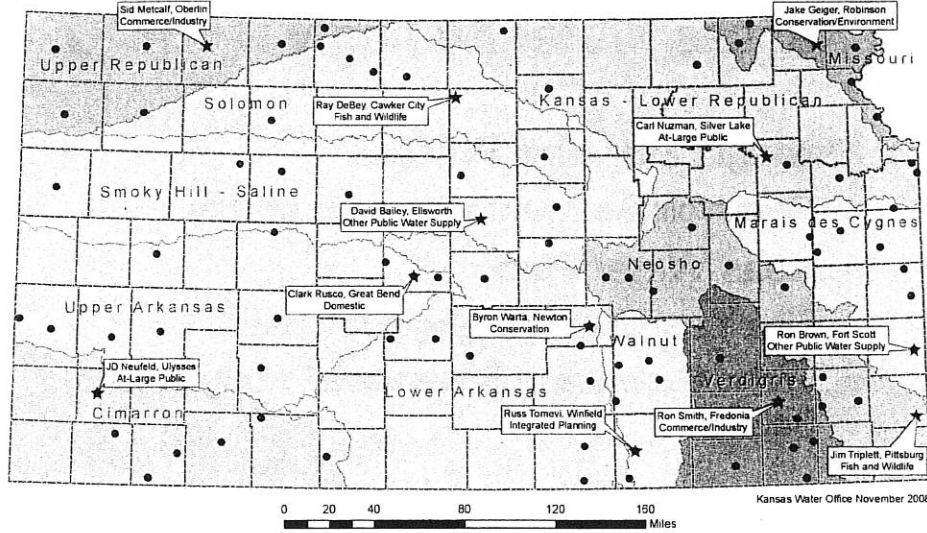
John Mitchell
KS Dept. of Health & Environment

Adrian Polansky
KS Dept. of Agriculture

Tracy Streeter
KS Water Office

Tom Wight
KS Corporation Commission

Basin Advisory Committee Chairpersons and Location of Committee Members



- Member
- ★ Chairperson

The Basin Advisory Committees provide insight and advice on water issues to the Kansas Water Authority and serve as a forum for community involvement. Each of the state's 12 principal river basins in Kansas has a Basin Advisory Committee. The committees were established on June 28, 1995.

Basin Advisory Committees

<p>Cimarron Basin JD Neufeld, Ulysses At-Large Public, Chairperson Ellen Vorell, Meade At-Large Public, Vice Chairperson Bill Barry, Meade, Conservation/Environment Dwayne Brumbaugh, Protection, Municipal Public Water Supply Tome Plaggett, Ulysses, Commercial/Industry Gregory Shelor, Minneka, At-Large Public Keith E. Adams, Meade, At-Large Public Larry Swan, Liberal, At-Large Public Melvin Webb, Moscow, Fish and Wildlife Thayne Walker, Nowell, Agriculture (1 position vacant)</p>	<p>Missouri Jake Geger, Robinson, Conservation/Environment, Chairperson Allen Beard, Leavenworth, Recreation, Vice Chairperson Carol Hughes, Seeca, Education Daniel Bowen, Atchison, Fish and Wildlife George Sargent, Troy, At-Large Public Jeffery Grossenbacher, Bern, Agriculture Mark Zimmerman, Leavenworth, Municipal Public Water Supply Paul Stenbach, Atchison, At-Large Public Richard Mopon, Leavenworth, Water Quality (2 positions vacant)</p>	<p>Upper Arkansas Clark Rusco, Great Bend, Domestic, Chairperson Ron Allen, Dodge City, Recreation, Vice Chairperson Beverly Komarek, Great Bend, Fish and Wildlife Jennie Cheatum, Syracuse, Agricultural/Industry Kermit Thompson, Ellinwood, At-Large Public Lynn Freese, Scott City, Commercial/Industry Michael (Mick) Machar, Jetmore, Conservation/Environment Randy Hayzlett, Lake, Surface Water Irrigation Roger Mohr, Albert, Groundwater Irrigation Steve Connor, Garden City, Municipal Public Water Supply Steven Hines, Coonage, Agriculture</p>
<p>Kansas-Lower Republican Basin Carl Nuzman, Silver Lake, At-Large Public, Chairperson Krisztina Ross, Webber, Irrigation District, Vice Chairperson Charles Johnson, Olathe, Municipal Public Water Supply Chris Marquette, Topeka, Fish and Wildlife Daniel Howell, Frankfort, Agriculture Joel Davidson, Lawrence, Conservation/Environment Larry Shannon, Topeka, Water Assurance District Larva Cahall, Mission, Recreation Shane Munson, Lawrence, Commercial/Industry William Ramsey, Leawood, Planning/Restoration/Protection (1 position vacant)</p>	<p>Neosho Jim Triplett, Pittsburg, Fish and Wildlife, Chairperson Peggy Burdman, Marion, Watershed Restoration/Protection, Vice Chairperson Darryl Mathias, Council Grove, Municipal Public Water Supply Daryl Weierhoff, Emporia, Conservation/Environment Eric Shoemaker, Saint Paul, Recreation Matthew Zimmerman, Emporia, Water Assurance District Morgan Marler, HsNob, Other Public Water Supply Pat Sipple, Cedar Point, Agriculture Robert Hammond, New Straub, Commercial/Industry Ronald Nurnberg, Emporia, Watershed District Steve Kubler, Chanute, At-Large Public</p>	<p>Upper Republican Sid Metcalf, Oberlin, Commercial/Industry, Chairperson Wayne Bossert, Colby, At-Large Public, Vice Chairperson Brad Cowan, Goodland, Agriculture Charles Packham, Abbeot, Government Danielle Freeman, Colby, Recreation David Rietcheck, Goodland, Groundwater Management District Jeffery Hill, Atwood, Dryland Farming John Kaler, Saint Francis, Conservation/Environment Joseph Catomba, Abbeot, Municipal Public Water Supply Lee Juenemann, Norton, Fish and Wildlife Steven Cox, Long Island, Irrigated Farming</p>
<p>Lower Arkansas Basin Bryon Vanta, Newton, Conservation, Chairperson Vaughn Weaver, Wichita, Fish and Wildlife, Vice Chairperson Brian Meier, Wichita, Commercial/Industry Budd Fountain, Langdon, At-Large West Carolyn McDon, Sedgwick, Groundwater Management District Daniel Filbert, Macksville, Agriculture Jan Zimmerman, South Haven, Conservation/Environment Larry Mangum, Wellington, At-Large Public Mike Brothers, Lyons, Non-municipal Public Water Supply Sharon Falk, Stafford, Recreation Suzanne Loomis, Newton, Municipal Public Water Supply</p>	<p>Smoky Hill-Saline David Bailey, Ellsworth, Other Public Water Supply, Chairperson Bill Scott, Ramoth, Recreation Chris Meyer, Sylvania, Agriculture Darryl Smika, Hays, Conservation/Environment Dick Bennett, Gunder, Commercial/Industry Eric Moben, Wakeley, At-Large Central Herald Fraker, Shaggs Springs, At-Large West J. Neil Jozanski, Salina, At-Large East Karl Esping, Lindsborg, Irrigation Martha Tasker, Salina, Municipal Public Water Supply (1 position vacant)</p>	<p>Verdigris Ronald Smith, Fredonia, Commercial/Industry, Chairperson John Cosway, Eureka, Agriculture, Vice Chairperson Arthur Small, Neodesha, Agriculture Bob Timmons, Fredonia, Conservation/Environment Charles Shively, Coffeyville, Municipal Dorbie Smith, Neodesha, Other Public Water Supply Doug Rex, Independence, Fish and Wildlife J.D. Rector, Secon, Recreation John Head, Thayer, Watershed Protection Tamara Christian, Independence, Commercial/Industry Wayne Landwehr, Cherryvale, At-Large Public</p>
<p>Marais Des Cygnes Basin Ronald Brown, Fort Scott, Other Public Water Supply, Chairperson Ricky Hale, Spring Hill, Municipal Public Water Supply, Vice Chairperson Darryl Vander, Fort Scott, Fish and Wildlife David Mulony, UTBAA, Recreation Frank Bennett, Ullamberg, Conservation/Environment Frank Groszart, Pleasanton, At-Large Public Jeff Castner, Southmo, Agriculture Jerry Bennett, Orawa, At-Large Public Larry Waiold, La Cyme, Planning and Zoning Lynn Winkler, Okawville, Watershed District Sherman Cole, Okawville, Commercial/Industry</p>	<p>Solomon Raymond DeBey, Cawker City, Fish and Wildlife, Chairperson Orville (Doc) Blubaugh, Phillipsburg, Recreation, Vice Chairperson Dennis Lehmann, Gaylord, Conservation/Environment James Metzler, Minneka, At-Large Public Herald Fraker, Shaggs Springs, At-Large West Joseph Keith, Peckoc, Commercial/Industry Stanley Kalls, Plains, Agriculture (4 positions vacant)</p>	<p>Walnut Russ Tomevi, Winfield, Integrated Planning, Chairperson Rodger Maechten, Arkansas City, At-Large Public, Vice Chairperson Dale Shaffer, Benton, Municipal David Brazz, Winfield, Conservation/Environment John Bailey, El Dorado, Recreation Kirk Hayden, Rose Hill, At-Large Public Kurt Beckus, El Dorado, Fish and Wildlife Robert Wilson, Arkansas City, Agriculture Roger Black, Arkansas City, Watershed Protection Tom Dixon, Leon, Agriculture Wayne Kachel, El Dorado, Commercial/Industry</p>

