Alaska's Reservation of Water Opportunities: Why Reserve Water?

&

C**lass Highlights**

Christopher Estes, Chalk Board Enterprises, LLC

Presentation for BLM Alaska Water Rights Workshop

October 27, 2016
Anchorage, AK

WHAT HAVE WE LEARNED

?

Past, Present, Future

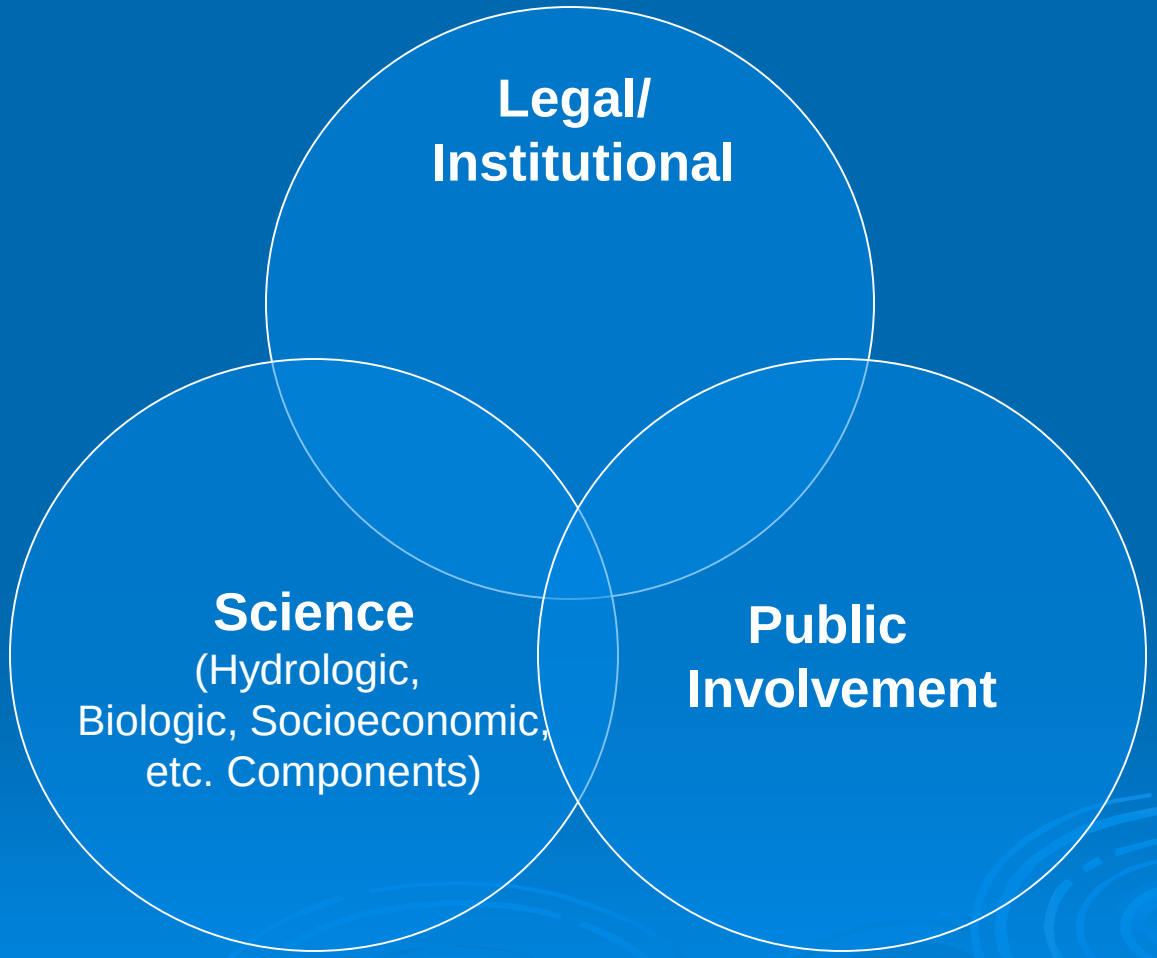
CONTEXT

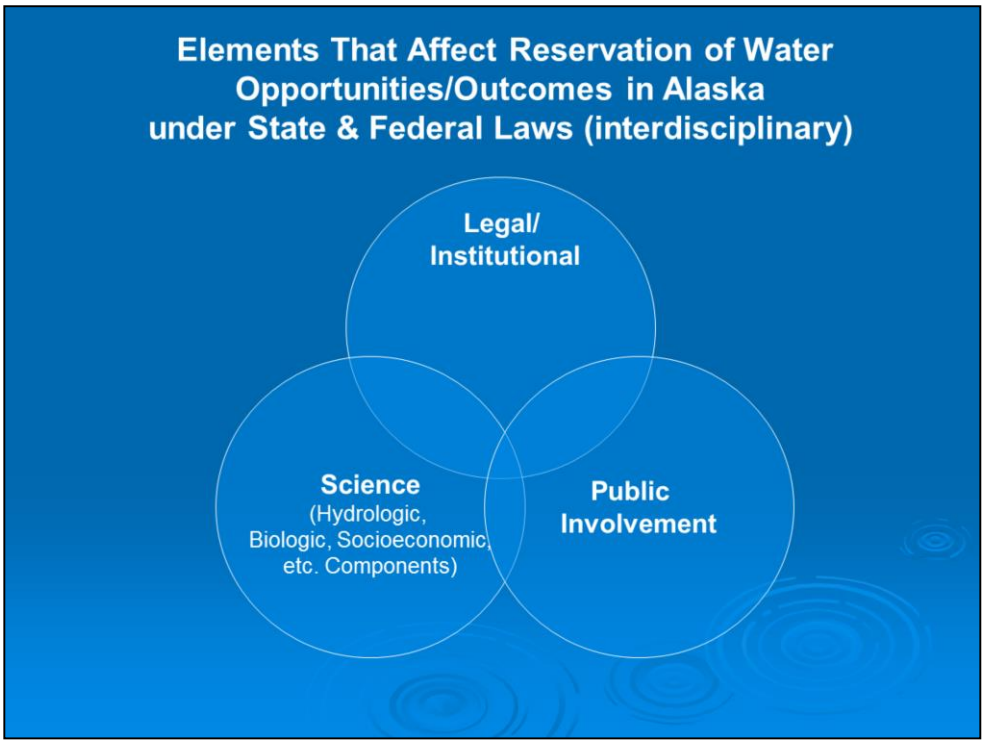
1960s

to

2016

Elements That Affect Reservation of Water Opportunities/Outcomes in Alaska under State & Federal Laws (interdisciplinary)





The decisions and actions that all natural resource managers make are driven by the complex interaction of public input, laws, policies, science and judicial outcomes. The manner in managers integrate information from each of these elements will determine what our planet and our quality of life looks like.

Primary Water Rights Options

- Federal Reserved Water Rights
- Winters Doctrine
- McCarren Amendment
- Cappaert v. United States, etc.

State Related Water Statutes/Processes

AS 46.15 (all appropriation uses)

AS 46.15.165, 166 (basin-wide)

