

# Introduction to the National Hydrography Dataset (NHD)

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# Overview

- What is NHD?
- How is NHD used?
- Data structure
- How to acquire NHD data
- Demo

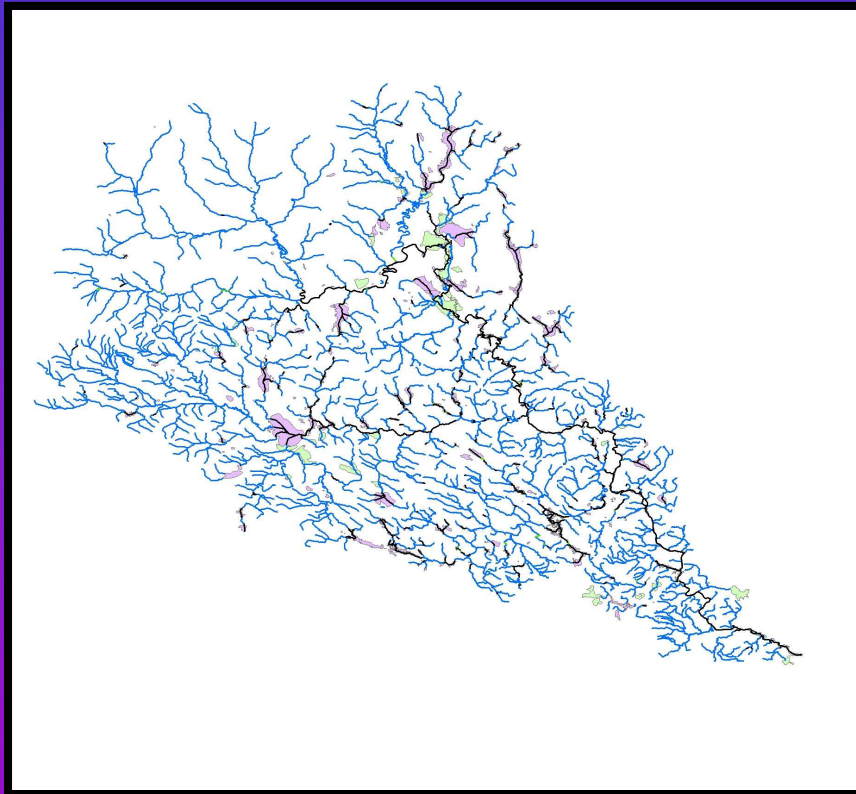
# What is NHD?

- Cooperative effort between the US Environmental Protection Agency (EPA) and the US Geological Survey (USGS)
- Enhancement to the USGS Digital Line Graph (DLG) data
  - Available nationwide at 1:100,000-scale (medium-resolution)
  - 1:24,000-scale data production in progress (high-resolution)
- Dataset comprises:
  - Reaches – a continuous piece of surface water with similar characteristics. Each contains a unique identifier referred to as a “reach code”.
  - Artificial paths
  - Connectors
- Linear features directed downstream
- Developed, maintained, and distributed by 8-digit cataloging unit (CU)

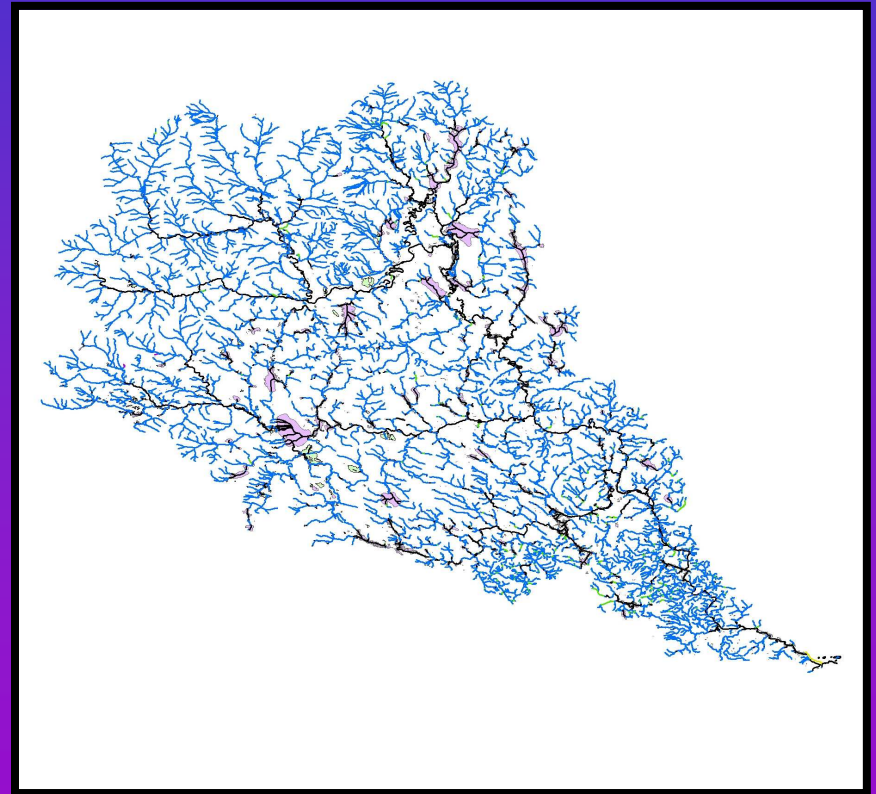
# What is NHD?