[Kansas Water Authority]

- Strategic Planning Process
 - Reservoir Sedimentation a top priority
- Kansas Water Plan
 - Five Year Update Being Approved
 - Water Supply and Reservoirs Priority in Six Basins

[Reservoir as Critical Economic Infrastructure]

- Kansas reservoirs represent an investment of over \$3 billion in water INFRASTRUCTURE.
- 60% of Kansans receive water from Kansas reservoirs.
- Impairment of reservoirs means limiting economic and population growth.

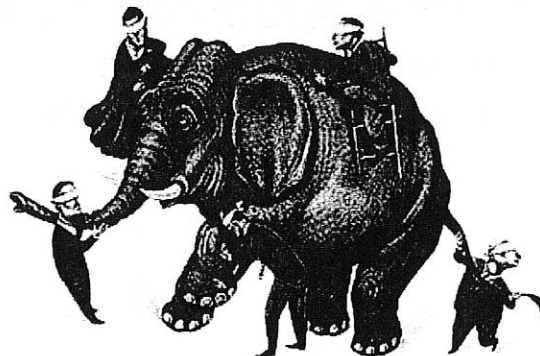
**“When the well is dry, they know the worth of water.”
(Benjamin Franklin)**

Dr. Mark Jakubauskas

Integrated Data Collection and
Management: A Kansas
Reservoir Information System



Does anyone have a complete picture
of our reservoirs ?



What do we need to get that complete picture ?

■ Comprehensive Reservoir Program

- Assessment and Mapping
 - ASTRA Program: Data Collection
- Monitoring, Modeling, and Prediction
- Long-term Reservoir Studies
- Data Inventory, Sharing, Management, and Facilitated Access
 - Kansas Reservoir Information System

What do we need to get that complete picture ?

■ Comprehensive Reservoir Program

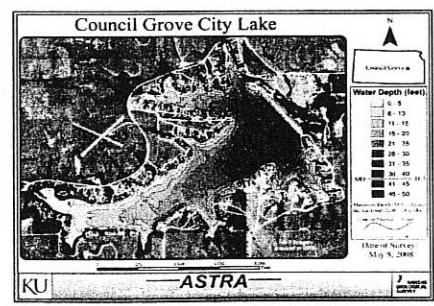
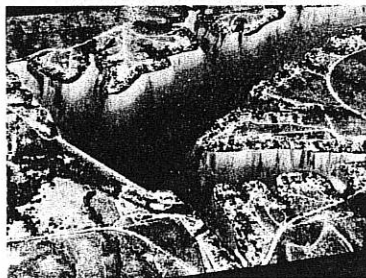
- **Assessment and Mapping**
 - **ASTRA Program: Data Collection**
- Monitoring, Modeling, and Prediction
- Long-term Reservoir Studies
- Data Inventory, Sharing, Management, and Facilitated Access
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What do we need to get that complete picture ?

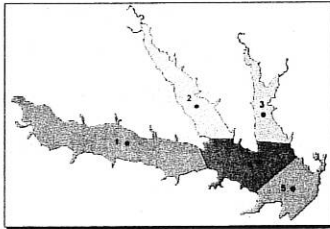
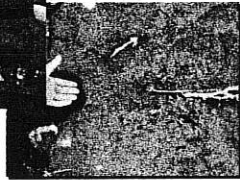
Assessment and Mapping

- What is the condition of our reservoirs ?
 - Current storage capacity ?
 - Quality of the drinking water ?
 - Amount, rate, and sources of sedimentation ?
 - Composition of the sediment ?
 - Effects of sedimentation on biota ?
 - Watershed land use/land cover ?
- What is the availability of historic data ?

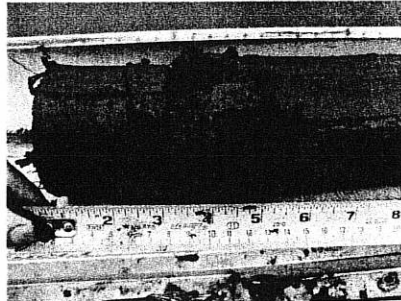
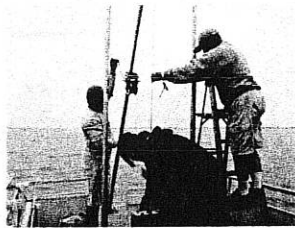
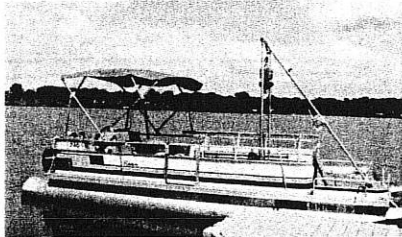
**Assessment and Mapping:
Current storage capacity**



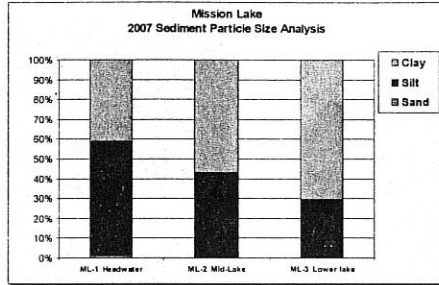
Assessment and Mapping:
Drinking water quality



Assessment and Mapping:
Amount, rate, and sources of sedimentation



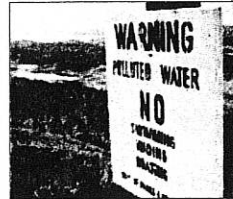
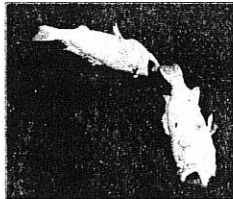
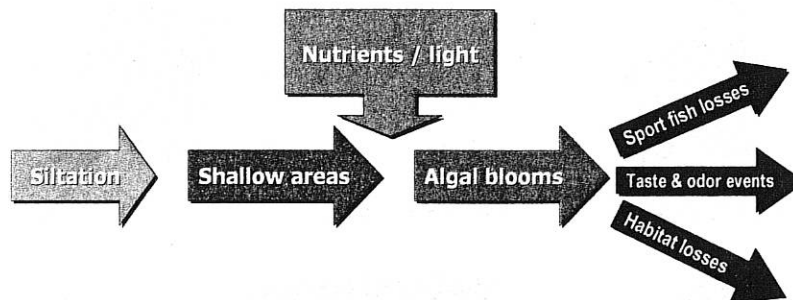
Assessment and Mapping: *Composition of the sediment*



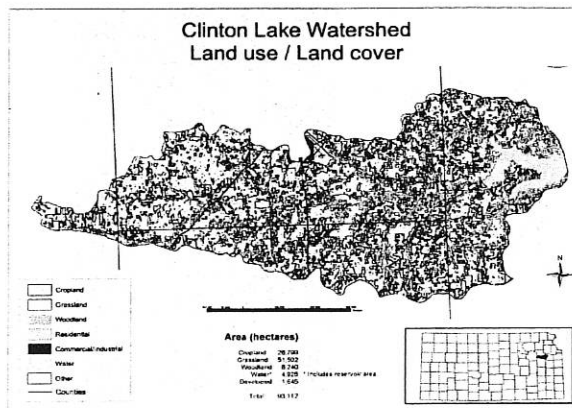
Midwest Laboratories
KANSAS BIOLOGICAL SURVEY

