An overview of the Water Information System and National Hydrography Dataset (NHD) Stewardship Program

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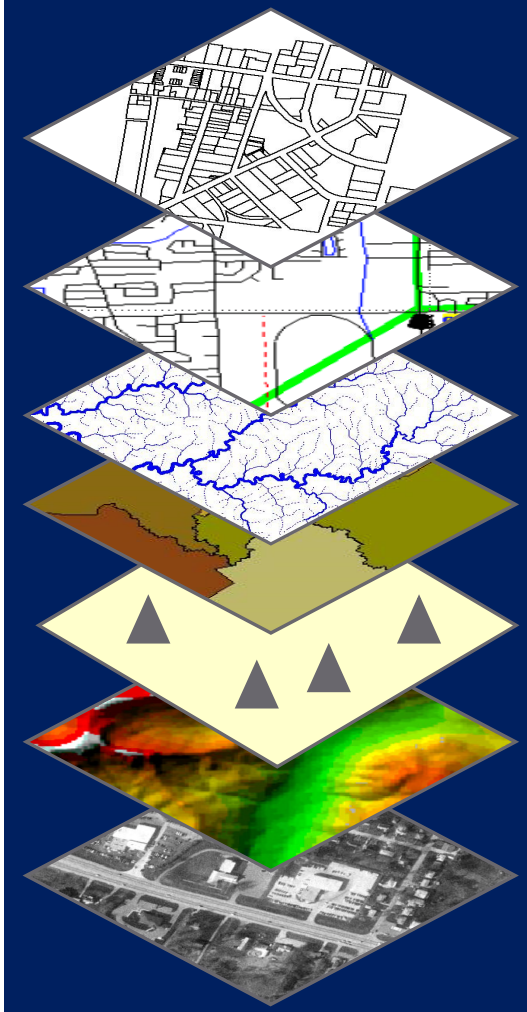
Prepared for the Yellowstone Basin Advisory Council, Nov 2013

MONTANA State Library

- Information Services
  - State Publications
  - Geographic Information
    - NRIS
      - Water Information System
  - Natural Heritage Program
- Services to Libraries

Montana Spatial Data Infrastructure (MSDI)

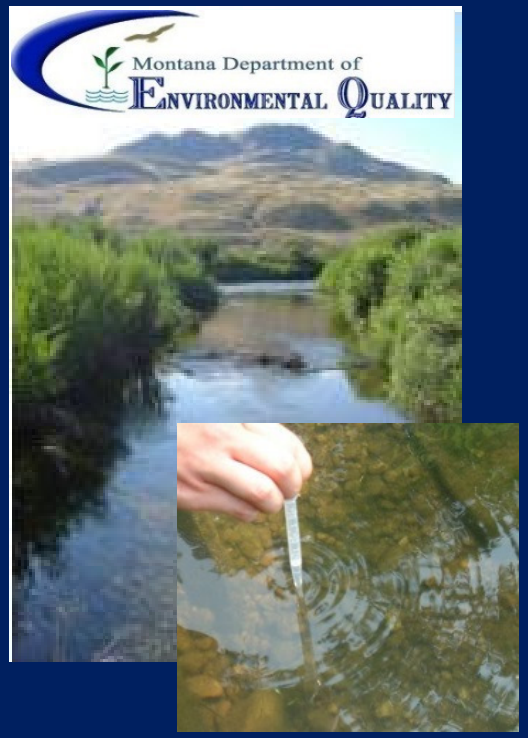


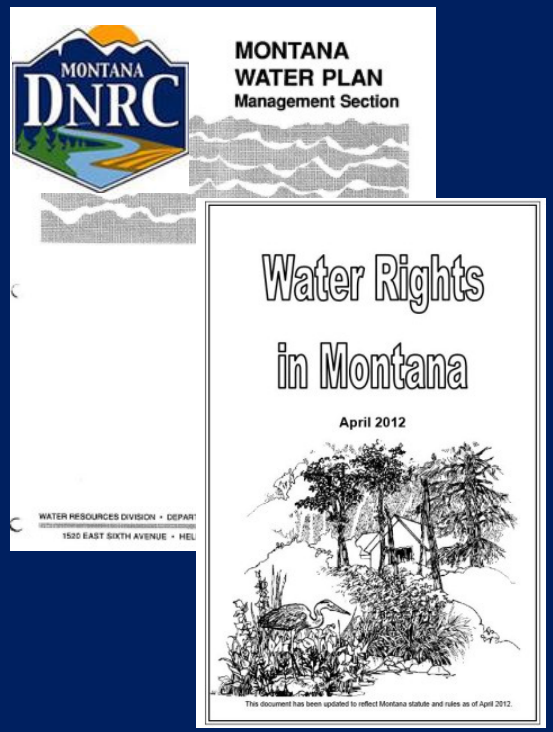
MSDI Framework Data are the official sources of data for their respective topics and have priority above other sources.

