

Instream Flow in the Yellowstone River Basin

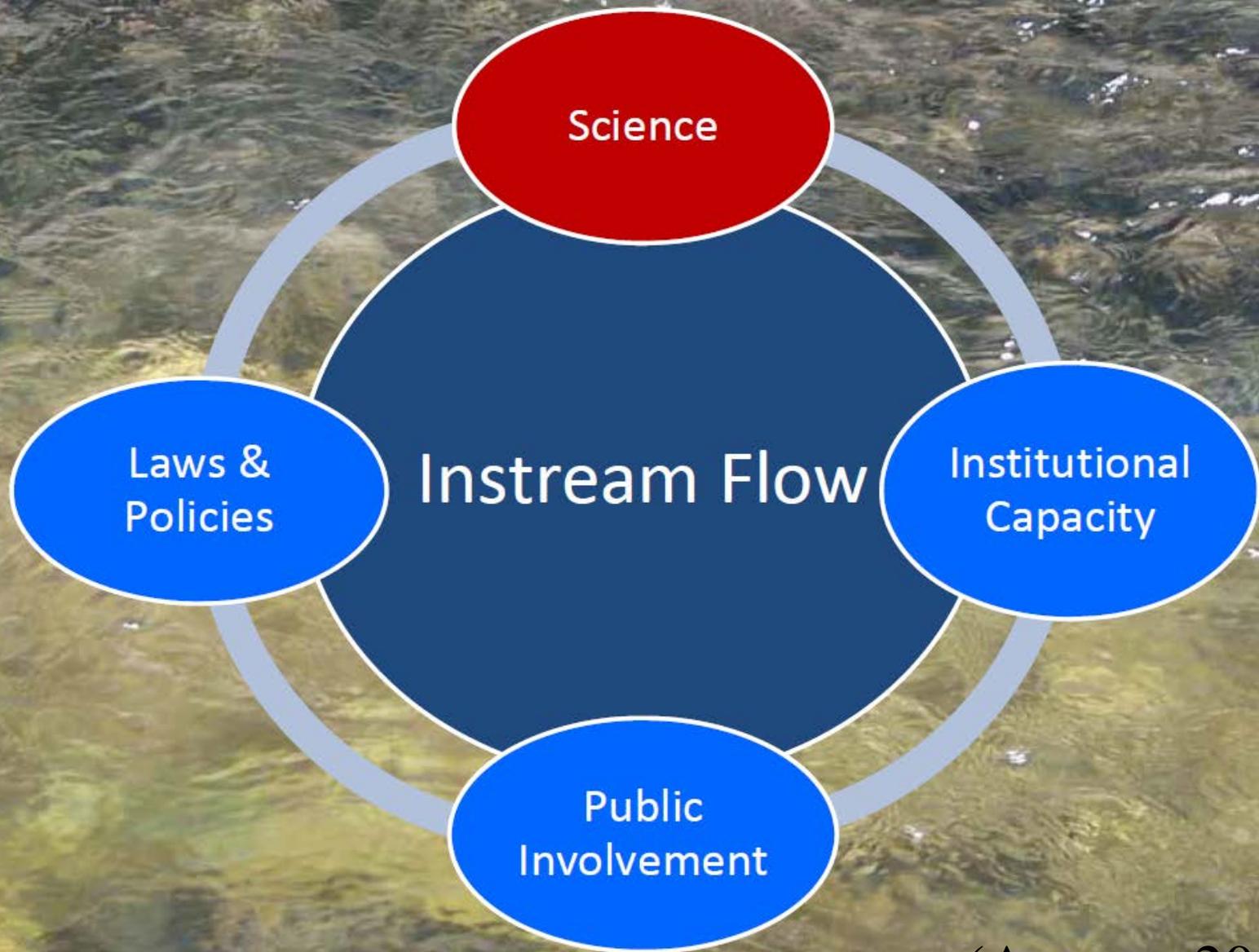
Andy Brummond



*Montana Fish,
Wildlife & Parks*

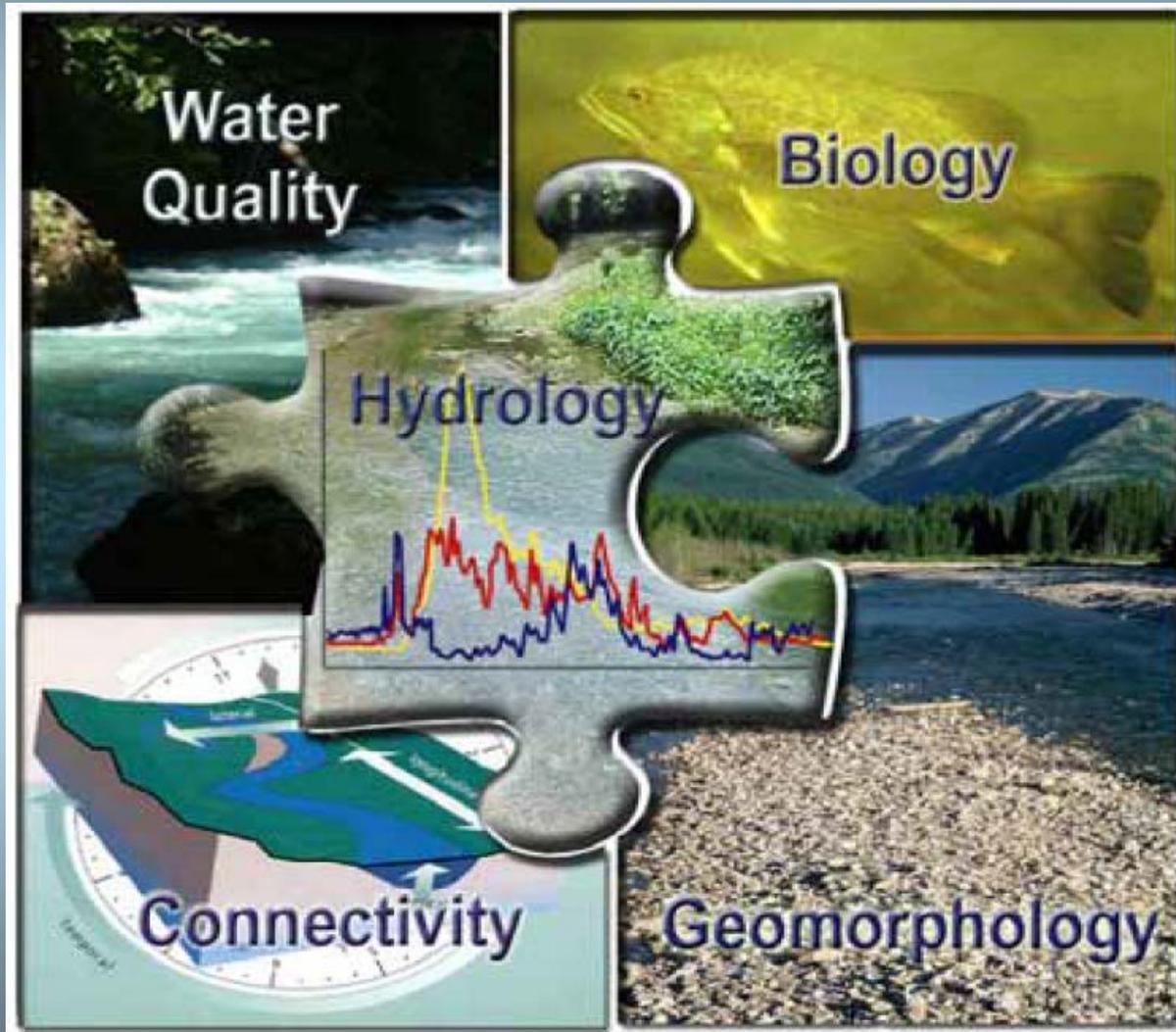
December 13, 2013





(Annear, 2010)

Instream Flow Science



- **Hydrology**
 - Short and long-term water availability
- **Biology**
 - Short-term physical habitat availability
- **Geomorphology**
 - Long-term trends of channel conditions
- **Connectivity**
 - Multiple elements and concepts
- **Water quality**
 - Short and long-term