ANALYST	DATE	PROJECT	CLIENT
ALYSON GILGOUR	08/20/2008	MISSION LAKE	MISSOURI
ANALYST	DATE	PROJECT	CLIENT
ANALYST	DATE	PROJECT	CLIENT

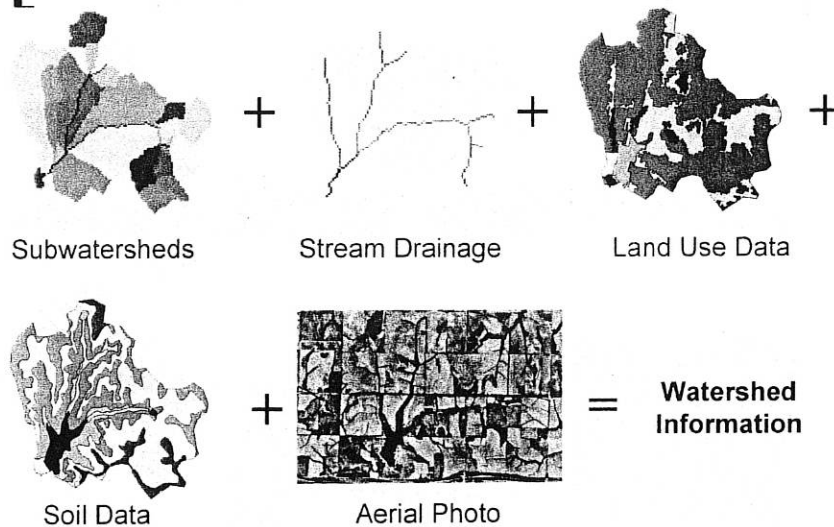
Assessment and Mapping: *Effects of sedimentation on biota*



Assessment and Mapping: Watershed land use/land cover



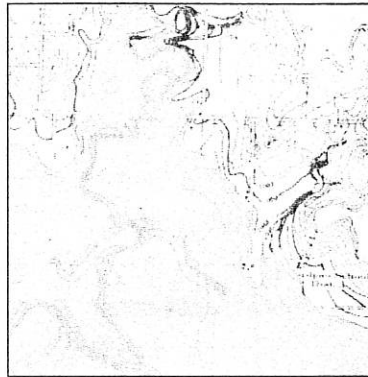
Assessment and Mapping: Watershed conditions



Assessment and Mapping:
What is the availability of historic data ?

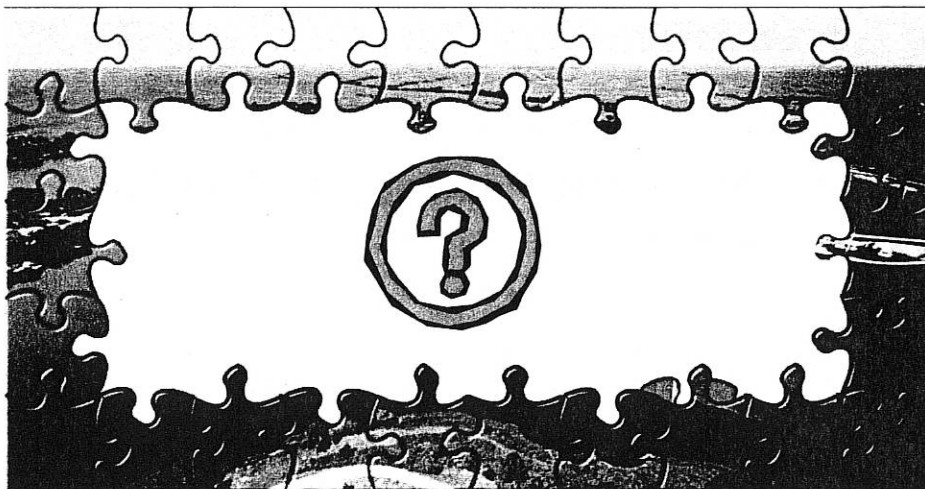


Mission Lake, 1937













John Redmond Reservoir.
Pre-lake topographic map, 1957

Does anyone have a complete picture
of our reservoirs ?



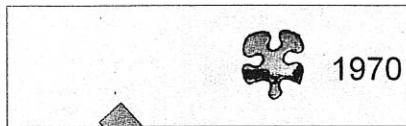
**Assessment and Mapping:
Collecting the pieces**

	Bathymetry		Climate and drought
	Sediment thickness		Sediment chemistry
	Water quality		Nutrients
	Land use/cover		Turbidity
	Water levels		Water usage

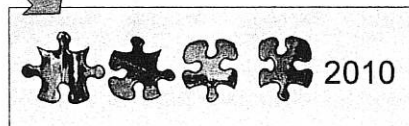
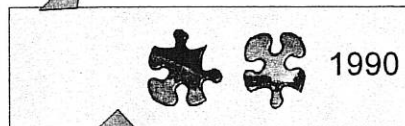
**What do we need to get that
complete picture ?**

- **Comprehensive Reservoir Program**
 - Assessment and Mapping
 - ASTRA Program Data Collection
 - **Monitoring, Modeling, and Prediction**
 - Long-term Reservoir Studies
 - Data Inventory, Sharing, Management, and Facilitated Access
 - Kansas Reservoir Information System

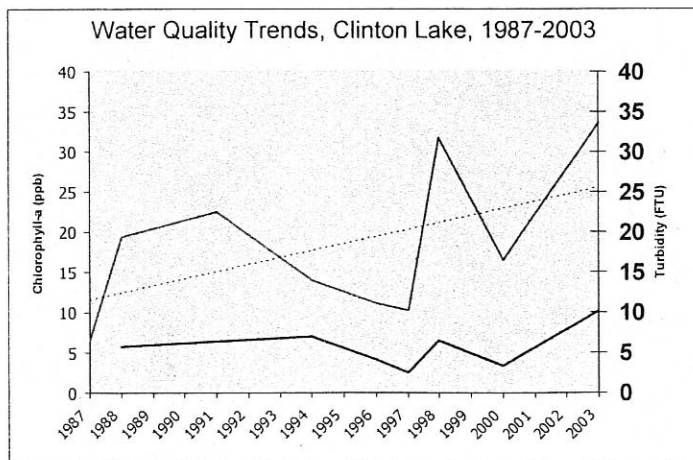
Monitoring changes in reservoir conditions



- What were conditions in the past ?
- What conditions are changing ?
- How are conditions changing ?
- Why is change occurring ? (or not) ?