Theme	Steward	Theme Lead	Status
Administrative Boundaries*	MSL	Erin Fashoway	In Progress/Maintenance
Cadastral*	MSL	Keith Blount	Maintenance
Elevation*	USGS	Lance Clampitt	Maintenance
Geodetic Control*	MSL	Bob Holliday	Maintenance
Geographic Names	MSL	Gerry Daumiller	In Progress
Geology	Bureau of Mines & Geology	Paul Thale	Maintenance
Hydrography*	MSL	Troy Blandford	Maintenance
Hydrologic Units	NRCS	Tom Potter	Maintenance
Land Use / Land Cover	MT NHP	Linda Vance	In Progress/Maintenance
Orthoimagery*	MSL	Stu Kirkpatrick & Evan Hammer	Maintenance
Soils	NRCS	Cathy Maynard	
Structures and Addresses	MSL	Michael Fashoway	In Progress
Transportation*	MSL	Stu Kirkpatrick (temporary)	Maintenance
Wetlands	MT NHP/DEQ	Karen Newlon and Lynda Saul	In Progress

Why a Water Information System?

- To facilitate water data discovery and access
- To facilitate data sharing opportunities





How did the WIS come about?

1986
DNRC's
Montana Water Plan

1997
MCA establishes the WIS

Toward a common spatial hydrography framework (GIS)

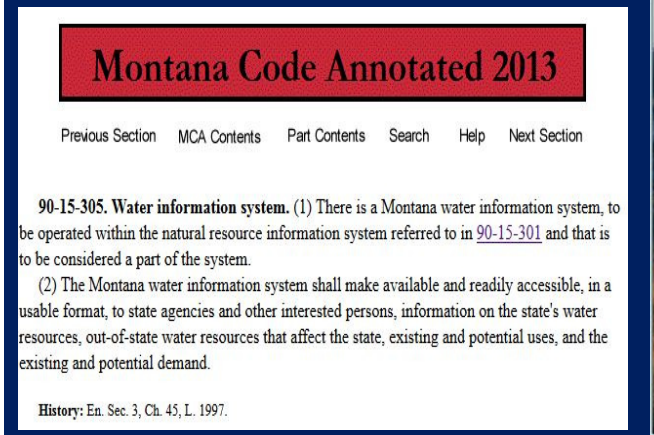
1990 1995 2000 2005 2010 2015

1993
NHD begins

2007
State Library becomes the steward of NHD

Through Present
A website-based discovery hub for water information

Past



Montana Code Annotated 2013

Previous Section MCA Contents Part Contents Search Help Next Section

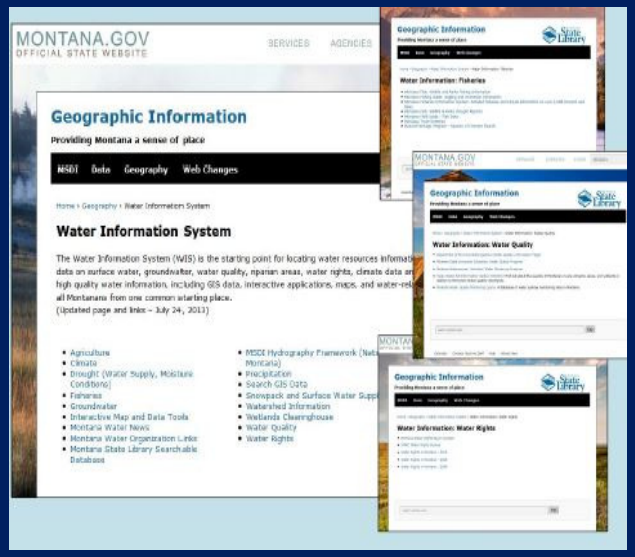
90-15-305. Water information system. (1) There is a Montana water information system, to be operated within the natural resource information system referred to in 90-15-301 and that is to be considered a part of the system.

(2) The Montana water information system shall make available and readily accessible, in a usable format, to state agencies and other interested persons, information on the state's water resources, out-of-state water resources that affect the state, existing and potential uses, and the existing and potential demand.

History: En. Sec. 3, Ch. 45, L. 1997.

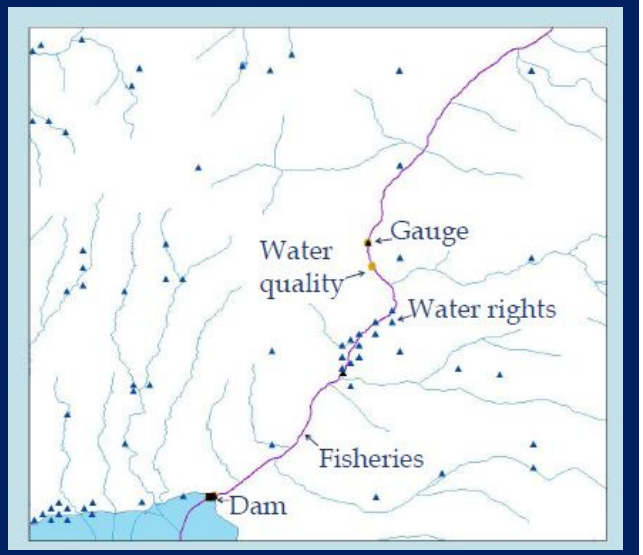
MCA 90-15-305 establishes the Water Information System