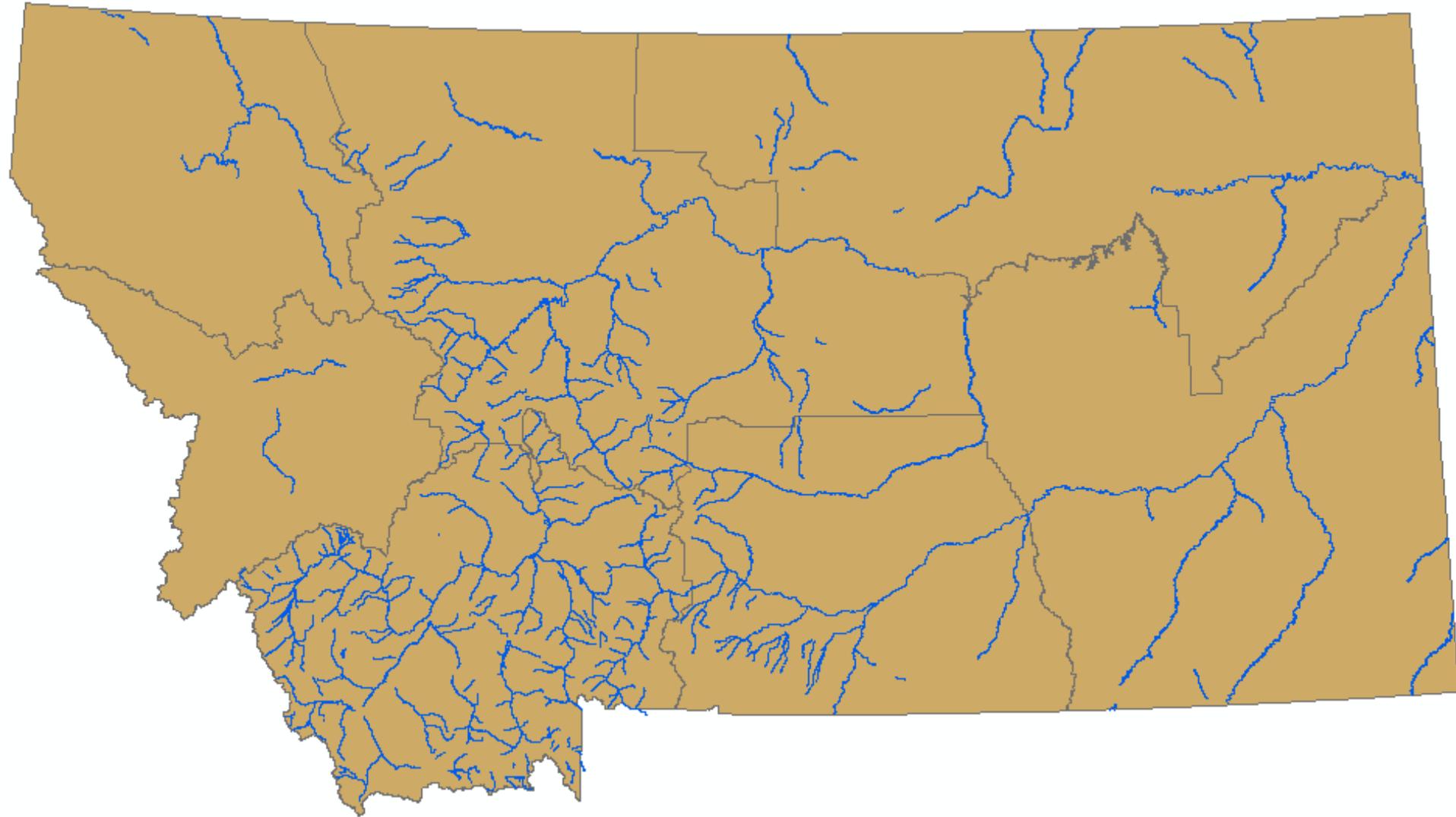
(Annear, 2010)

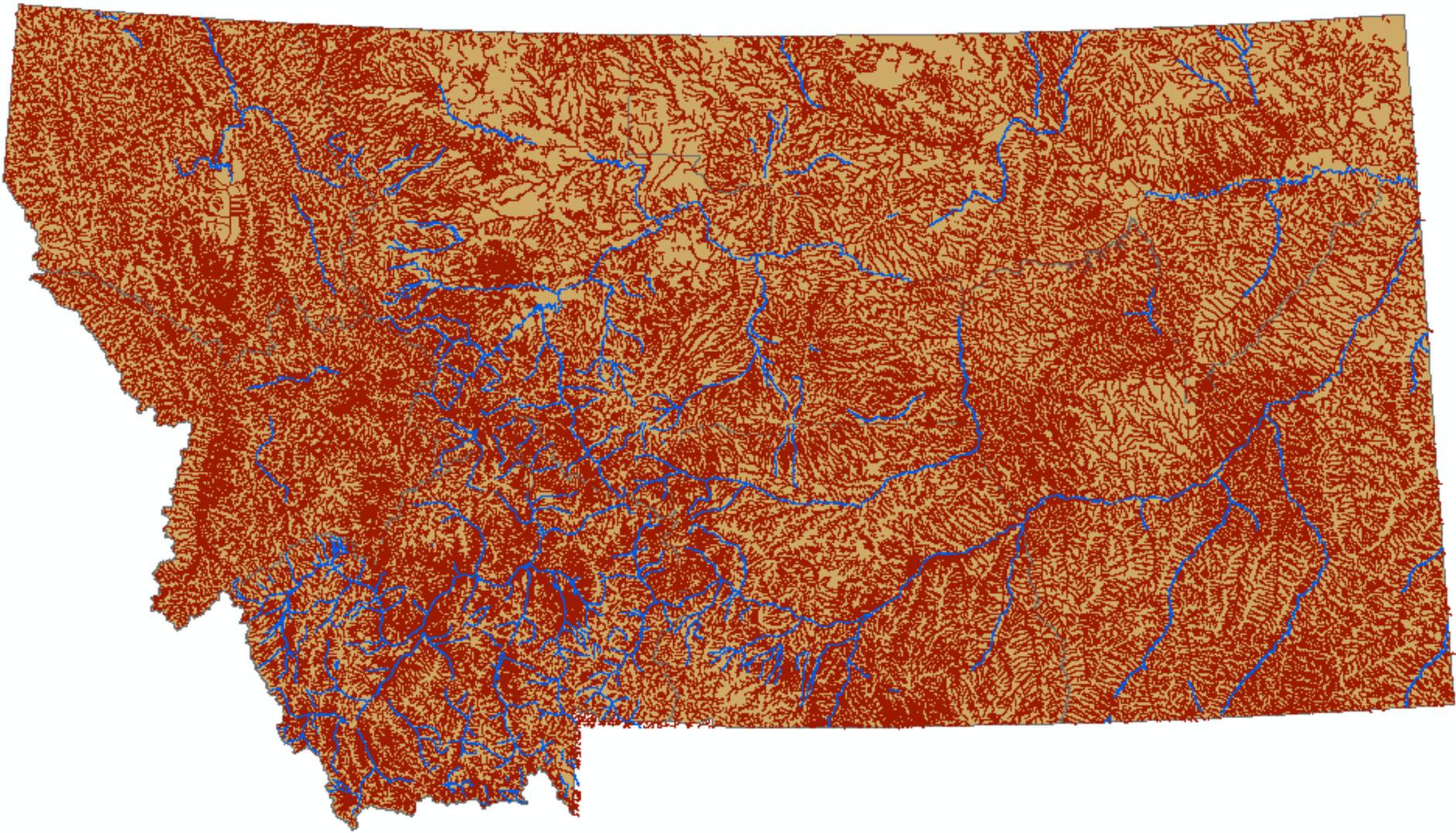
Montana Instream Flow Protection and Restoration Tools