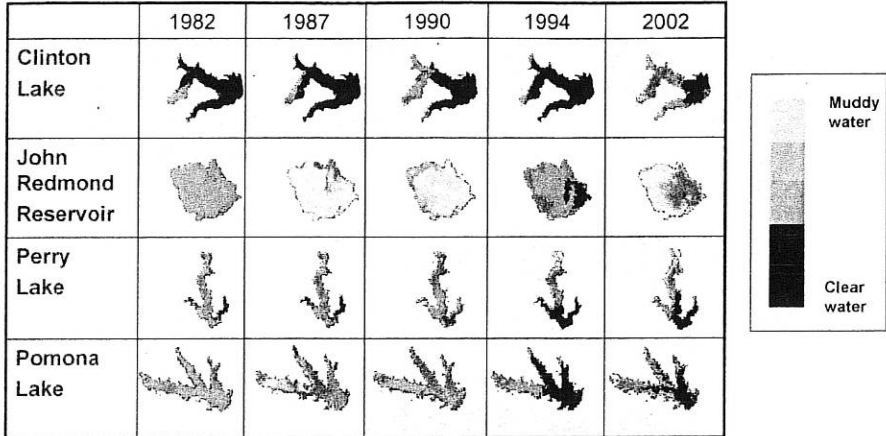


Monitoring changes in reservoir conditions



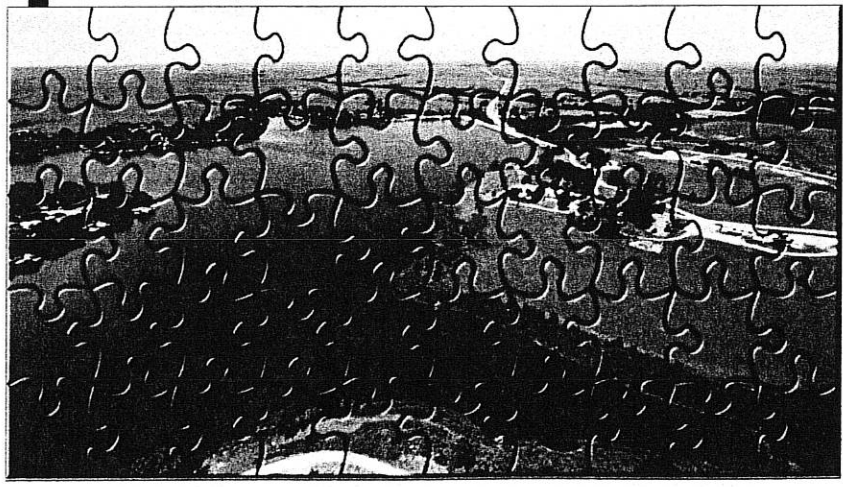
Source: Ed Carney, KDHE

Monitoring changes in reservoir conditions
 - Satellite imagery



Satellite images can show the extent of a reservoir problem over time

Modeling and Prediction:
Putting the pieces together

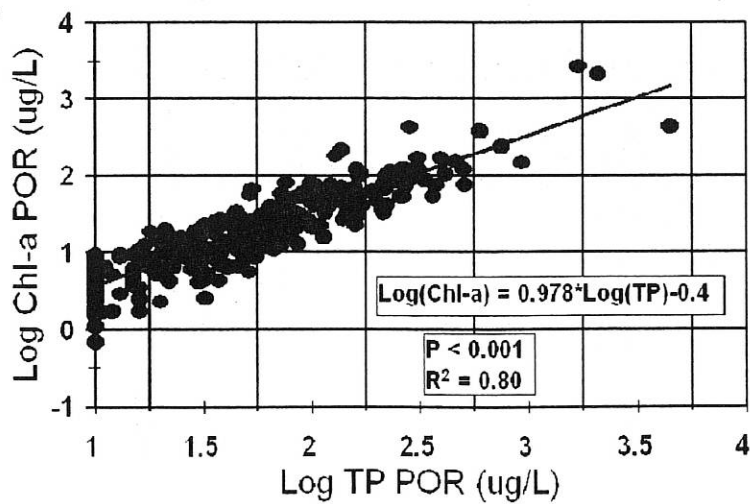


Modeling and Prediction: *Putting the pieces together*

Modeling Reservoir Conditions:

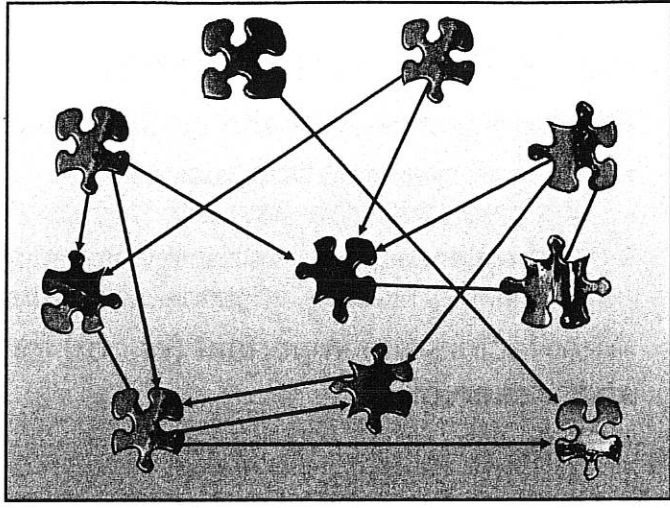
- What are the *causes and consequences* ?
 - Physical, chemical, biological, climatic, economic, and other causative factors.
 - Consequences for sustainable water supplies for drinking, industry, irrigation, and recreation.
- What factors are important (or not) for each reservoir ?

Phosphorus vs. Chlorophyll-a 1975-2007 Mean Values for 273 Lakes and Wetlands

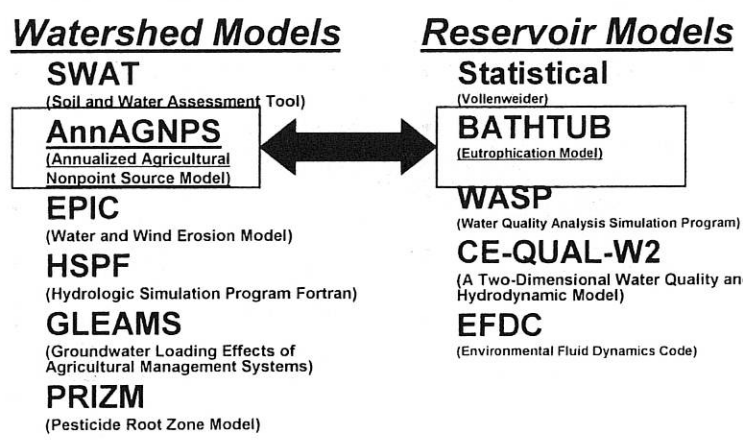


Source: KDHE

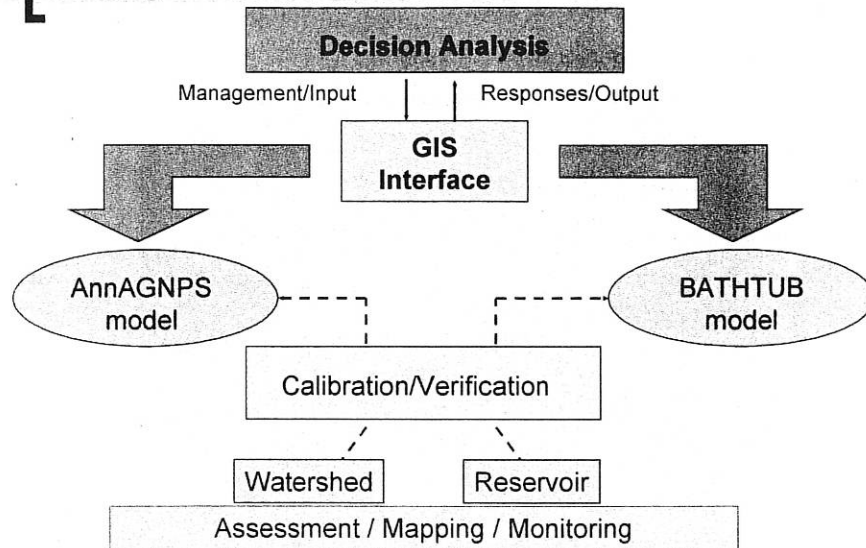
Models allow us to explore relationships and test ideas



Some existing watershed and reservoir models can be used to address scientific and management questions--
(IF we have the data to feed them!)



Linking models for decision support and management



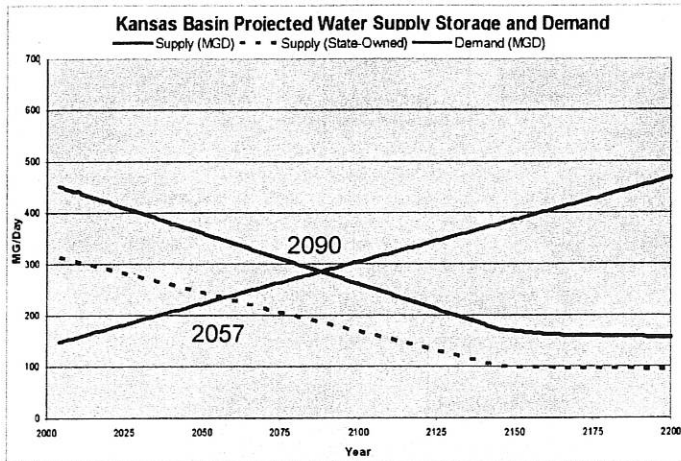
Modeling and Prediction: *Putting the pieces together*

■ Prediction

- Based on:
 - Assessment and mapping
 - Monitoring
 - Modeling
- Can we predict what will happen ?
 - If an action is taken; OR
 - If an action is not taken.