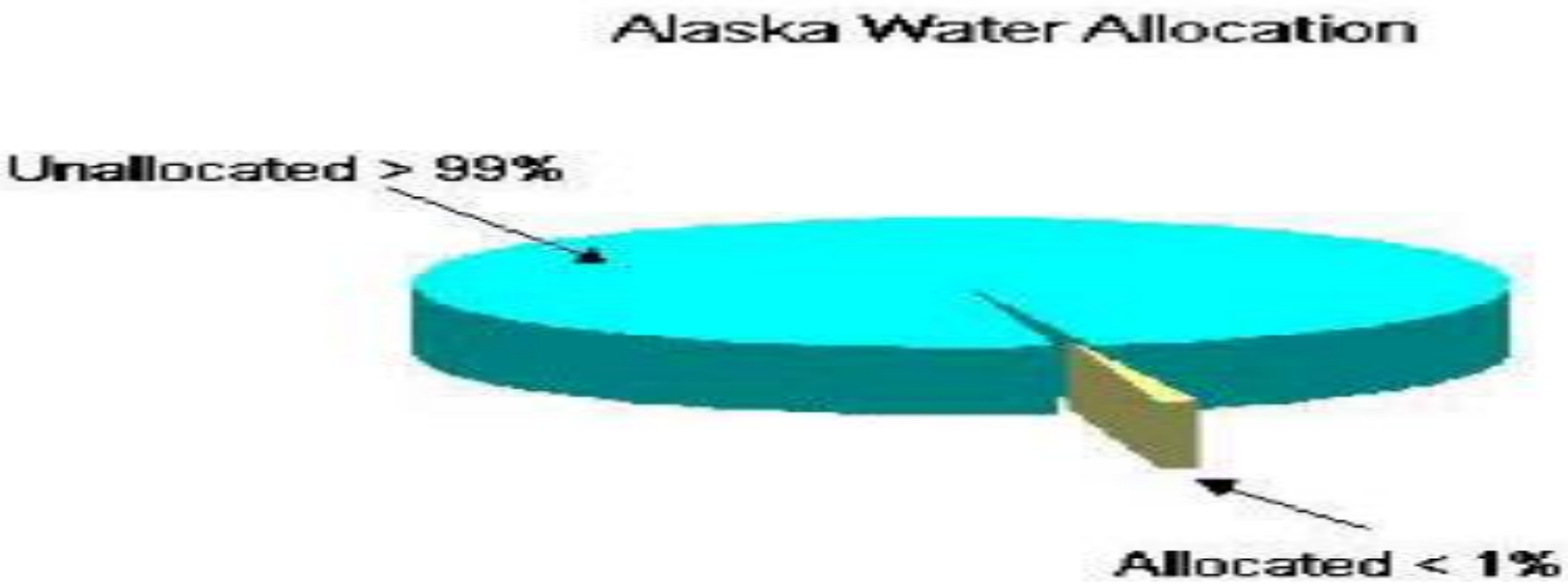
Other Tools (covered at end of overview)

ALASKA'S WATER MANAGEMENT OPPORTUNITIES ARE UNIQUE!

Water Management Challenges

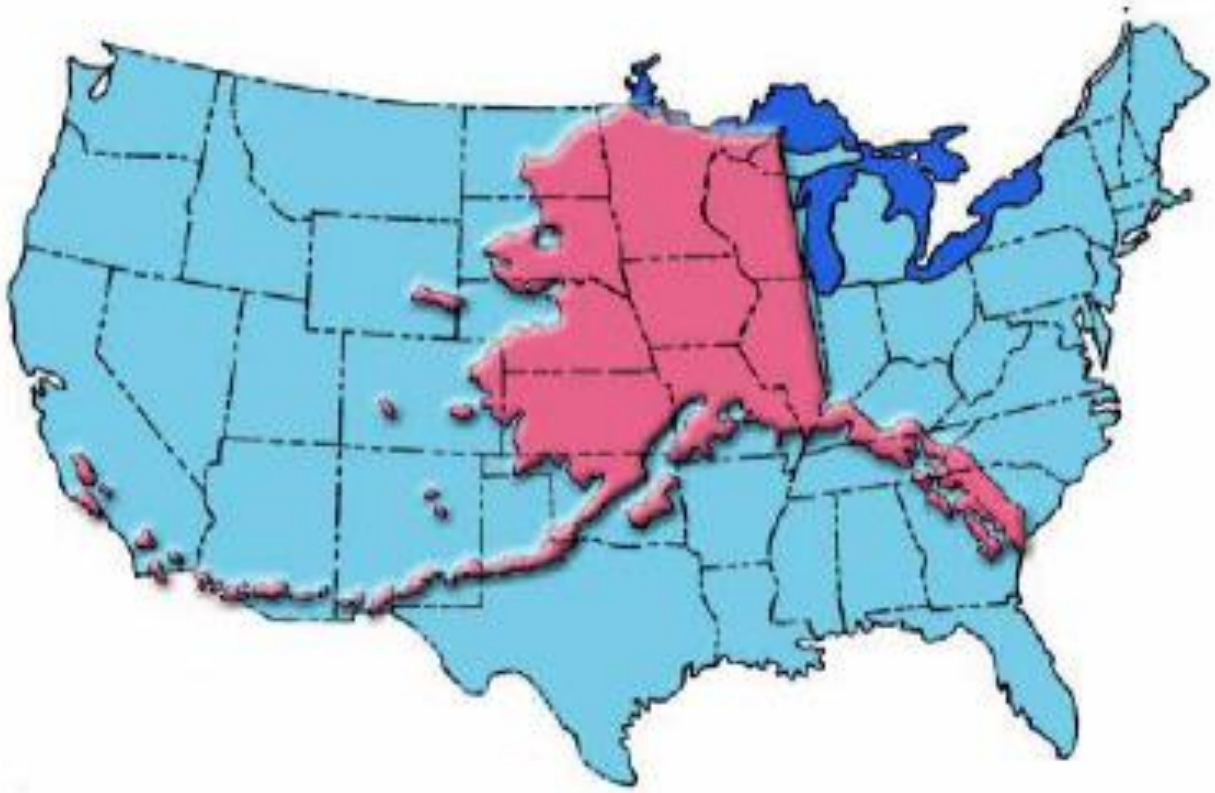
- Size of AK versus the Lower 48 States
- Abundance of Existing Clean Water & Intact Habitat versus Elsewhere
- Extreme Weather (including cold, limited seasonal daylight)
- Limited Road & Seasonal Access
- Limited Biologic Information
- Lack of Lower 48 Water Allocation History

THE GOOD NEWS!

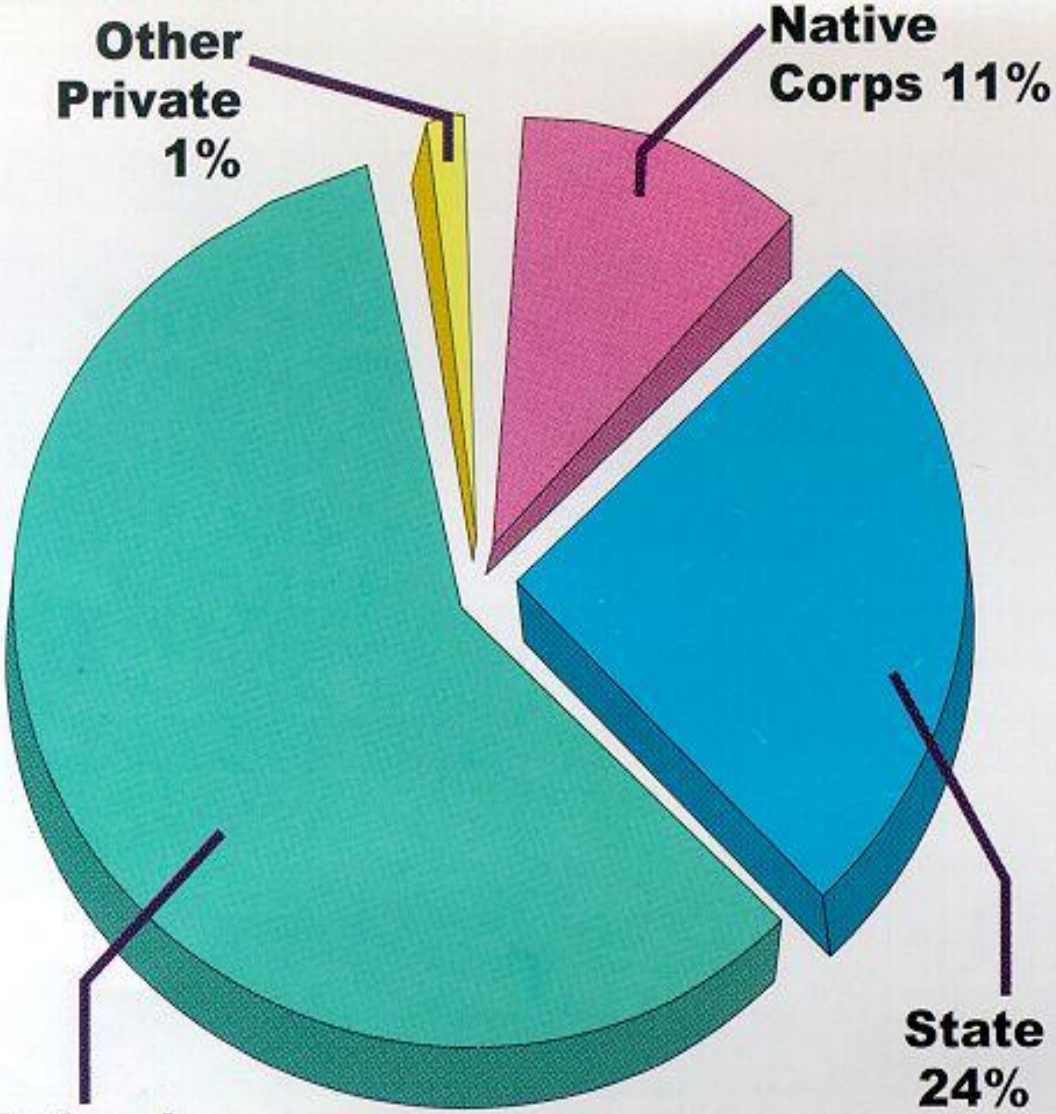


Size Comparison of Alaska Versus 48 Contiguous States

Alaska's 586,000 square miles are equivalent in area to approximately 20% of the contiguous lower 48 states.