- FWP Murphy Rights and other Claims
- FWP and DEQ Instream Water Reservations
- Water from Storage
- Leasing and temporary & permanent changes to instream flow

FWP Instream Water Rights





Murphy Rights



- 1969 Legislature Authorized FWP to file appropriations for instream water rights on “12 Blue Ribbon” trout streams including the Yellowstone River above Columbus.

Other Instream Claims

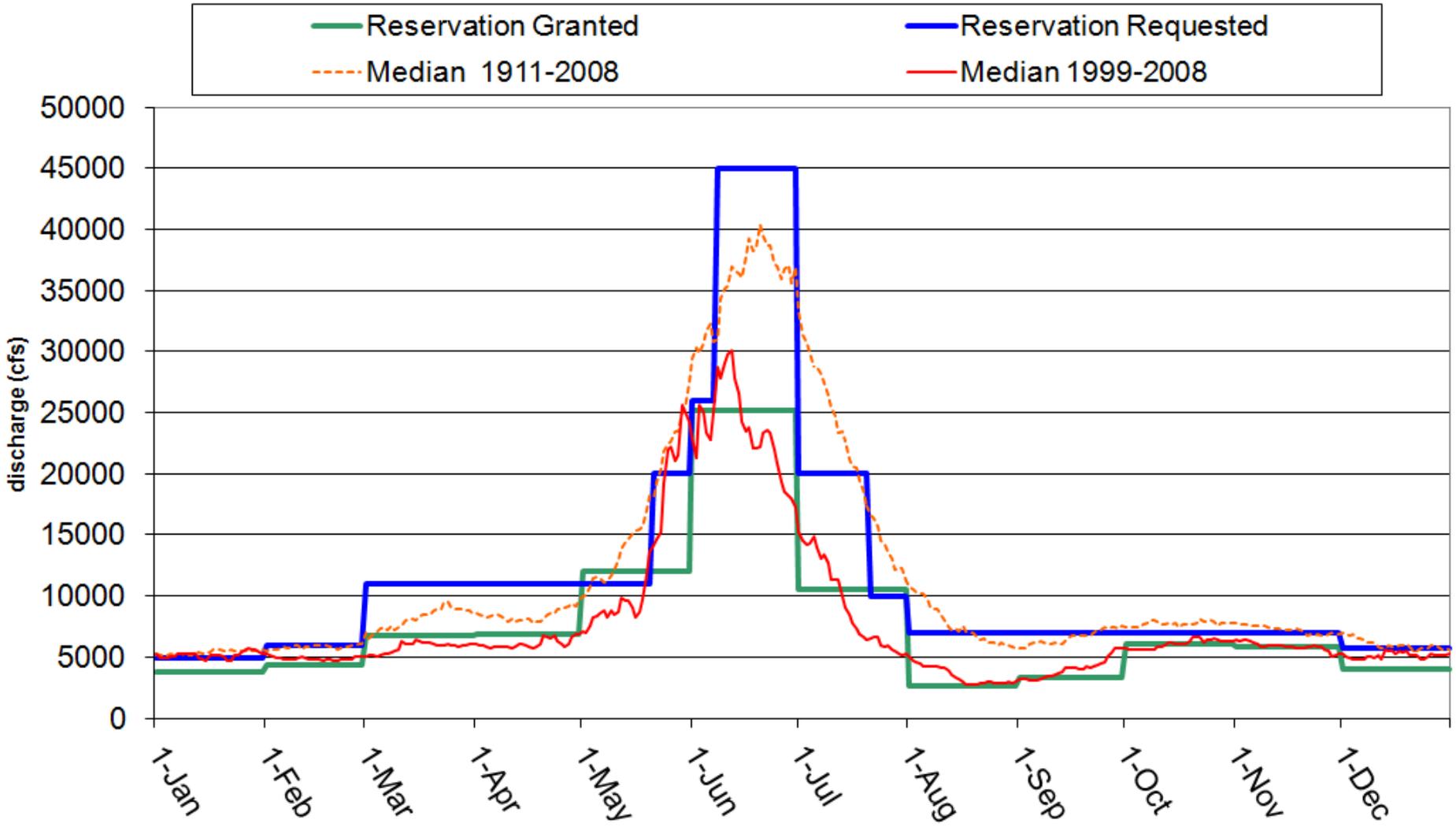
- Public Recreation §85-2-223, MCA
 - Bitterroot
 - Clearwater
 - Bighorn
 - Beaverhead