Present



A website-based discovery hub for water-related information

Future



Toward a common spatial hydrography framework (GIS)

Past

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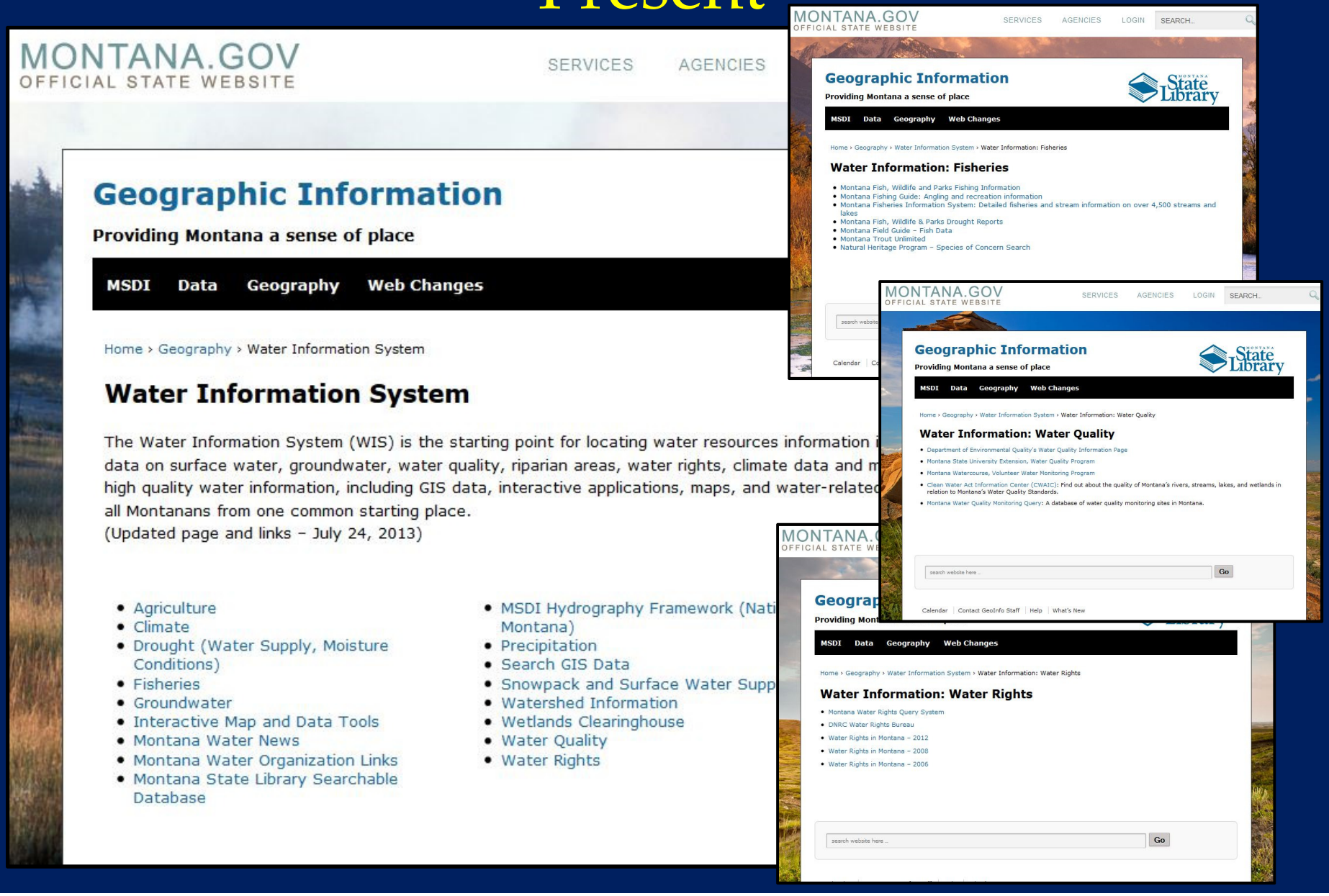
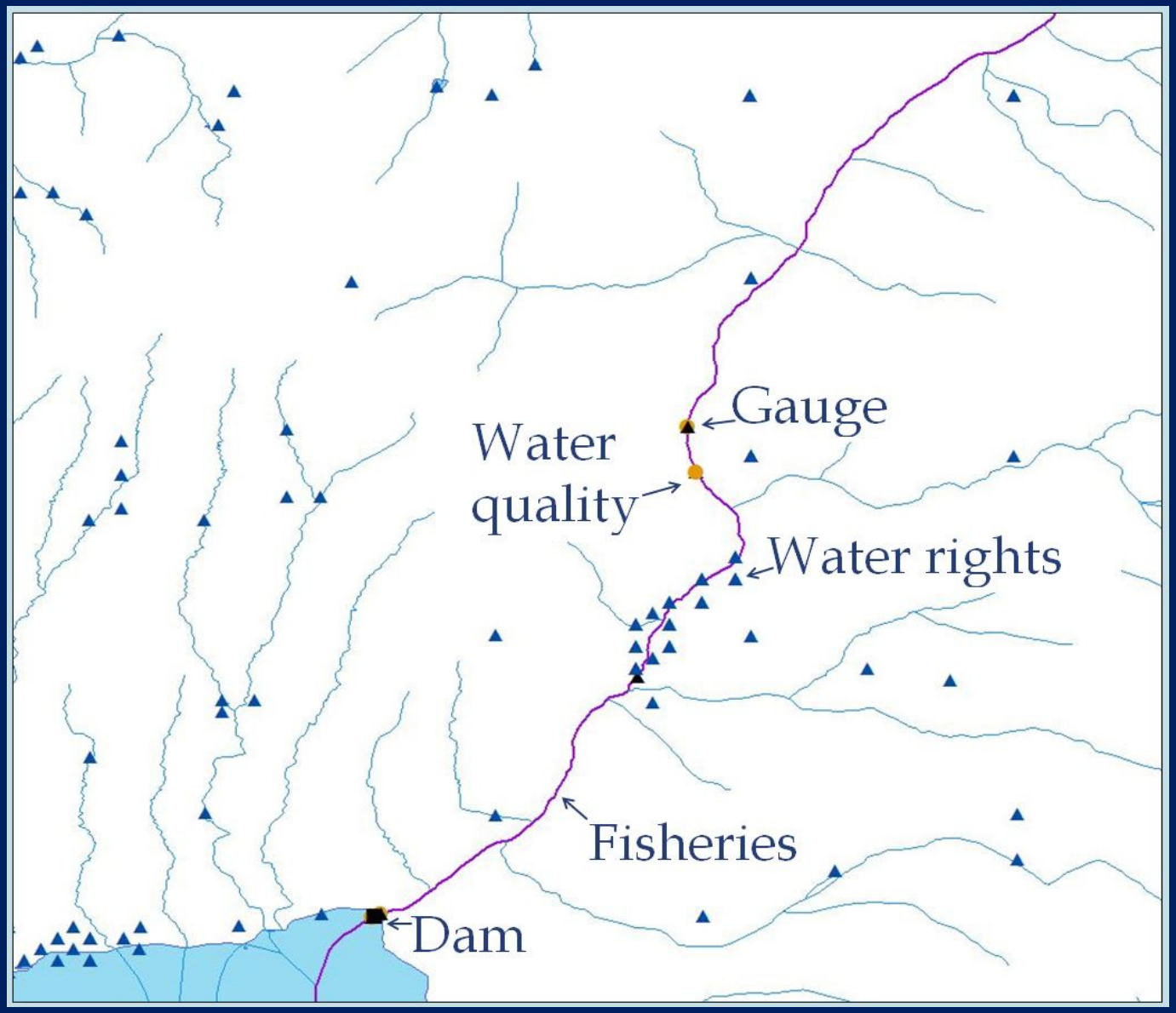