LAND OWNERSHIP



(estimated in million acres)

Federal	
BLM Public lands	87.7
National Wildlife Refuges	72.4
National Park System	52.9
National Forest System	22.5
Defense & other federal	2.3
Total	237.8
State of Alaska	90.0
Private	
Native Corporations	36.7
Other	1.0
Total Acres in Alaska:	365.5

Source: Bureau of Land Management, current to October 1, 1997

Challenges (continued)

- Limited Hydrologic Information
  - ~500 or less USGS continuous flow gages
  - ~1 Gage/6 or 7,000 Square Miles
  - ~100 or Less Gages Operating Annually: < 500 Historically
  - ~ $50k/year+ for USGS Gaging
  - ~ QAA +/- 50% error

- Thousands of River Reaches & Millions of Lake Fish Bearing Water Reaches with Clean Abundant Water

- ~400 Filed/~150 Adjudicated

Summary of Alaska's Water Law
(Reservation of Water Emphasis)

- **Alaska's Constitution – 1959**
- **Water Use Act – 1966, 1980, 1986, 1992, 2001**
- **Regulations (reservation 1983)**
- **Administrative (Agreements)**
- **Case Histories & Examples**
- **Other Reservation Types of Opportunities**
  - **Discussed at End!!!**

Alaska Water Resources Board

State Infancy Historical Challenges

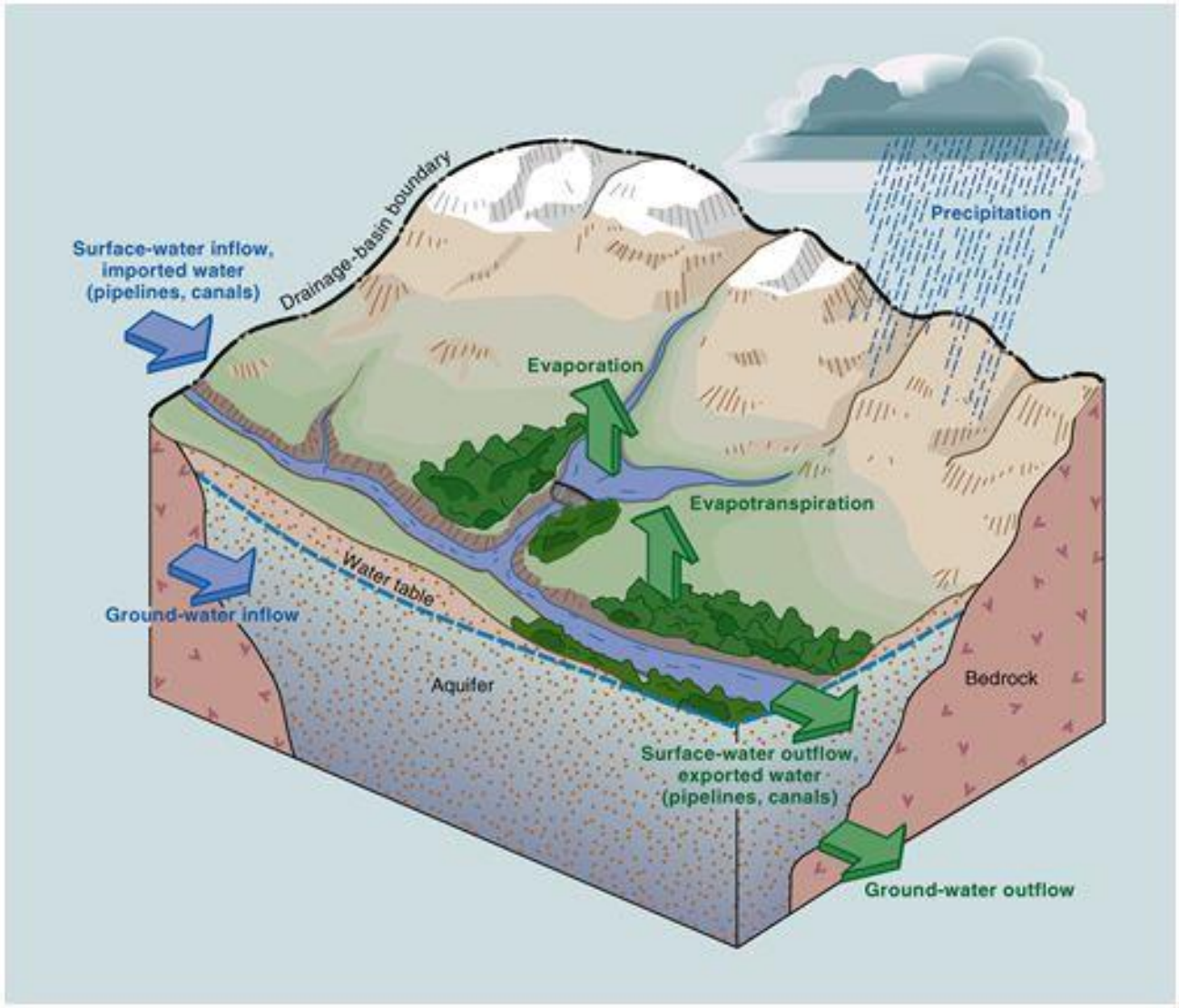
- Limited Experiences Using the Legal/Institutional Toolbox - no one size fits all - DYNAMIC
- Variety & Changing Land Ownership Status (subject to change)
- Institutional Memory/Lobotomy Challenges
- Limited Case Law

Historical Challenges (continued)

- Socioeconomic Shifts (Booms/Busts/Stable)
- Political/Philosophical Shifts (2, 4, 6, 8 years)
- Long-term Time/$ Investments (Filing/Adjudication)
- Small Proportion of Water Bodies Reserved to Date & Limited to Subset of Purposes