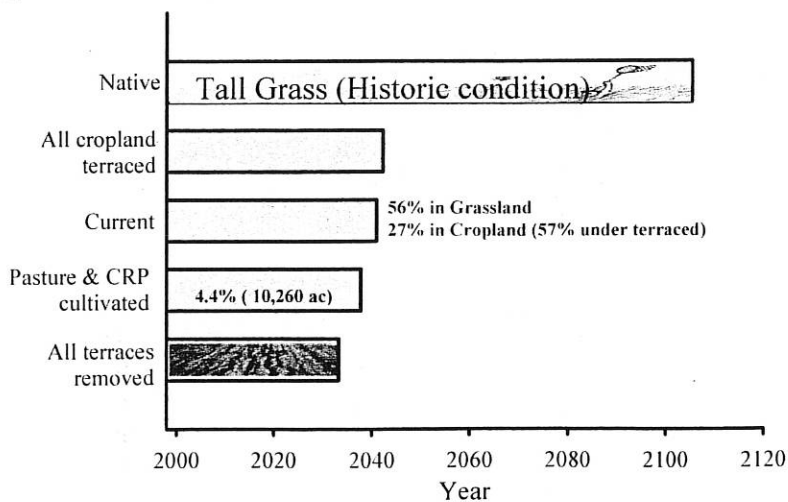
Modeling and Prediction: *Putting the pieces together*

Models for management and planning



Source: KWO

Projected Reservoir Life Span: Watershed Management Practices



Clinton Lake Watershed

[What do we need to get that complete picture ?]

- Comprehensive Reservoir Program
 - Assessment and Mapping
 - ASTRA Program: Data Collection
 - Monitoring, Modeling, and Prediction
 - **Long-term Reservoir Studies**
 - Data Inventory, Sharing, Management, and Facilitated Access
 - Kansas Reservoir Information System

[Long-term Reservoir Studies: Why ?]

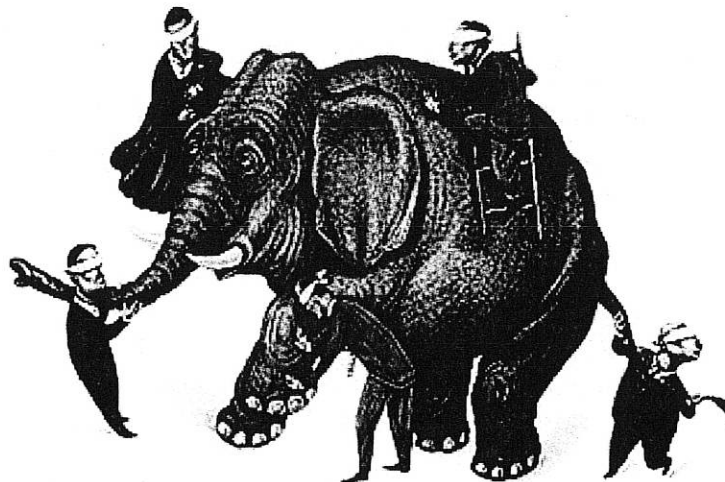
- Example: Taste and odor events
 - What limits our understanding of the causes of taste & odor events in Kansas drinking water reservoirs ?
 - Fragmentary, short-term data.
 - Dispersed data (multiple agencies).
 - Little historical data
 - Thus:
 - No predictive modeling of why or when events may occur, or advance warning to customers.

What do we need to get that complete picture ?

■ Comprehensive Reservoir Program

- Assessment and Mapping
 - ASTRA Program: Data Collection
- Monitoring, Modeling, and Prediction
- Long-term Reservoir Studies
- **Data Inventory, Sharing, Management, and Facilitated Access**
 - **Kansas Reservoir Information System**

Multiple agencies conducting multiple sampling events –
(sometimes coordinated...sometimes not)



Integrated Data Collection and Management / Reservoir Information System

- Data Inventory
 - “What data do we have ?”
- Data Sharing and Facilitated Access
 - “Who has it ? Can I have it ?”
- Gaps Identified
 - “What don’t we have that we need ?”

ASTRA Reservoir Information System - Downloadable maps and data

John Redmond Reservoir

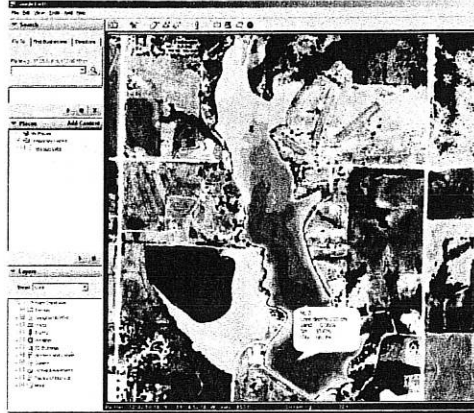
Location	Reservoir Info <small>source: Kansas Water Office</small>	ASTRA Menu
<p>Location: Oklahoma, Nowata County</p> <p>Top of Dam Elevation: 1061ft</p> <p>Maps: Depth (app), Survey Lines (app), Core Locations (app), 1957 Lines (app), Sedimentation Differences (app), 1957 Raster (app)</p>	<p>Multipurpose and Flood Pool Uses</p> <p>Top of Flood Pool: 1068 ft Original Storage Capacity: 650,280 acre-ft Capacity at Most Recent Survey: 574,910 acre-ft Estimated Current Capacity: 656,322 acre-ft Actual Sedimentation Rate: 2075 acre-ft/yr Design Sedimentation Rate: 1020 acre-ft/yr Loss of Capacity to Date: 14.14</p> <p>Multipurpose Pool</p> <p>Top of Multipurpose Pool: 1039 ft Original Storage Capacity: 92,200 acre-ft Estimated Current Capacity: 43,512 acre-ft Actual Sedimentation Rate: 974 acre-ft/yr Multipurpose Pool Surface Area: 8,034 acres Average Water Depth: 0.24 ft Capacity at Most Recent Survey: 50,501 acre-ft Design Sedimentation Rate: 404 acre-ft/yr Loss of Capacity to Date: 47.03% Hydraulic Residence Time: 1 months</p> <p>Sediment Impacts</p> <p>Watershed Sediment Yield: 0.69 acre-ft/mi²/yr Design Life for Sediment Storage: 50 Years Years to Fill Sediment Storage: Multipurpose Pool from Time of Gate Closure: 24 Years Year Sediment Storage is Filled: 1908 Original Sediment Survey Year: 1992 Most Recent Survey Year: 2000</p> <p>Watershed</p> <p>Watershed includes portions of Butler, Chase, Coffey, Greenwood, Harvey, Lyon, McPherson, Marion, Morris, Osage and Wabunsee counties. Watershed Drainage Area: 3815 mi² Major Streams: Cottonwood River, Cedar Creek</p>	<p>Current Federally Authorized Purposes** Flood control, water supply, recreation, water quality, fish and wildlife.</p> <p>State Designated Uses*** General purpose, expanded aquatic life, primary contact recreation, food procurement, industrial water supply.</p> <p>Construction History** Designed and built by the Tulsa District Corps of Engineers at a cost of \$23,264,000. The town of Strawn was relocated six miles eastward on higher ground when the dam was constructed. The old town is now underwater. Closure of the embankment was completed in September 1963. The project was completed for full flood control operation in December 1964. All major construction was completed December 1965. Intensive development was initiated January 1, 1975 and the conservation pool elevation changed from 1036.0 to 1039.0.</p> <p>In 1958, Congress renamed it John Redmond Dam and Reservoir for the Burlington Daily Republican's publisher, John Redmond. The Nowata Valley was flooded 57 times in 34 years, with the worst flood coming in 1951, one year after Congress authorized the project. Floodwaters ran 30 feet deep at the dam site and one-third million acres were under water.</p> <p>Construction Began: June 18, 1959 Gates Closed: September, 1964 Multipurpose Pool Filled: November 17, 1964</p> <p>Authorization** Flood Control Act approved May 17, 1950, Public Law 81-476a, Project Document No. 1039.0</p>