Yellowstone Instream Water Reservations

- FWP Application used various methods including:
 - Wetted perimeter method
 - Water levels to protect nesting waterfowl
 - Remaining flow for upper Yellowstone Tributaries
- Hydrologic model balancing future demands with instream flow ultimately used by BNRC.

Yellowstone River at Sidney





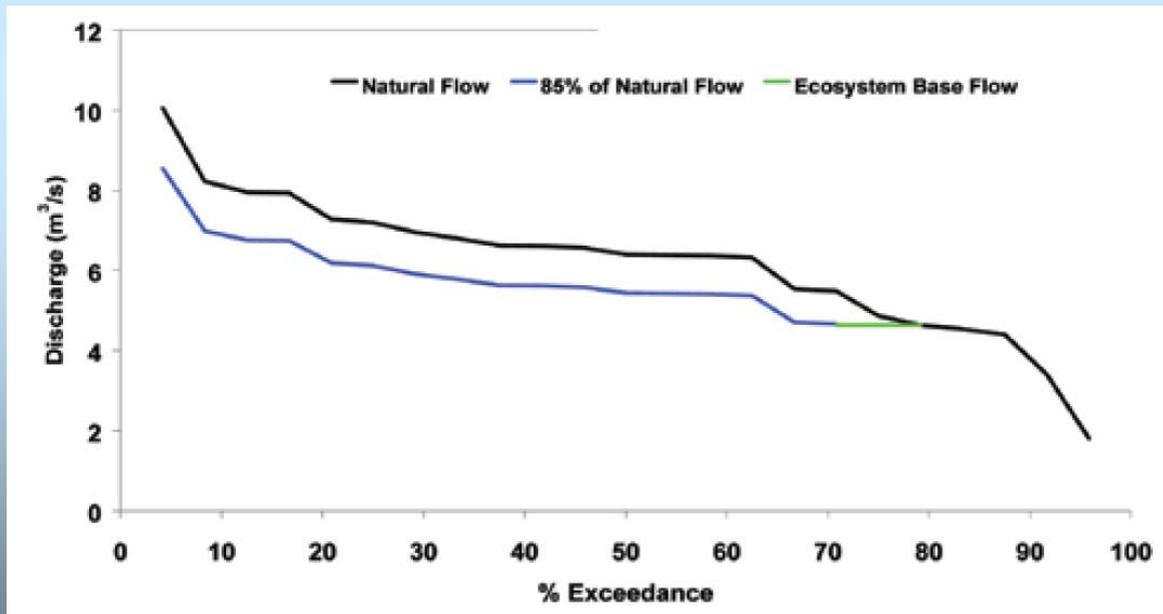
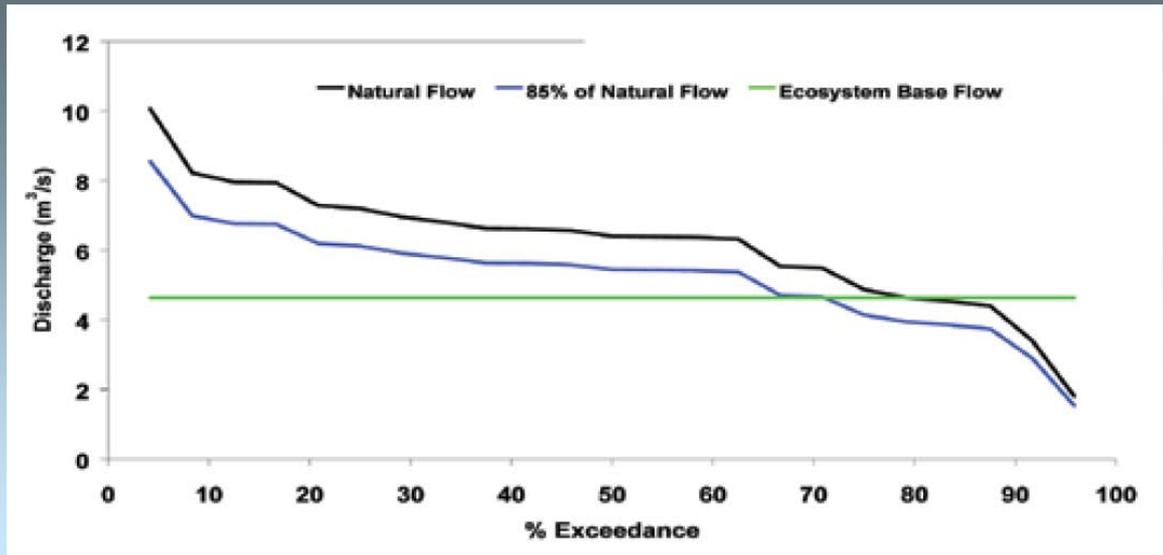
water for life