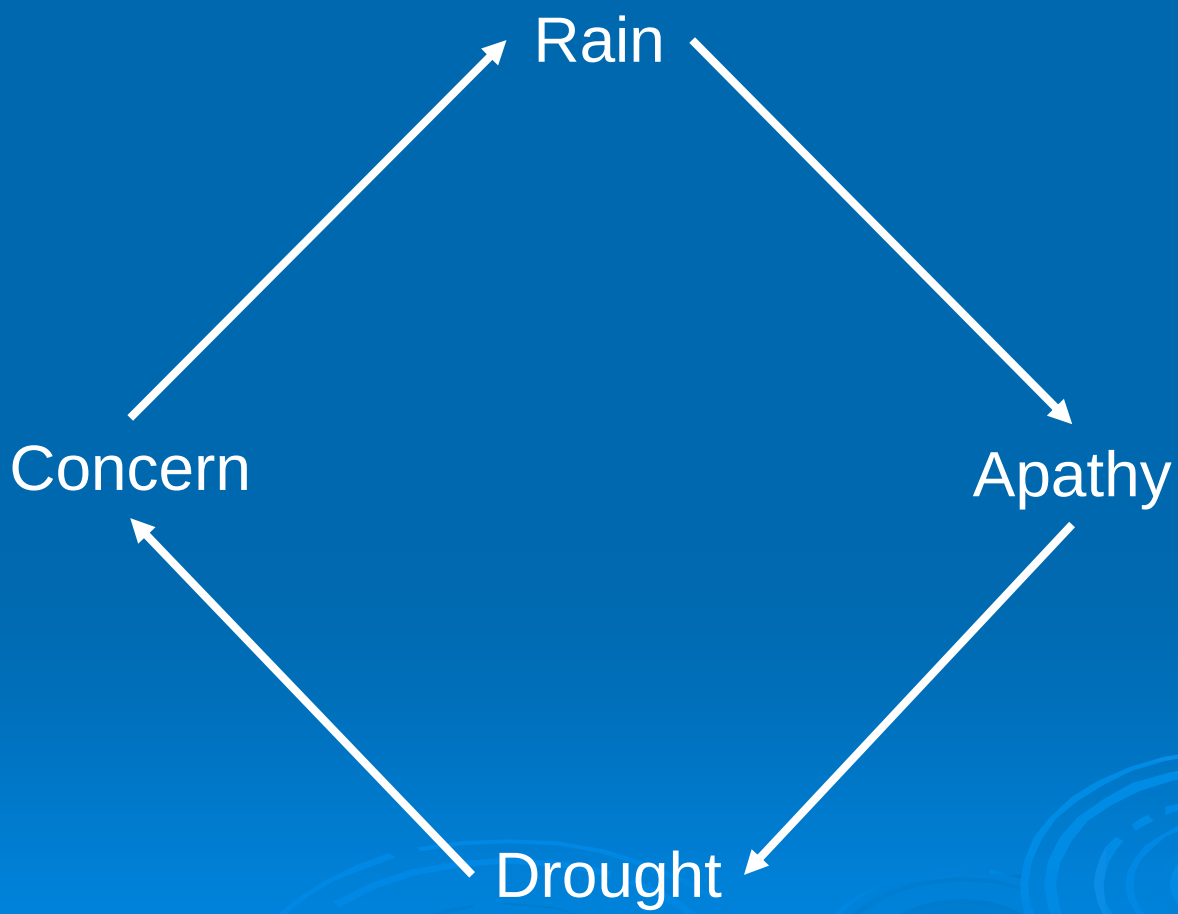
ELEMENTS/CONSIDERATIONS!

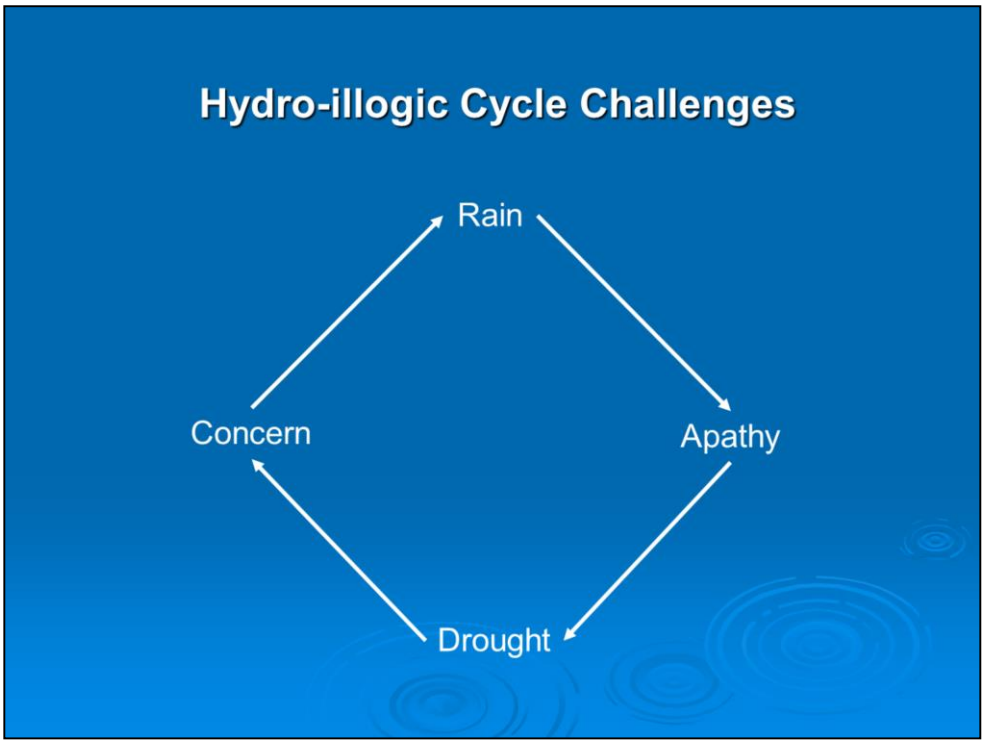
-



Hydrologic Cycle (Water Budget)

Hydro-illogic Cycle Challenges





Probably example of one of the most greatest challenges- a reactive versus proactive society with short-term attention span

Alaska Water Law Use Examples

Instream:

Water needed* in the water body to support vital ecological functions and uses **(includes lakes/wetlands)**

Examples:*

- Fish & Wildlife/Habitat
- Recreation
- Cultural/Aesthetic
- Navigation/Transportation
- Water Quality

---

* Ice Conditions, too

Out of Stream/Traditional:

Water removed from the system or flow regime/water volume/stage altered* **(subsurface/groundwater too)**

Examples:*

- Power Generation (hydro/fossil fuels/solar)
- Industrial/Manufacturing
- Public/Personal Water Supply
- Irrigation/Agriculture
- Water Export/Transfer
- Hatcheries
- Resource Extraction (Minerals, Timber, Oil, Gas, etc.)
- Ice Roads, Snowmaking, etc.

Why Did Alaska Establish a Reservation of Water Law?

(.080 Limitations)

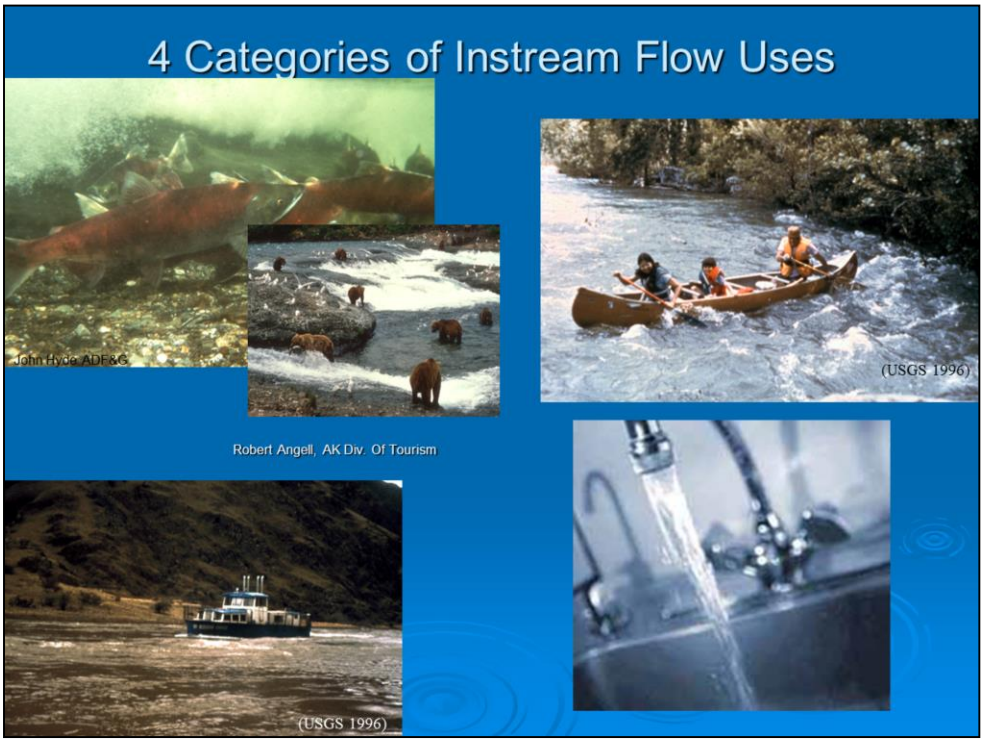
4 Categories of Instream Flow Uses

John Hyde ADF&G

Robert Angell, AK Div. Of Tourism

(USGS 1996)

(USGS 1996)



could use better picture for water quality – so note that frozen WATER USES LANDING OF FLOAT PLANE AND OTHER USES SNOW MACHINES DOG SLEDS EG TRANSPORTATION IN WINTER IS DEPENDING ON WATER LEVELS AND THICKNESS OF ICE.