Scale

1:100,000 (Medium Resolution)



1:24,000 (High Resolution)

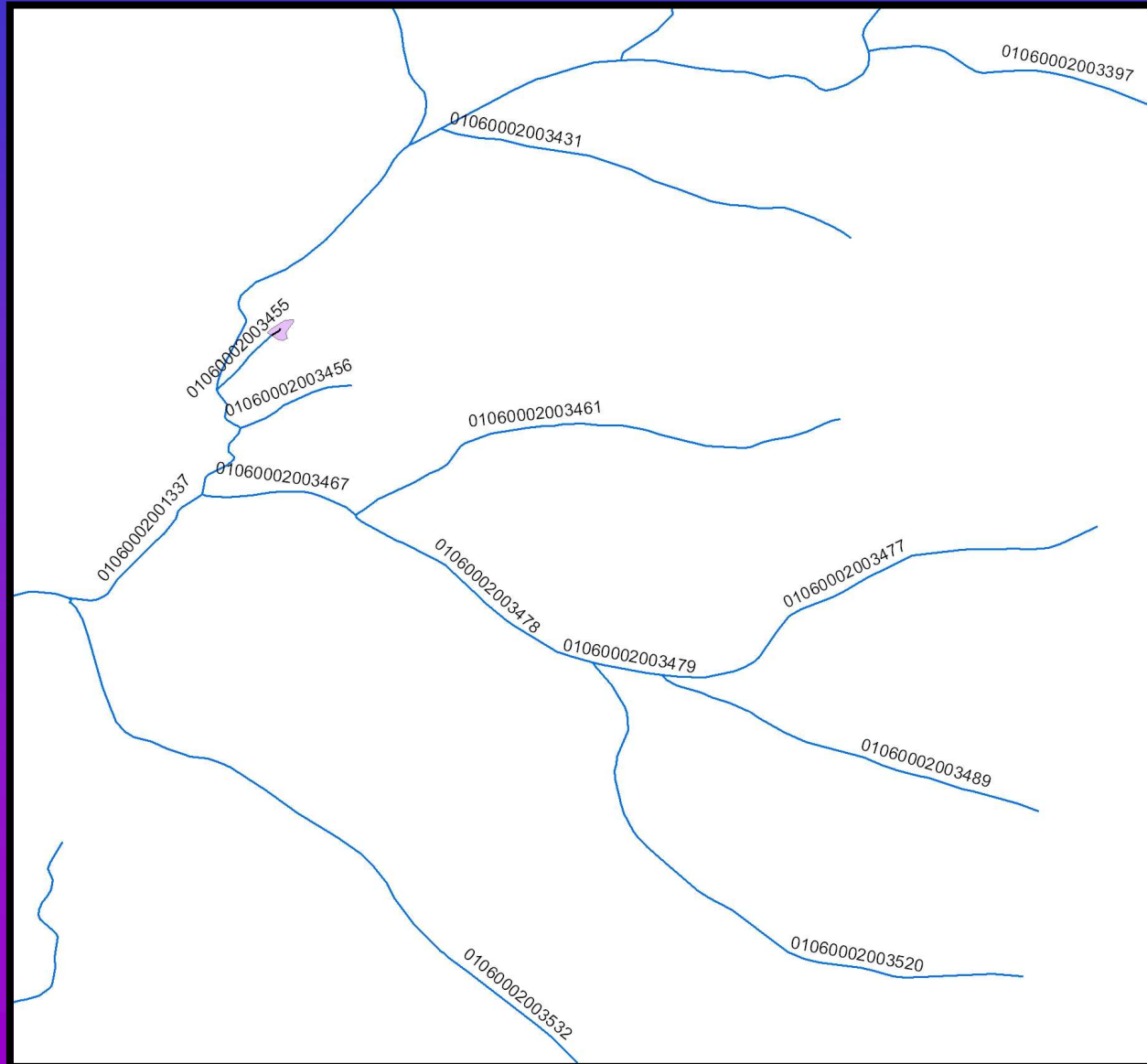


Saco River Cataloging Unit (CU)