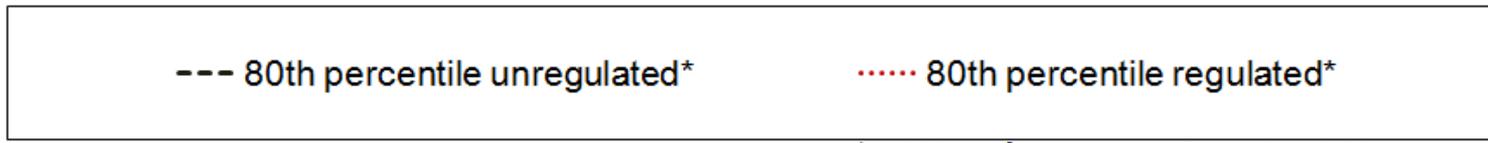
healthy aquatic ecosystems

» A Desk-top Method for Establishing Environmental Flows in Alberta Rivers and Streams

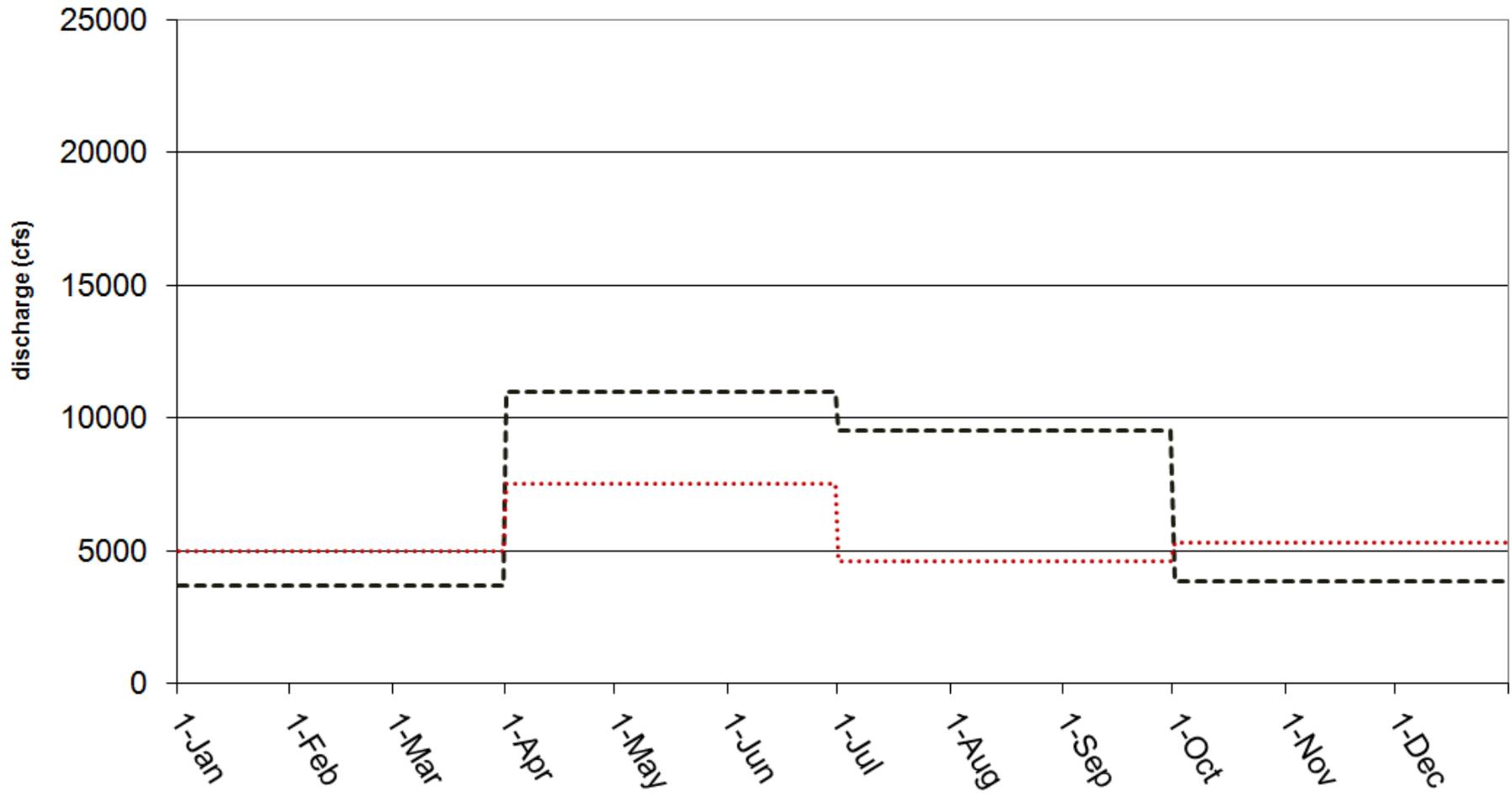
Government of Alberta



Yellowstone River at Sidney