UNIQUE OPPORTUNITIES

APPROPRIATE WATER TO MAINTAIN WATER QUALITY, FISH, WILDLIFE, RECREATION/AESTHETICS, & NAVIGATION IN ADDITION TO WITHDRAW, IMPOUND AND DIVERT PURPOSES

AUTOMATIC RESERVATIONS OF WATER ARE ESTABLISHED FOR WATER EXPORTS FROM LARGE HYDROLOGIC BASINS

ANYONE CAN FILE FOR A WATER RIGHT (APPROPRIATION OF WATER)

TO

WITHDRAW, DIVERT, IMPOUND & RESERVE

WATER THAT IS IN THE BEST PUBLIC INTEREST

-

SURFACE/SUBSURFACE WATER BODIES ARE SUBJECT TO APPROPRIATION

(CONSIDERED 1 SOURCE IF HYDROLOGICALLY CONNECTED)

10- Year Review

-

APPROPRIATIONS MUST BE DETERMINED TO BE IN THE BEST PUBLIC INTEREST (AS 46.15.080)

-

Critical Water Management

Life and Human Safety

-

IMPORTANT!

DNR decides if all, a portion or none of the amount of water requested in an application for an appropriation (withdrawal, diversion, impoundment and reservation) will be granted and any conditions that may apply.

Know Definitions

AS 46.15.260

11 AAC 93.970

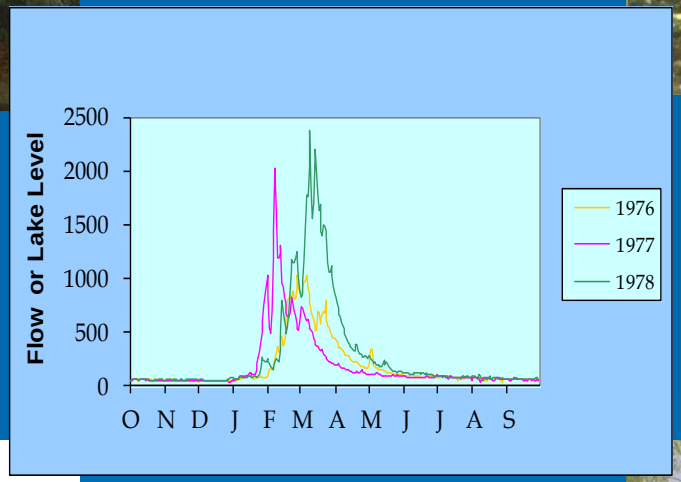
Interdisciplinary

Scientific Elements

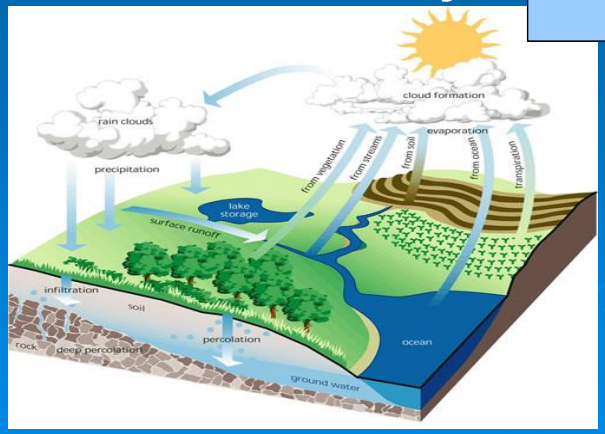
Geomorphology

Biology

Hydrology



Connectivity



Water Quality

RECOMMENDATIONS

- Develop Statewide & Regional **Long-term** Water Uses and Needs Plans & Prioritize

- Collect & Analyze Long-term Seasonal Baseline Water Quantity & Quality Availability Information & Define Relationships (SW/GW)

- Collect & Analyze Data Required to Better Understand Seasonal & Long-term Watershed Ecological Functions & Other Relationships to Human Socioeconomic Needs/Values

RECOMMENDATIONS - continued

- Joint Funding Requests (Federal, State, Academic, Local, Private (including Tribal)
- Public/Stakeholder Education/Involvement
- Participate in State/Regional/National Initiatives and International

  (e.g. Drought Action Plan Implementation, USGS Water Smart/Census, LCC, NFHP, SSSF, other watershed scale efforts)

Use Graphics that Display Appropriate Geographic Information and Scale for Alaska

RECOMMENDATIONS - continued

- Expand Upon/Mimic ADF&G MOU Agreement with ADNR
- Review References (publications, links, dvd)
- Train & Maintain Dedicated Interdisciplinary Staff Expertise
- Integrate Land & Water Management

RECOMMENDATIONS - continued

- Have More Interagency Classes – all disciplines
- Have Regional Internal Classes
- Make it Routine to Periodically Go Over Processes with DNR
- Document Good, Bad, and Ugly (forever)

RECOMMENDATIONS - continued

- Remember to Take Snapshots in Time
  (bridge, past, present, & future)
- Get Notified, **Use AS 46.15.080**
- Think Long-term!!!!! Establish Priorities!
- Crawl before you Walk!

RECOMMENDATIONS - continued

- File Reservation of Water Applications under AS 46.15.145 (Other)

WHY?

It is the Best Public Interest to Define Baseline Water Availability to Establish Certainty How Much Water is Available For Which Purposes
(long-term)

Its Common Sense!

OTHER OPTIONS

AS 16.05.841 & .871

AS 16.10.400(g)

5 AAC 40.220 (5)
5 AAC 40.220 (7)

Other (continued)

-Additional Water Related ADF&G Authorities:

AS 16.10.400(g)

5 AAC 40.220 (5)
5 AAC 40.220 (7)

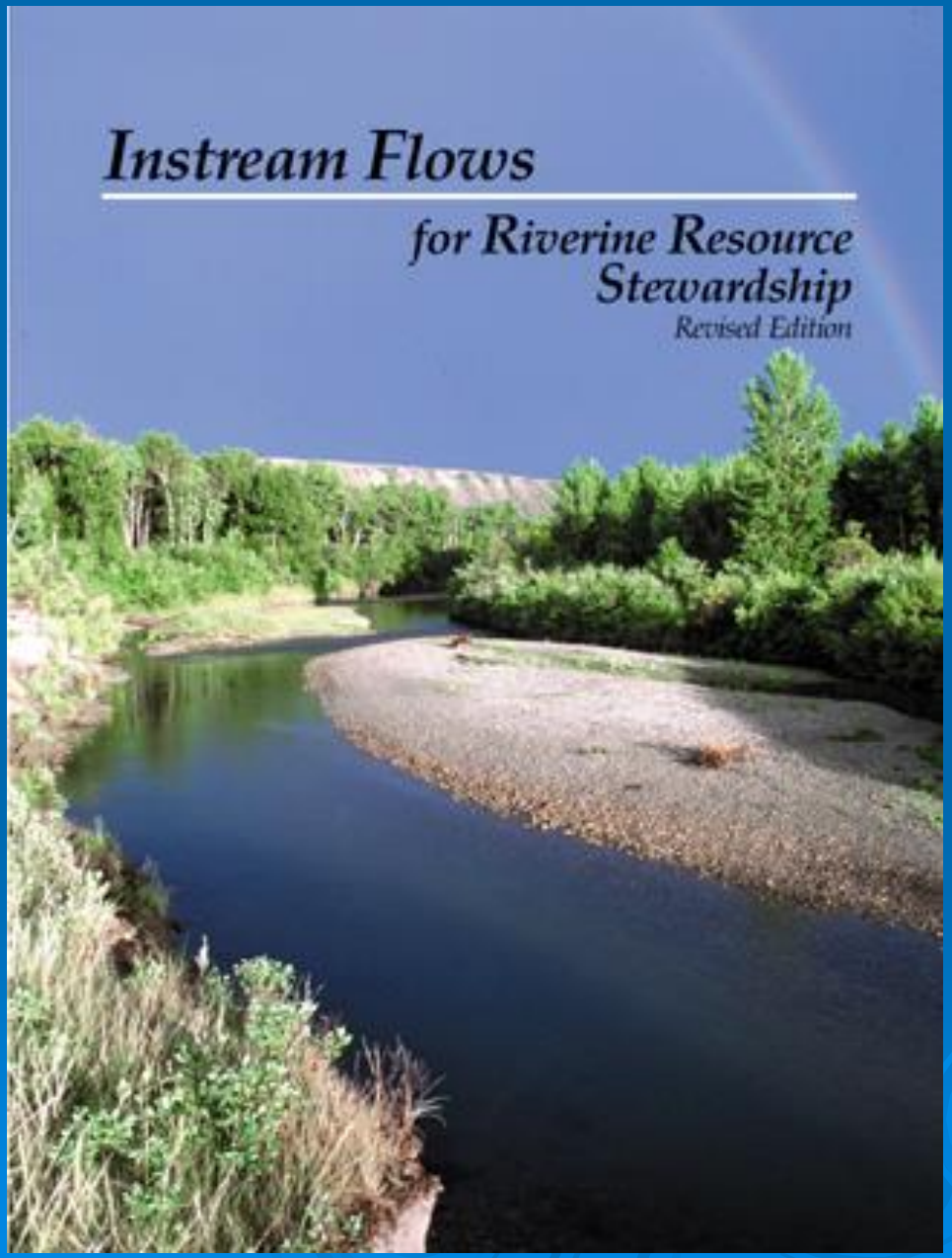
- Area Plans (Rec Rivers)