Sept., 2007

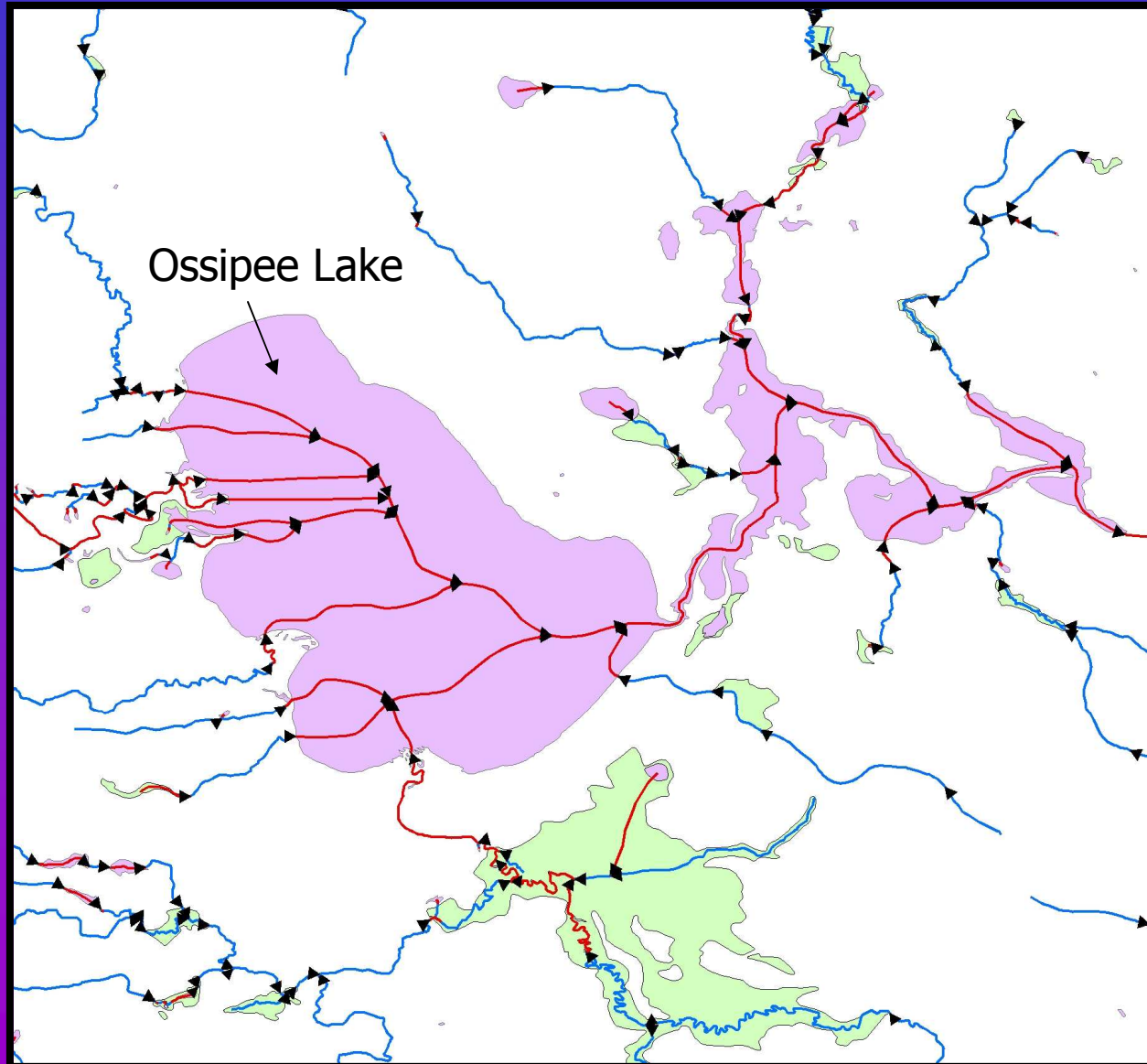
# What is NHD?