Data Inventory, Sharing, Management, and Facilitated Access

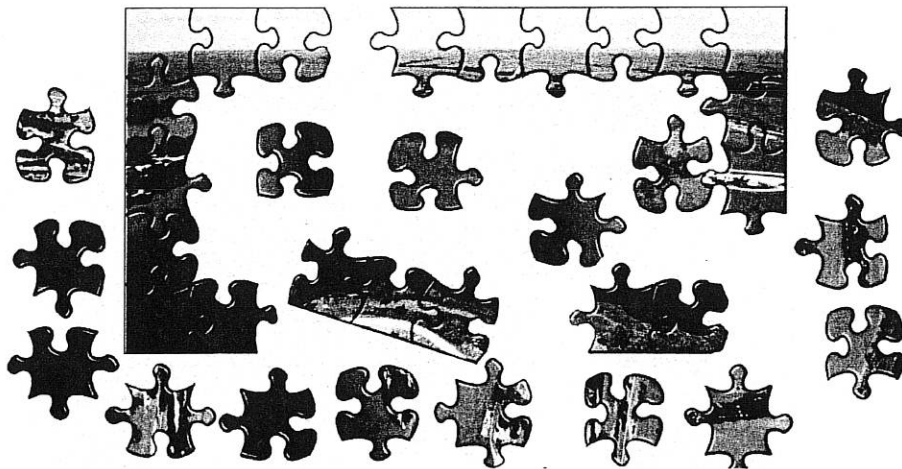


ASTRA Reservoir Information System for Kansas

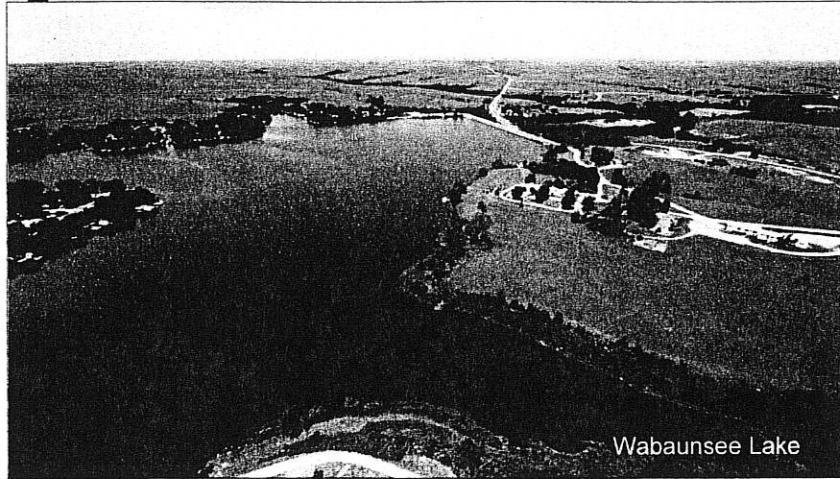
- Online reservoir data and information from multiple local, state, federal, and other sources.
- Data portal: Spatial data, real-time and archived databases, reports, and other information.
- Each agency contributes and benefits



Without Integrated Data Collection and Management:



With Integrated Data Collection and Management:



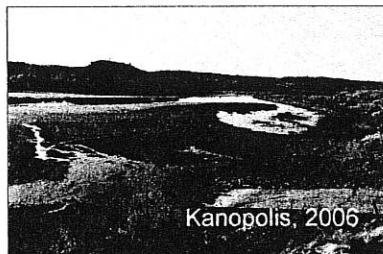
Wabaunsee Lake

Tracy Streeter

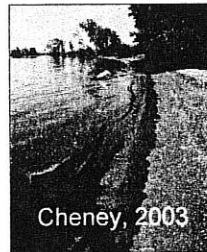
Future Approach to Developing a Reservoir Maintenance and Reclamation Strategy.



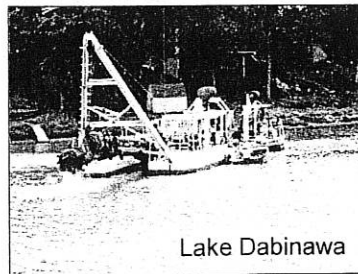
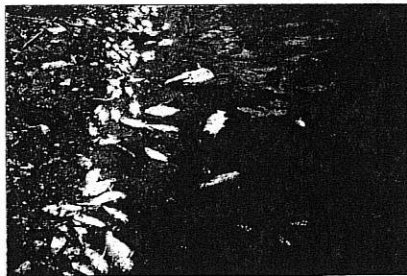
Sedimentation-related problems are occurring in nearly every reservoir in the state



Kanopolis, 2006



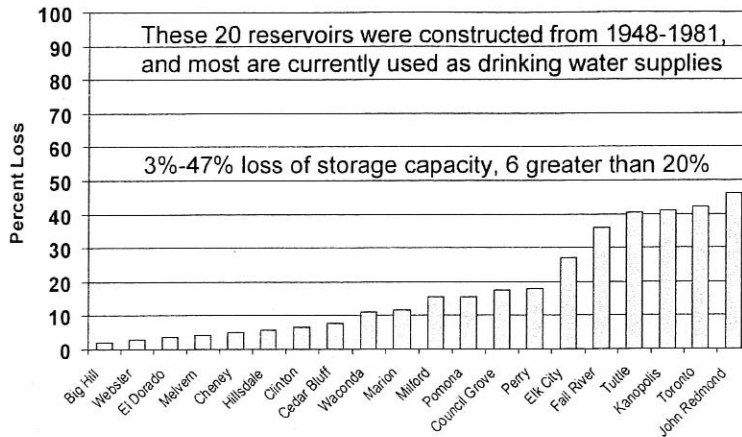
Cheney, 2003



Lake Dabinawa

House Vision 2020
1-28-2009
Attachment 3-1

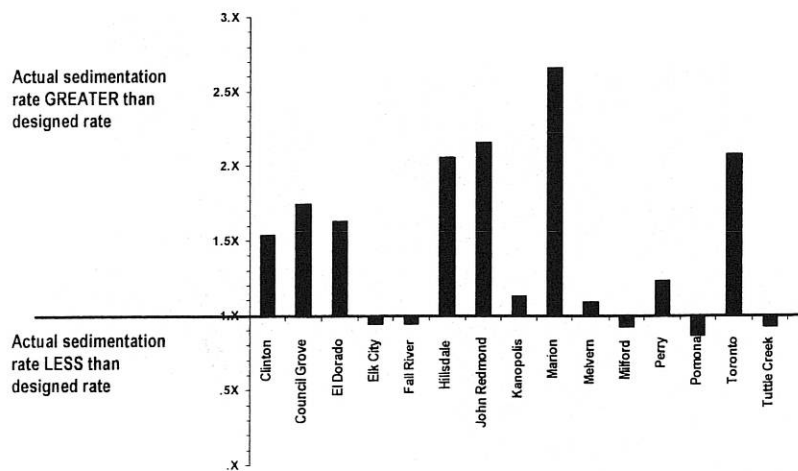
Kansas Federal Reservoirs Loss of Capacity, Multi-Purpose Pool



Remember, most U.S. natural lakes are greater than 10,000 years old

Source: KWO

Many Kansas reservoirs are silting in faster than originally anticipated



Source: KWO

Sedimentation Impacts Water Quantity and QUALITY

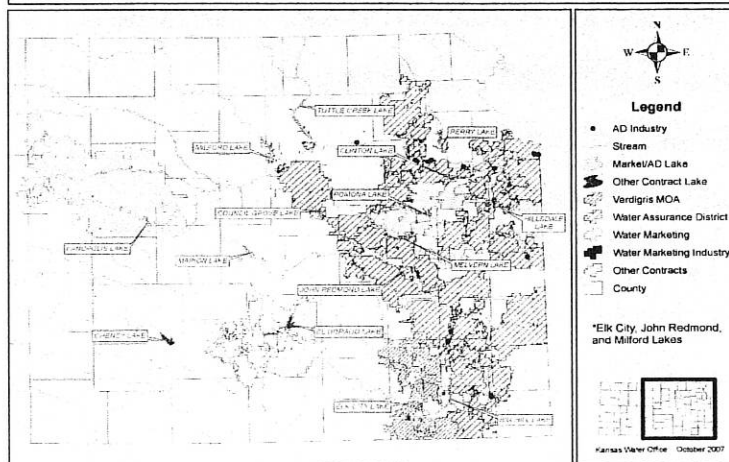
In Kansas, 193 of 240 (80%) publicly owned reservoirs were considered to be water-quality impaired.