http://geoinfo.montanastatelibrary.org/geography/water/

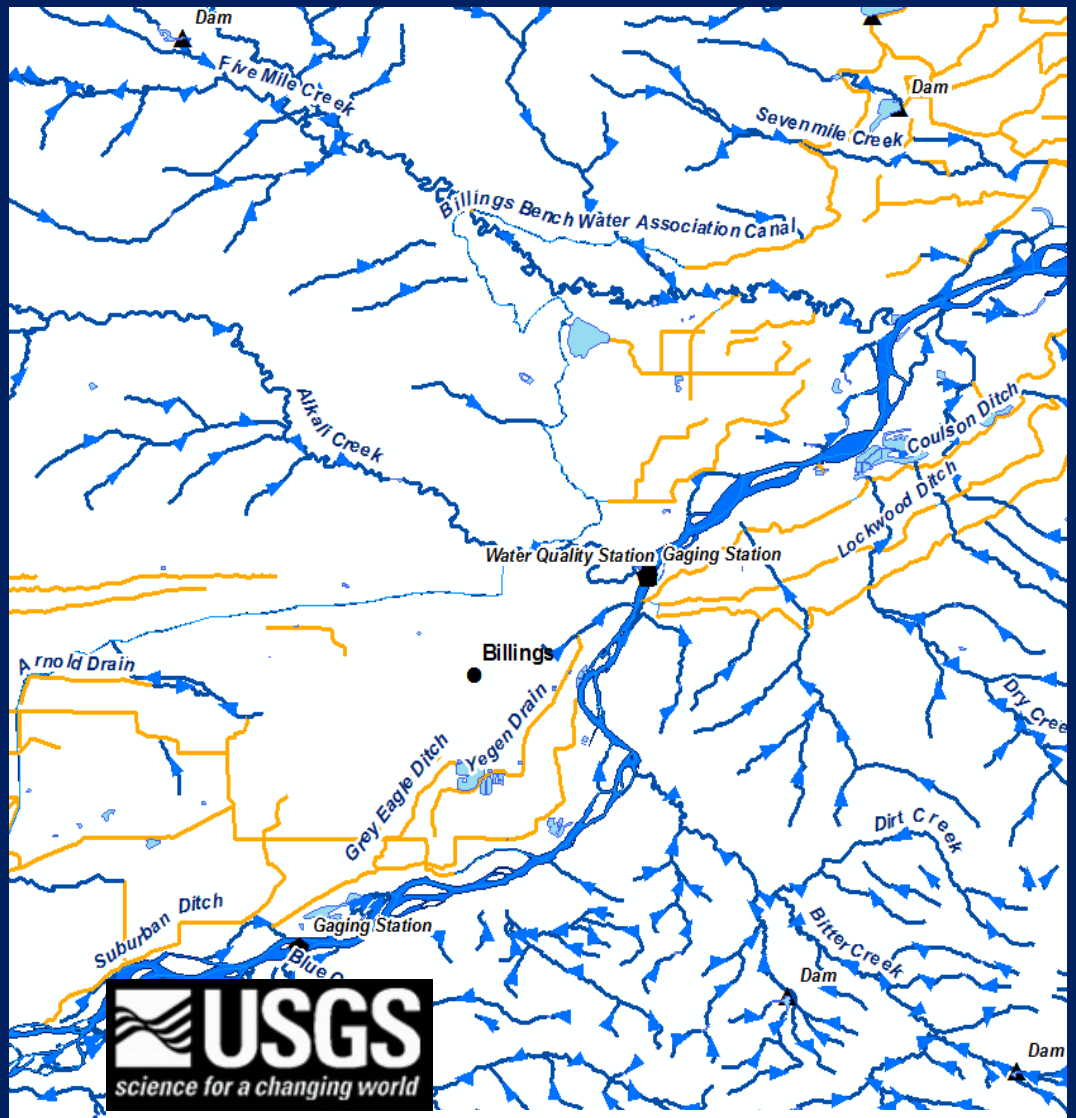
Future



A common spatial hydrography framework (GIS)

What is the National Hydrography Dataset?

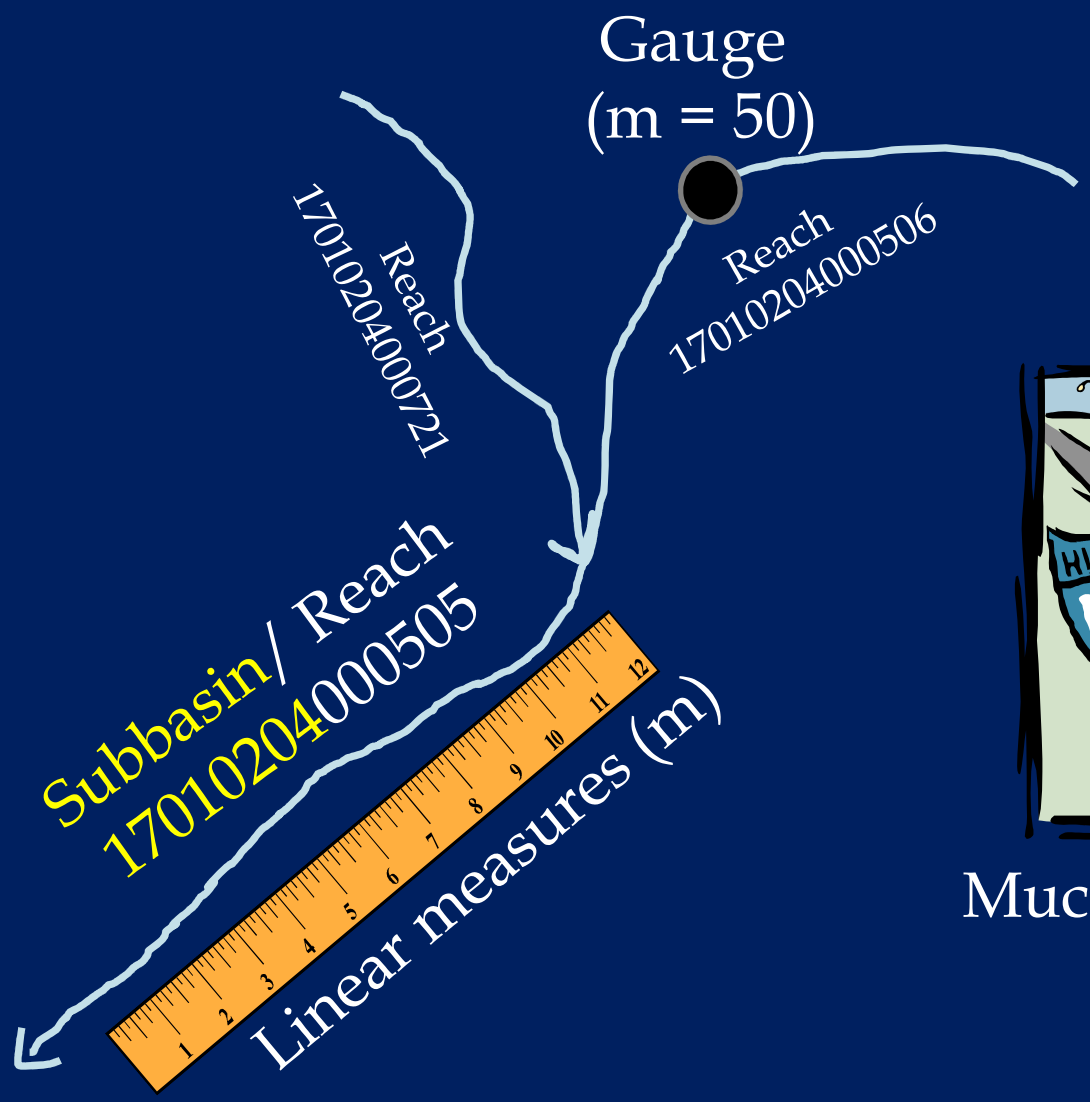
- A comprehensive set of digital spatial data representing the nation's surface water features:
  - Lakes/ponds (200K +)
  - Rivers/streams (170K+ mi)
  - Springs (10,661)
  - Waterfalls (364)
  - Gauges (4956)
  - WQ Stations (3190)
  - Dams (3699)
  - Wells (5835)
  - And more! . . .