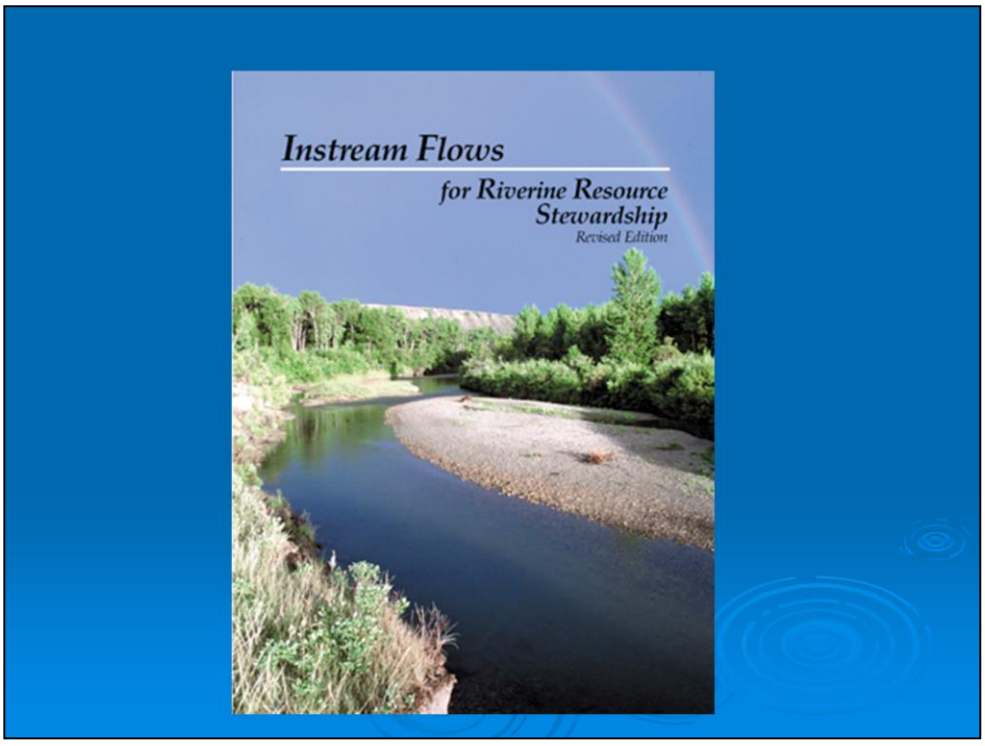
- Anadromous Catalog/Regional Guides

- Public Trust Doctrine

- Federal Authorities/Initiatives

Take Home Points


Instream Flows
for Riverine Resource Stewardship
Revised Edition



www.instreamflowcouncil.org Most of the basis for this and earlier presentations are drawn from information and policies of the Instream Flow Council. The information provided here is very basic but for a more detailed account of these and other methods, one can find a thorough treatment in the IFC book.

Summary:

Protecting Rivers and Lakes in the Face of Uncertainty

www.instreamflowcouncil.org

National Drought Initiative

State Examples

Home | About WSWC | Meeting Information | Members | Newsletters | Policies | Publications | WestFAST | WaDE

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QUICKLINKS

www.westernstateswater.org/westfast/

- WestFAST FactSheet
- WestFAST July Newsletter
- WestFAST Members
- WestFAST 2015-2017 Work Plan
- WestFAST 2015 Accomplishments Report

What is WestFAST?

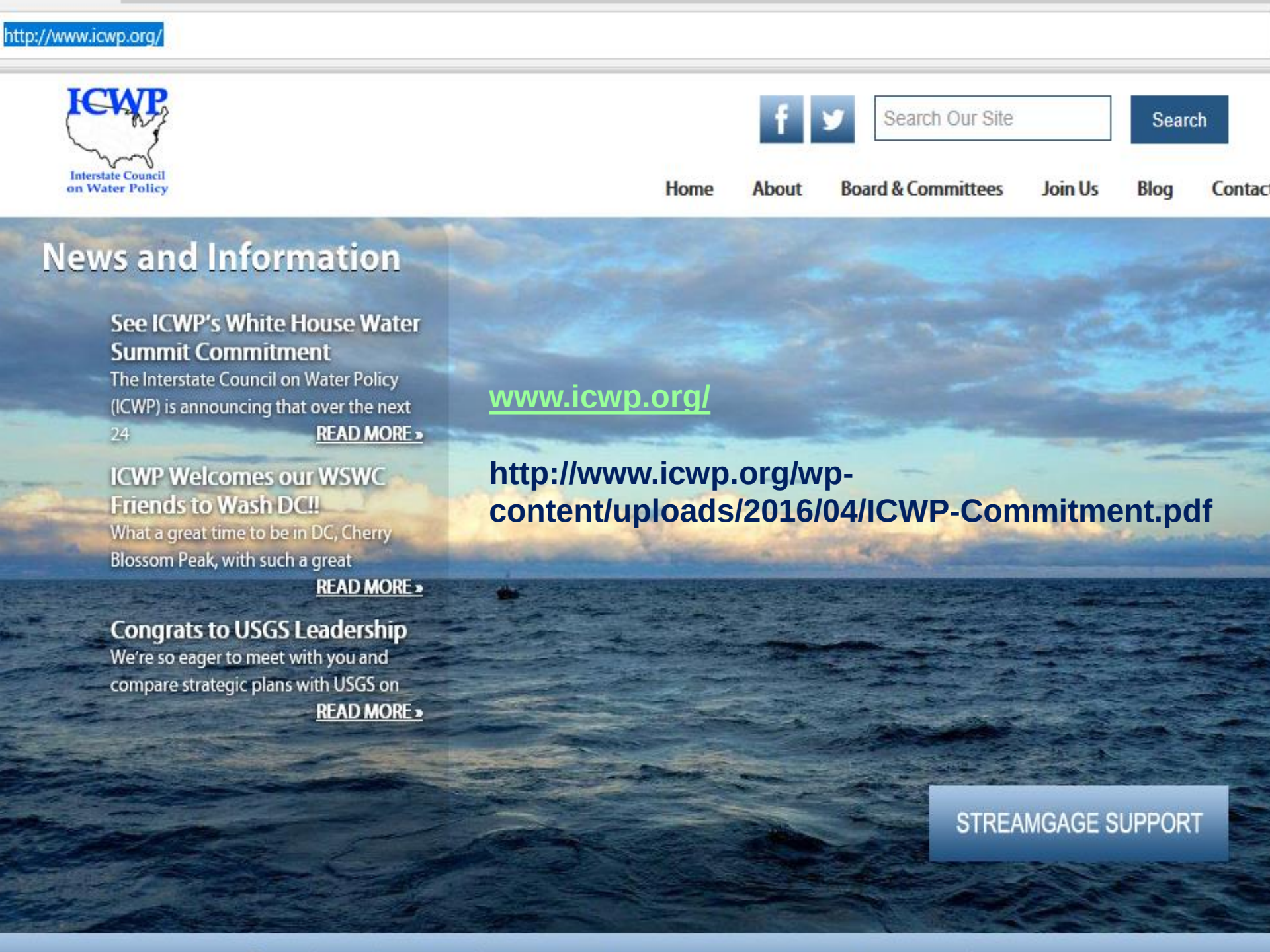
The Western States Federal Agency Support Team (WestFAST) is a collaboration between 12 Federal agencies with water management responsibilities in the West. WestFAST was established to support the Western States Water Council (WSWC), and the Western Governors Association in coordinating Federal efforts regarding water resources.