Cheney, 2003

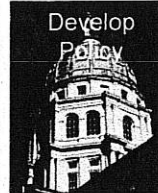
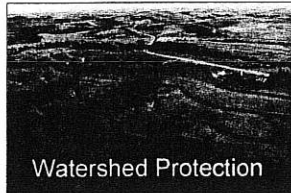


Two-thirds of Kansas Population Depend on Water in our Reservoirs

Federal Lake Water Supply Storage Customers



Potential Options to Address Problem



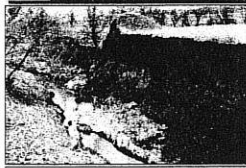
What we are currently doing to Address Problem

- Watershed Restoration & Protection
- Data Collection & Analysis
- Raising Pool Levels
- Constructing New Reservoirs
- Proposing Policy
- Dredging
- WE CAN NOT IGNORE THE PROBLEM

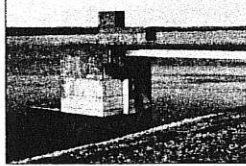
[What We Need to Address]



- Additional Data Collection
- Improve Data Sharing & Access
- Develop a Reservoir Maintenance and Reclamation Strategy



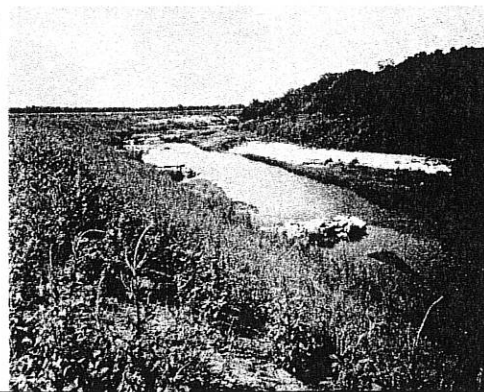
- Increase Watershed Protection & Restoration Activities
- Target Implementation of Sediment Reducing Practices



- Purchase Remaining Reservoir Storage
- Reclaim Storage
- Identify Alternatives to Reservoir Operations

[KWA Policy Recommendation]

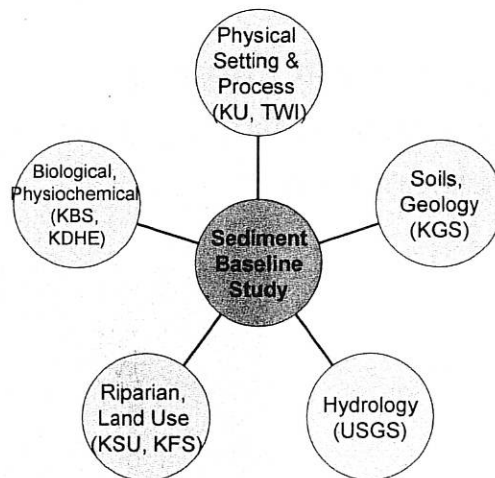
- Riparian Easement Funding
- Systematic Stream Stabilization Planning and Implementation
- Additional Streambank Stabilization Funding



[Reservoir operational change]

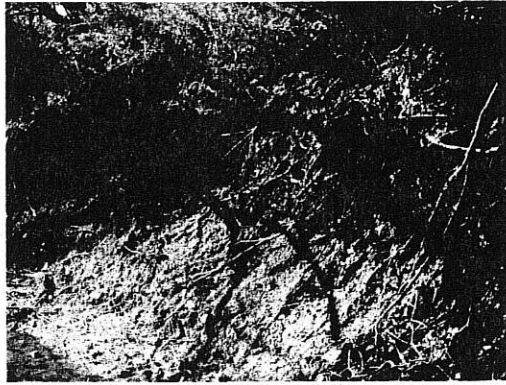
- Develop more sophisticated operations
 - Operational rules that meet needs rather than “what the manual says”
 - Decision made based on statistical probability
 - System approach to reservoir operations
- Include all beneficiaries in operations
 - Identify all users both in lake and downstream
 - Develop rules and use relationships before droughts develop

[Research for better targeting our programs]



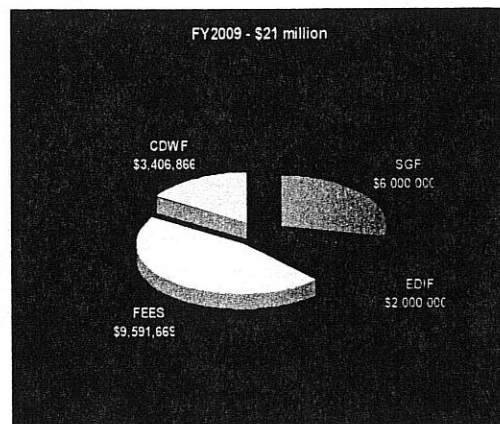
[Environmental considerations]

- Various permits required
 - Need to ensure coordination between permitting agencies (local, state & federal)
- Streamline Process
- Recognize benefits of project
 - Mitigation Guidelines



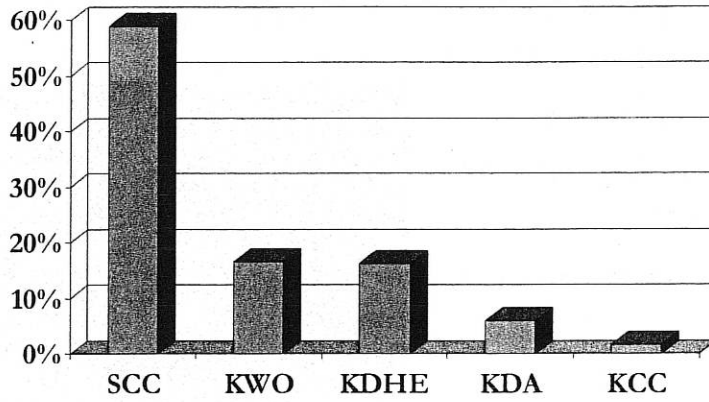
[Current Funding - State Water Plan Fund (SWPF)]

- **Revenue**
 - State General Fund
 - EDIF (Lottery)
 - Fees & Fines
 - CDWF (Clean Drinking Water Fees)



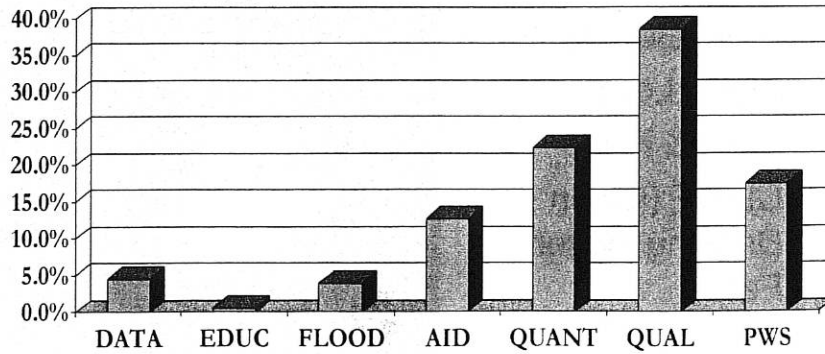
[Where does the SWPF go?]

FY 2009 - \$23.8 million



[What type of programs & projects?]