* USGS Scientific Investigations Report 2013-5176

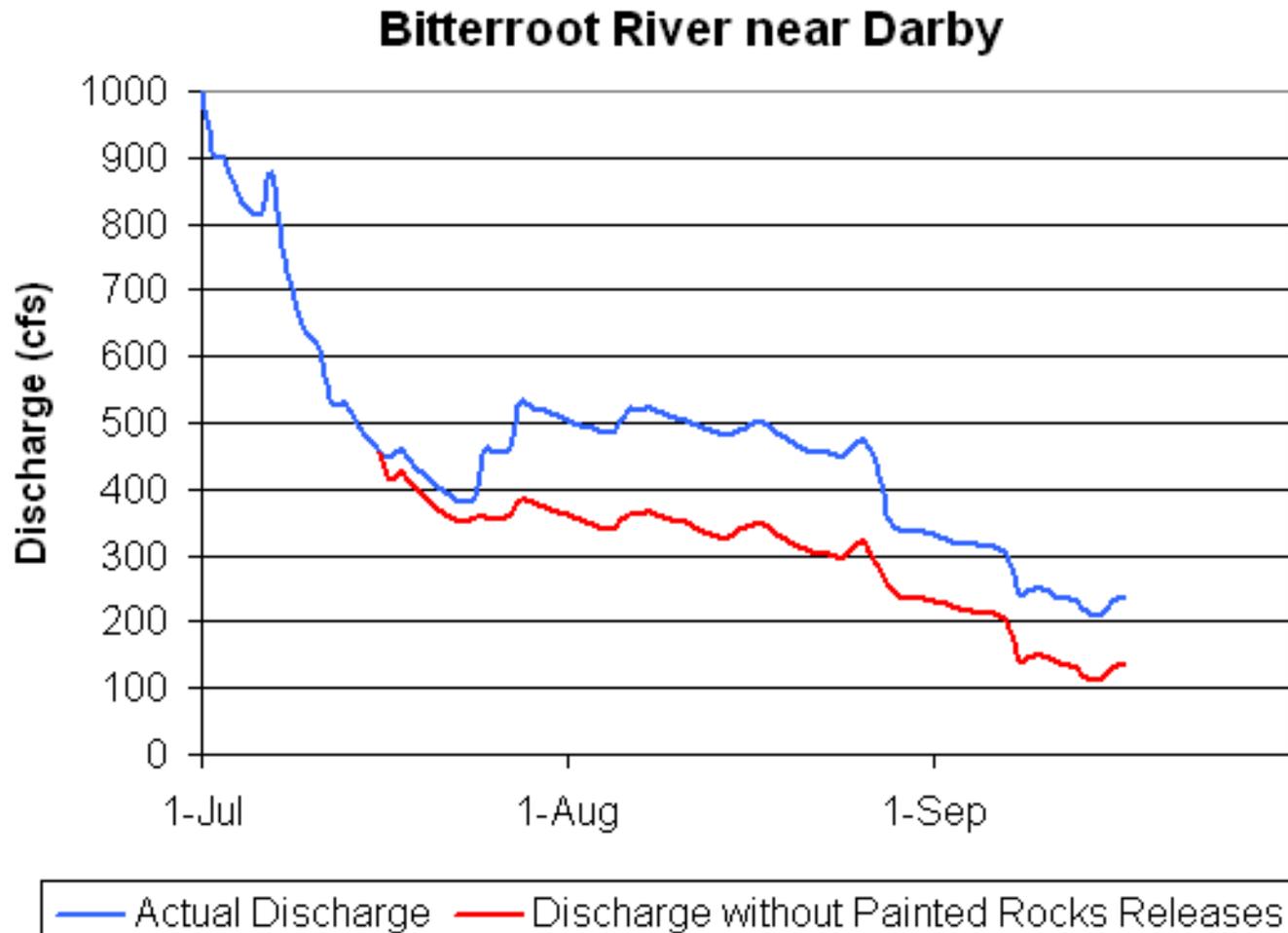


Stored Water



- Water stored in reservoirs to be released later in support of instream flow.
 - Painted Rocks & Como – purchased water
 - Federal Reservoirs – input to operating plans