The Declaration of Cooperation states: "We hereby declare that we as WestFAST partners will collaborate with the Western States Water Council to guide the development of an appropriate action plan for this partnership." See also the WestFAST Operating Guidelines.

Upcoming Meetings:
Click here for information about the Western States Water Council's 182nd (Fall) Council Meeting in September in St. George, UT.

Most Recent Meeting:
Click here for information about the Western States Water Council's 1801st (Summer) Council Meeting in July in Bismarck, ND.

HOT TOPIC: Seasonal Forecasting!


http://www.icwp.org/
ICWP
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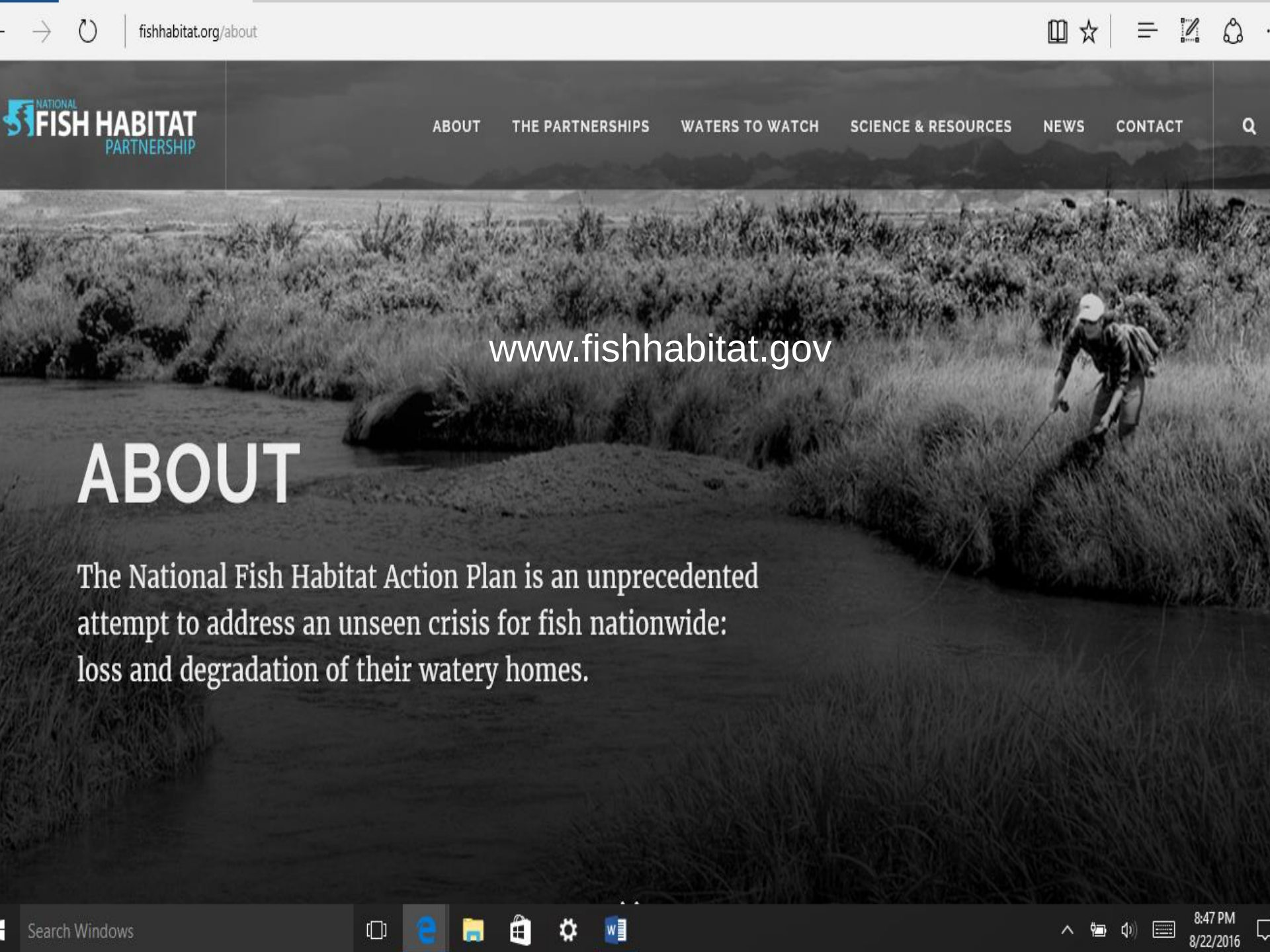
See ICWP's White House Water Summit Commitment
The Interstate Council on Water Policy (ICWP) is announcing that over the next 24
READ MORE »
ICWP Welcomes our WSWC Friends to Wash DC!!
What a great time to be in DC, Cherry Blossom Peak, with such a great
READ MORE »
Congrats to USGS Leadership
We're so eager to meet with you and compare strategic plans with USGS on
READ MORE »
www.icwp.org/
http://www.icwp.org/wp-content/uploads/2016/04/ICWP-Commitment.pdf
STREAMGAGE SUPPORT


fishhabitat.org/about
NATIONAL FISH HABITAT PARTNERSHIP
ABOUT
THE PARTNERSHIPS
WATERS TO WATCH
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www.fishhabitat.gov
ABOUT
The National Fish Habitat Action Plan is an unprecedented attempt to address an unseen crisis for fish nationwide: loss and degradation of their watery homes.
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8/22/2016

President's March 2016 Drought Action Plan

&

Related Federal Initiative Examples

https://www.whitehouse.gov/campaign/drought-in-america

the WHITE HOUSE PRESIDENT BARACK OBAMA

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Drought In America

As drought conditions persist throughout the West, every drop of water counts.

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www.usgs.gov/drought

Drought poses a serious threat to the security of the U.S. food supply, critical infrastructure, and economy, regularly impacting communities across the Nation. These droughts can affect human and environmental health in many ways, by decreasing water availability and quality, increasing stress to ecosystems, impacting many fish and wildlife species, causing poor air quality, compromising food and

What is USGS role in drought science?

USGS scientists investigate and monitor how our natural resources, including water resources and ecosystems, change over time, and how periods of drought can affect domestic, agricultural, industrial, and environmental needs.

Learn More

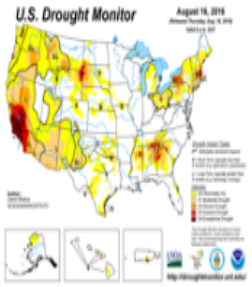
What is Drought?

A drought is a period of drier-than-normal conditions that results in water-related problems. The term "drought" can have different meanings to different people, depending on how a water deficiency affects them.

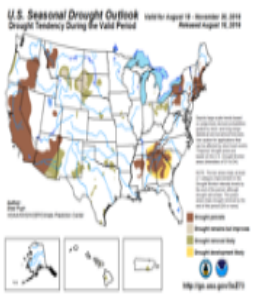
Learn More

Where is drought this week?

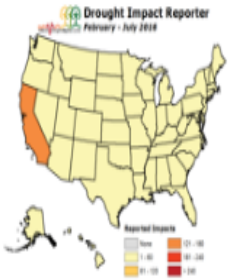
U.S. Drought Monitor



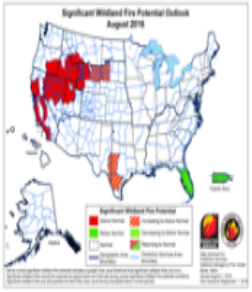
U.S. Seasonal Drought Outlook



Drought Impacts Report



Wildfire Risks



NIDIS in Your Region

As of August 10-16, 2016, drought (D1-D4) is impacting:

www.drought.gov/drought/home

16.6%

of the US and 19.9% of the lower 48 states.