FY 2009



Mike Hayden

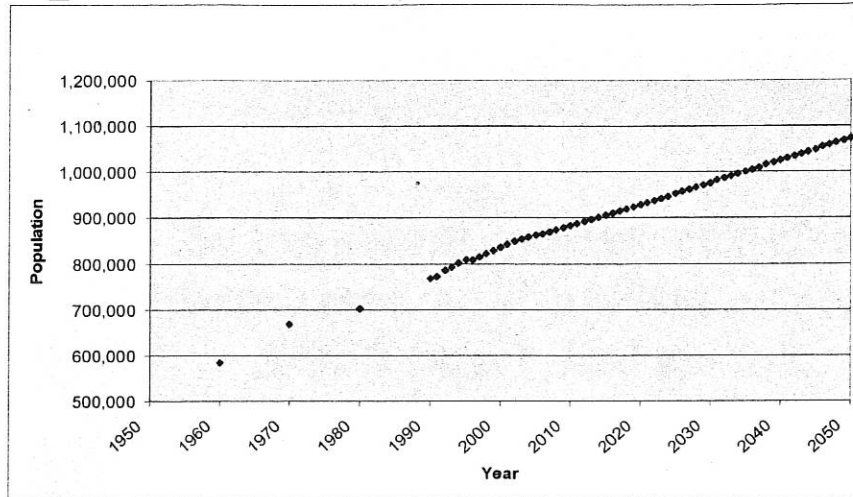
A Call to Action. Summary of
Issues and Actions presented
during Day 1 and Day 2.



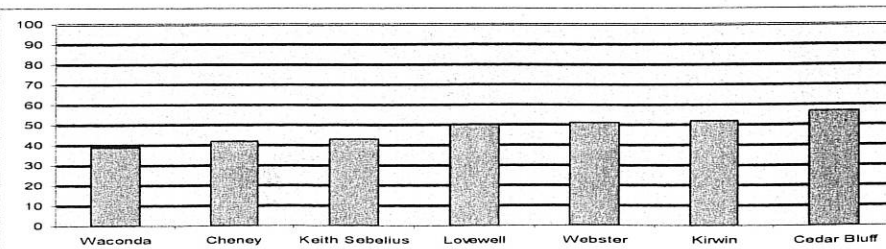
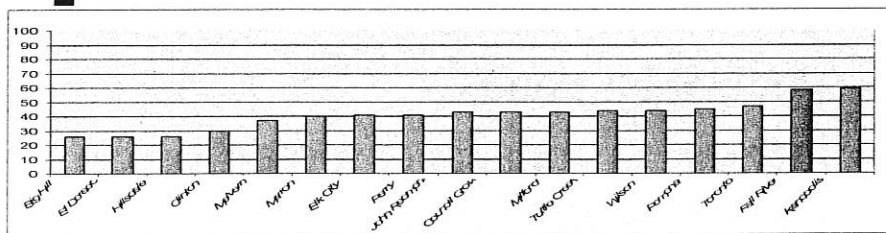
Changing Face of Kansas

- Population trends
- Increasing impacts of recreation on economic development

Kansas River Population Trends (1960-2050)

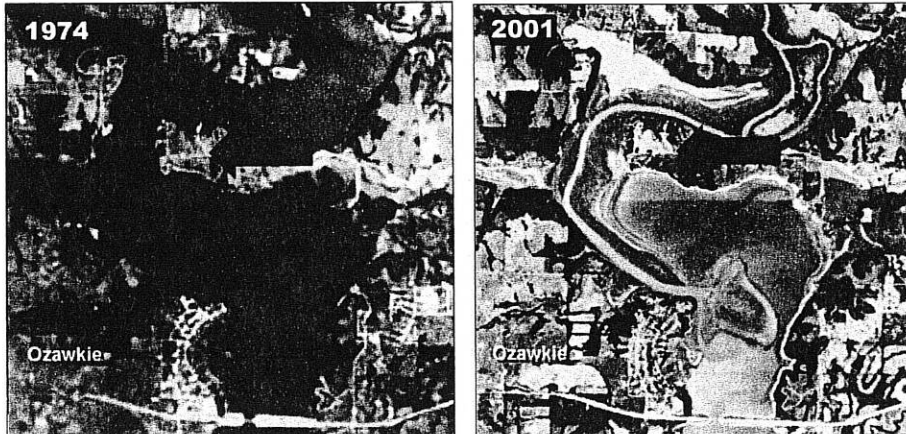


AGE OF LAKES



The Impact of Sedimentation on Recreation Resources

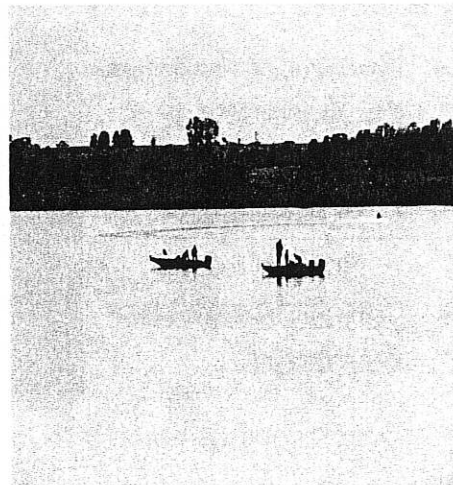
Perry Lake Upper Basin Sedimentation, 1974-2001



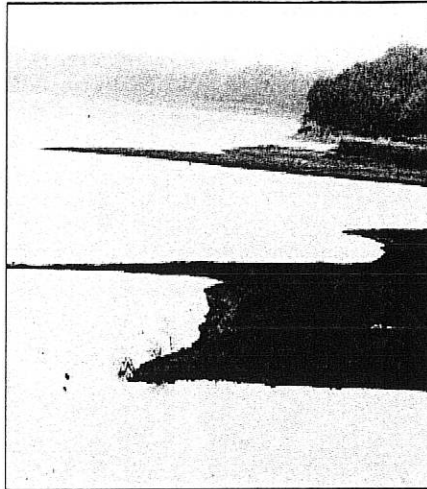
Former location of Sunset Ridge and Paradise Point Campground and Boating Area

What a resource for Kansas!

- 24 Federal lakes
- 1.3 million acre-feet of storage
- Over 127,000 surface acres for recreation
- State Parks
- Public Lands
- Tourism Destination



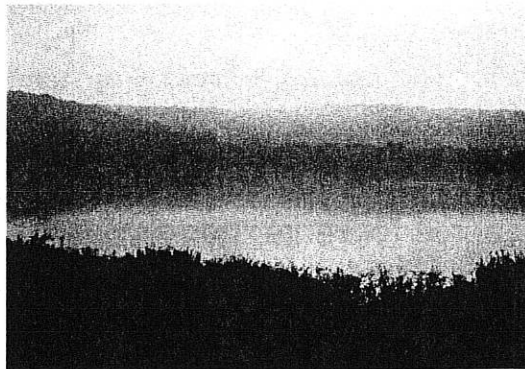
Why be concerned? Sediment Part of Lake Design



- Nearly 2/3 of the KS population rely on reservoirs for drinking water
- Agriculture - irrigation
- New Industry / Jobs
- Recreation – in-lake & downstream users
 - Growing Demand
- Economic Development – housing, recreation based business

Aging Reservoirs

- Reservoir Reflects it's Watershed
- Reservoirs Age
 - Sedimentation
 - Nutrient Loads
- Can Be Slowed or Reversed

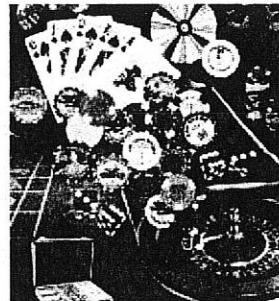


[New revenue proposed for FY2010]

- \$14.2 million in increased revenue
 - Increase in SWPF fees - \$4.7 million
 - Dedicate 10% of ELARF to water infrastructure projects and debt reduction - \$9.5 million

[Expanded Lottery Act Revenue Fund]

- ELARF uses
 - Debt reduction
 - Reservoir storage financing
 - Reservoir Beneficial Use Fund
 - Infrastructure improvement
 - Reservoir sedimentation
 - Other water supply infrastructure
 - Property tax relief



FY 2010 ELARF REQUEST FOR RESERVOIR SEDIMENTATION

Based on August 2008 ELARF Revenue Projections

SCC	STREAMBANK STABILIZATION	\$1,000,000
KWO	PURCHASE OF RESERVOIR STORAGE (Perry & Milford)	\$3,601,000
KWO	JOHN REDMOND LOGJAM & DREDGING	\$3,449,601
KWO	STREAMBANK PLANNING	\$150,000
KDWP	RIPARIAN EASEMENTS	\$300,000
TOTAL		\$8,500,601

ELARF Projections – 10% to Water Infrastructure and Debt Reduction

Based on August 2008 ELARF Revenue Projections