NHD high-resolution (24K)

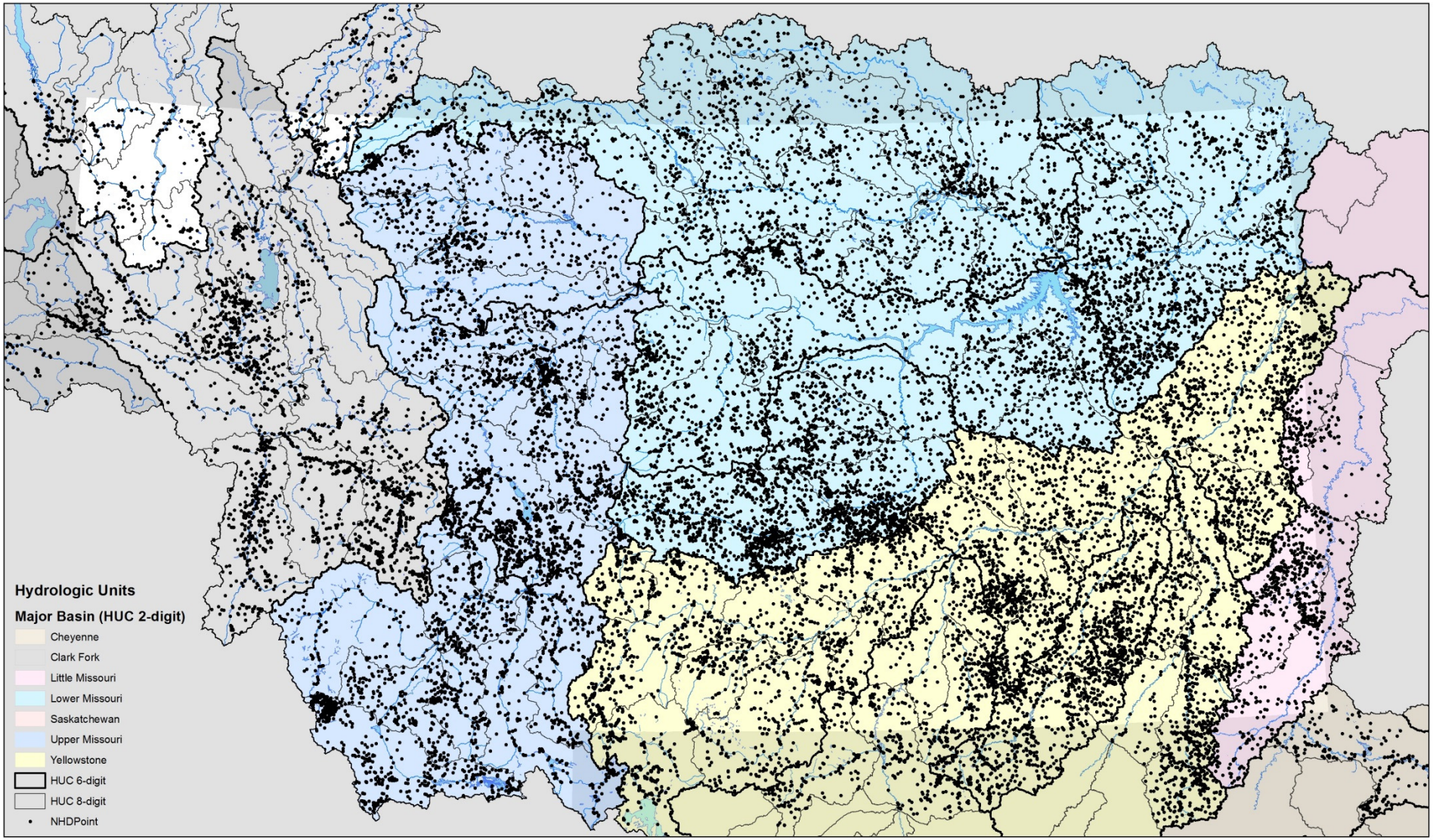
What does the NHD provide?