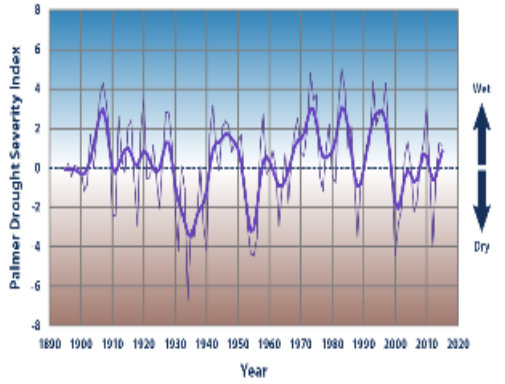
93.1 million

people in the U.S. and 92.9 in the lower 48 states.

Climate Change Indicators: Drought

This indicator measures drought conditions of U.S. lands.

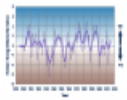
Figure 1. Average Drought Conditions in the Contiguous 48 States, 1895–2015



This chart shows annual values of the Palmer Drought Severity Index, averaged over the entire area of the contiguous 48 states. Positive values represent wetter-than-average conditions, while negative values represent drier-than-average conditions. A value between -2 and -3 indicates moderate drought, -3 to -4 is severe drought, and -4 or below indicates extreme drought. The thicker line is a nine-year weighted average.

Data source: NOAA, 2016[1]

Web update: August 2016



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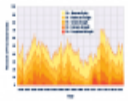
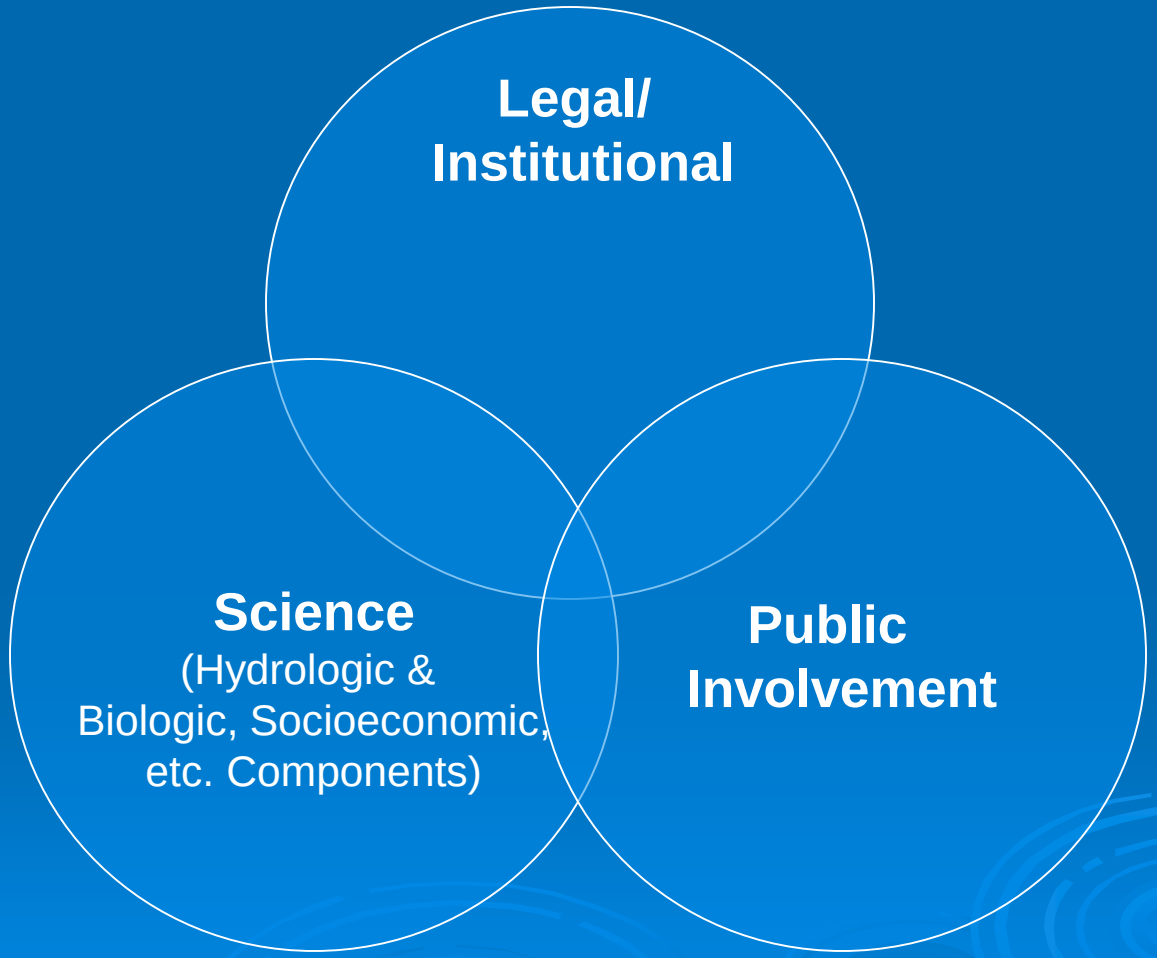
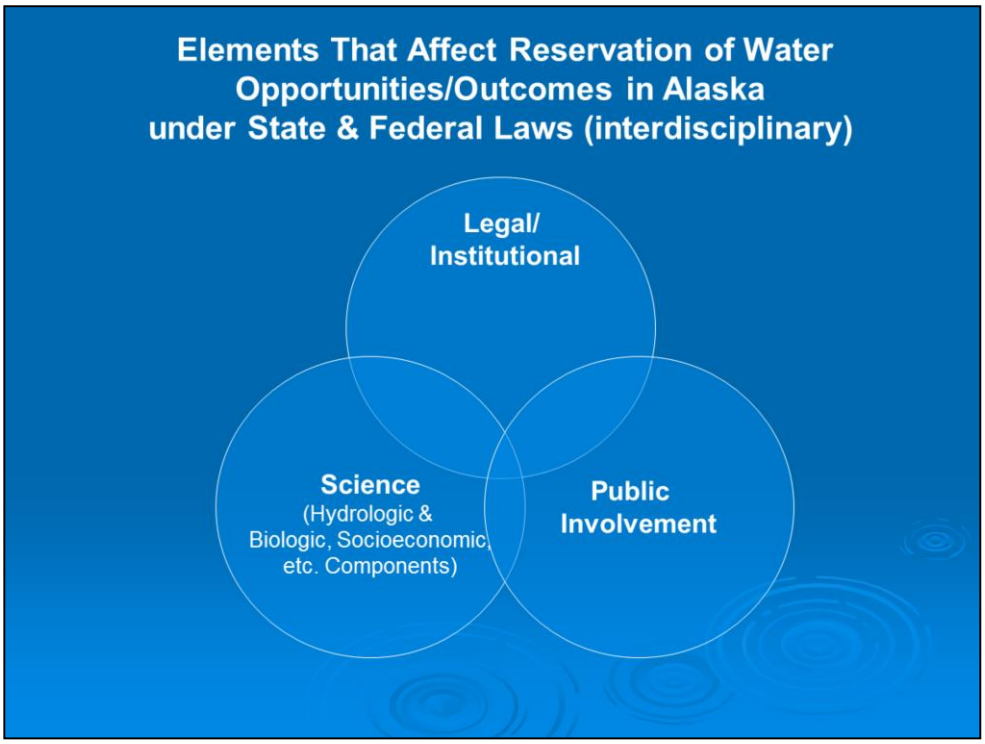


Figure 2. U.S. Lands Under Drought Conditions, 2000–2015

Background | About the Indicator | Key Points | Indicator Notes | Data Sources | Technical Documentation

Elements That Affect Reservation of Water Opportunities/Outcomes in Alaska under State & Federal Laws (interdisciplinary)





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QUESTIONS?

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Aquatic Habitat and Resources Scientist

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