Impact of Painted Rocks Water - 2006



Private Instream Flow



- Private In stream Flow Program (85-2-408 MCA)
 - Private change to instream flow
 - Private lease with TU, Clark Fork Coalition, etc.
- Limited to temporary changes
 - 10 years with unlimited renewals.
 - 30 years with water conservation or storage

FWP Instream Flow Changes

- Different Law than private (§85-2-436, MCA)
 - Amended by 2007 Legislature
 - Sunsets in 2019
- Allows FWP to :
 - Lease water rights and temporarily change them to instream flow
 - Temporarily change water rights owned by FWP to instream flow
 - Permanently change water rights owned by FWP to instream flow on 12 stream reaches

Limitations of Tools

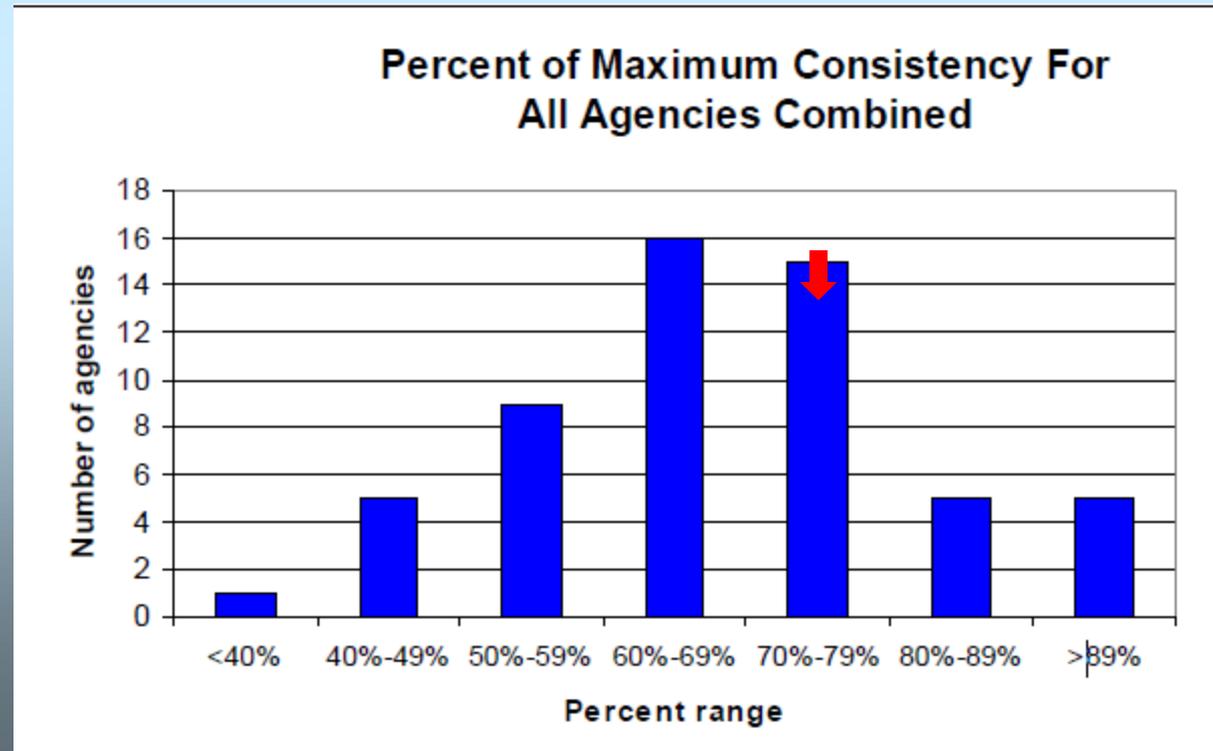


- Murphy Rights and other Claims
 - Very junior priority date (1960s, 1970-71)
- Instream Water Reservations
 - Even more junior priority date (1978)
 - Subject to allocations to Wyoming and Tribes
 - Focused on game fish – what about other uses and non-game fish?
- Water from Storage
 - \$\$\$ - Availability -Location
- Leasing and temporary & permanent changes to instream flow
 - \$\$\$ -Opportunity -Temporary in most cases
 - Difficult on larger streams and rivers

•International Instream Flow Program Initiative

- assessment of the effectiveness of instream flow activities
- FWP performs or abides by 71% of the 43 policies described in the Instream Flow Council book

Instream Flows for Riverine Resource Stewardship





Questions?

<http://www.instreamflowcouncil.org/resources/ifc-publications/>