- A nationally consistent addressing system for water data



Much like addresses on a street

Hydrologic Boundaries and Major Rivers of Montana



The NHD provides vast opportunity for discovery of water-related data

Timeline

1986
DNRC's
Montana Water Plan

1997
MCA establishes the WIS

1990 1995 2000 2005 2010 2015

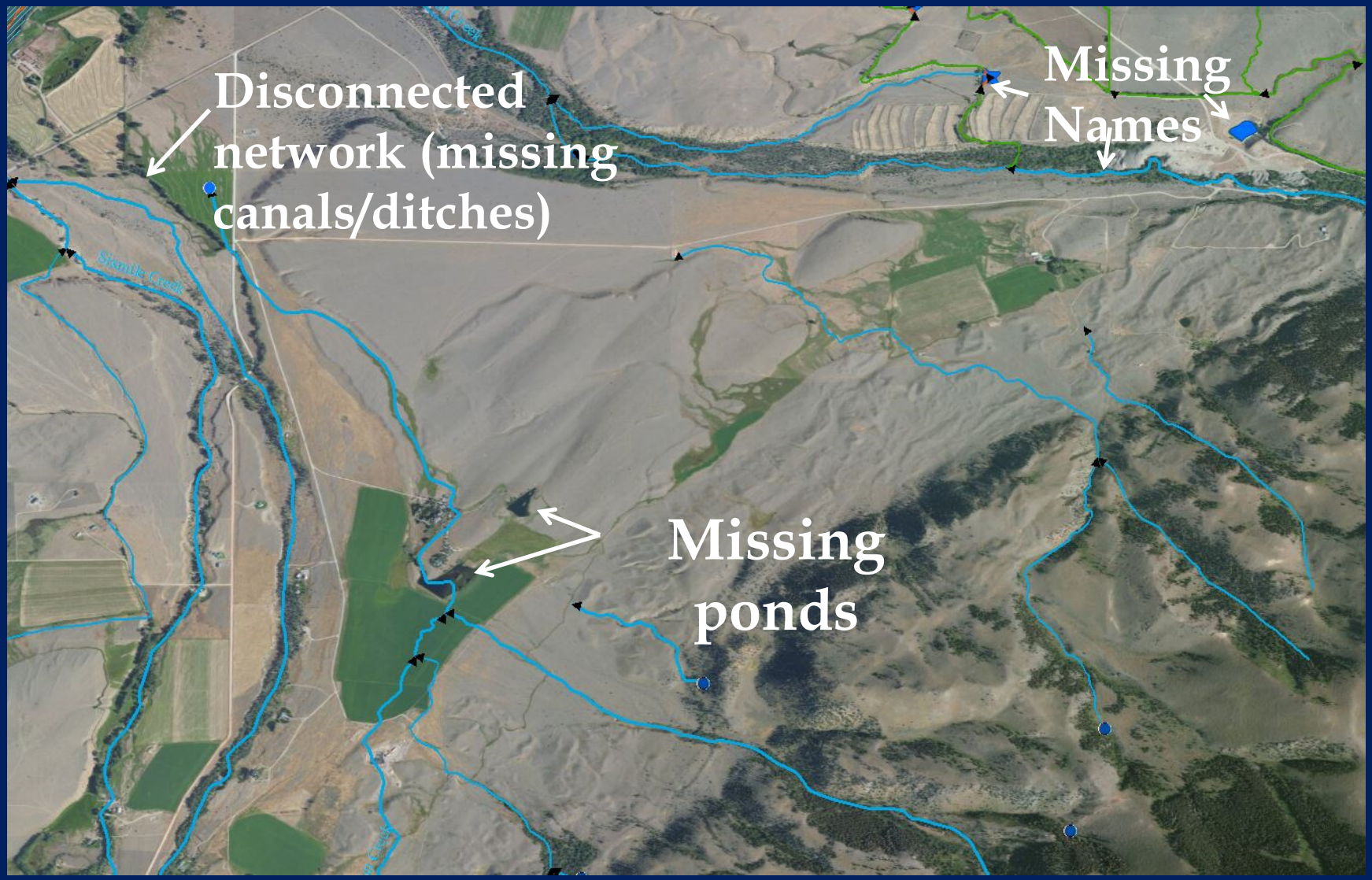
Toward a common spatial hydrography framework (GIS)

1993
Early beginnings of NHD

2007
State Library becomes the steward of the NHD

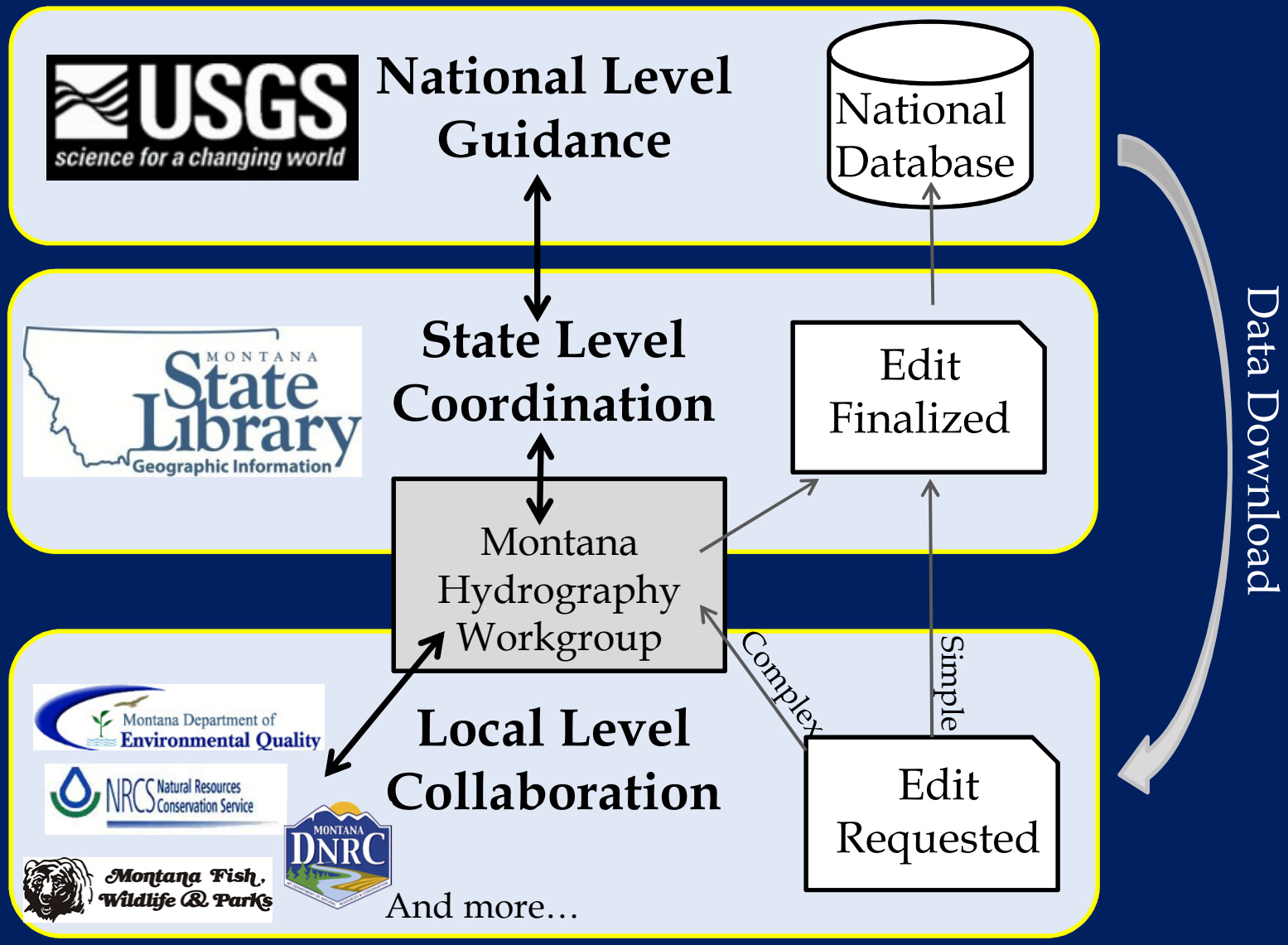
Through Present
A website-based discovery hub for water information

First things first



We need a solid **Montana** Hydrography Dataset first!

NHD Stewardship



Get Involved

- Join the Montana Hydrography Workgroup (Google, "MAGIP Hydrography Workgroup")
- NHD Stewardship and Maintenance
  - Contact: geoinfo@mt.gov

Take Home Messages

- If you're looking for water data, think the Montana Water Information System
- The NHD is a powerful addressing system
- Strongly recommend using the NHD as the foundation for water-related projects
- NHD questions, data requests, and edits should be directed to the State Library (geoinfo@mt.gov)

Stay Tuned!

Time for Questions

Thanks!

WIS Manager Objectives

- Provide stewardship of the Montana Hydrography Dataset and advocate for its use as the best available hydrography data in the state and as an indexing/addressing system
- Coordinate and collaborate to make high quality water information available to all Montanans
- Manage and maintain the Water Information System web site as a discovery hub for information on Montana's water and provide tools for accessing and visualizing water-related information indexed to the Montana Hydrography Dataset

WIS FY 14-15 Tasks

FY 14 Highlights

- Core agency needs and outreach
- Develop workflow for submitting hydro edits (improved transparency)
- Identify features of importance to Montana
- Outline and implement systematic process for updating flowlines, waterbodies, and feature names in high priority area (to be determined)
- Coordinate with core agencies (dedicated assistance for MSDI Hydro-related projects)
- Training (reporting maintenance needs)

FY 15 Highlights

- Develop and publish hydro versioning model to buffer state needs
- Training (editors)
- Document ongoing maintenance needs and produce report for WPIC and/or others
  - -Assess long-term need for Water Information System Manager

Ongoing

- Montana Hydrography Workgroup (quarterly)
- Continual Hydrography maintenance
- Coordination with core state agencies
- Drought Advisory, Groundwater Advisory, WPIC, NHD Advisory and Technical Workgroups

Challenges

- Juggle national model requirements and Montana's needs
- Gain adoption of the Montana Hydrography Dataset within normal business operations
- Careful not to creep from the FY14-15 tasks (though remain dynamic and flexible)
- Watersheds and climate do not stop at state boundaries