## Reach Codes



# What is NHD?

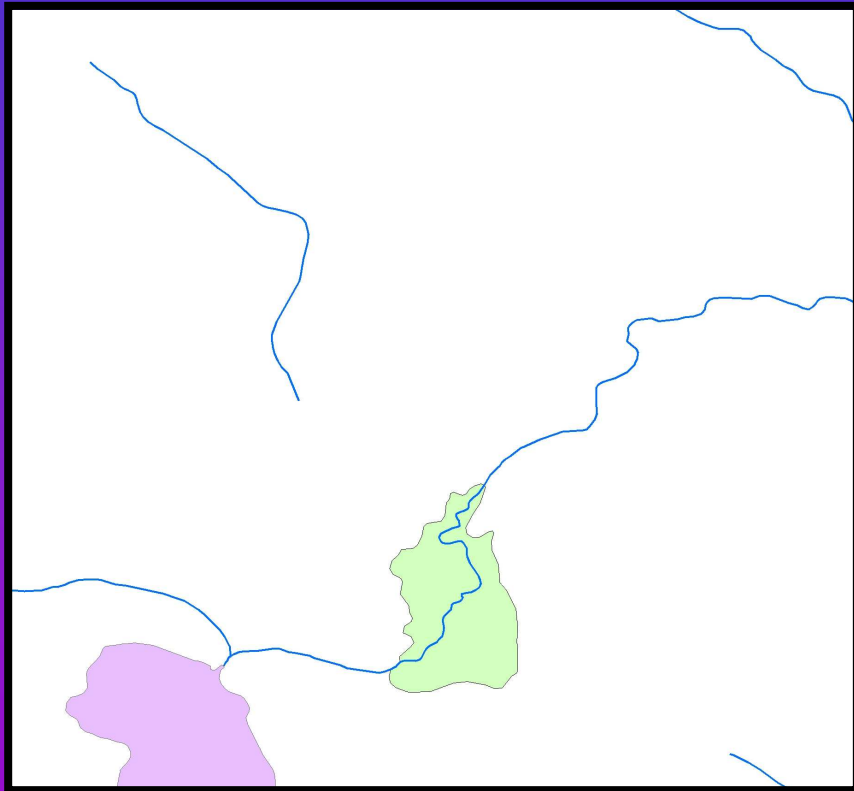
Artificial Paths / Flow Direction



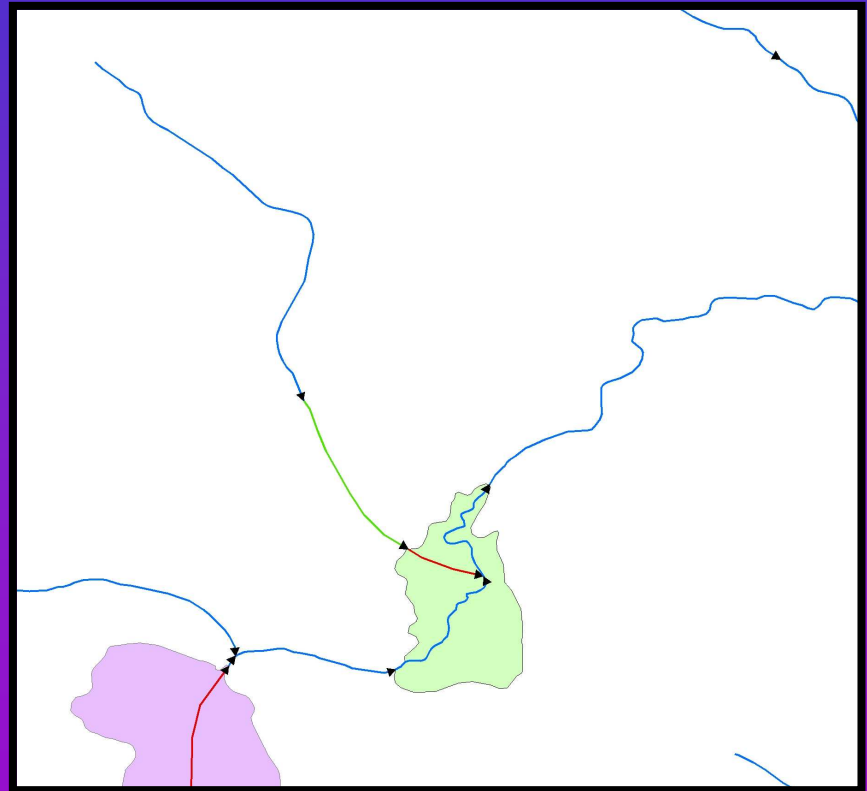
# What is NHD?

## Connectors

DLG



NHD



## How is NHD used?

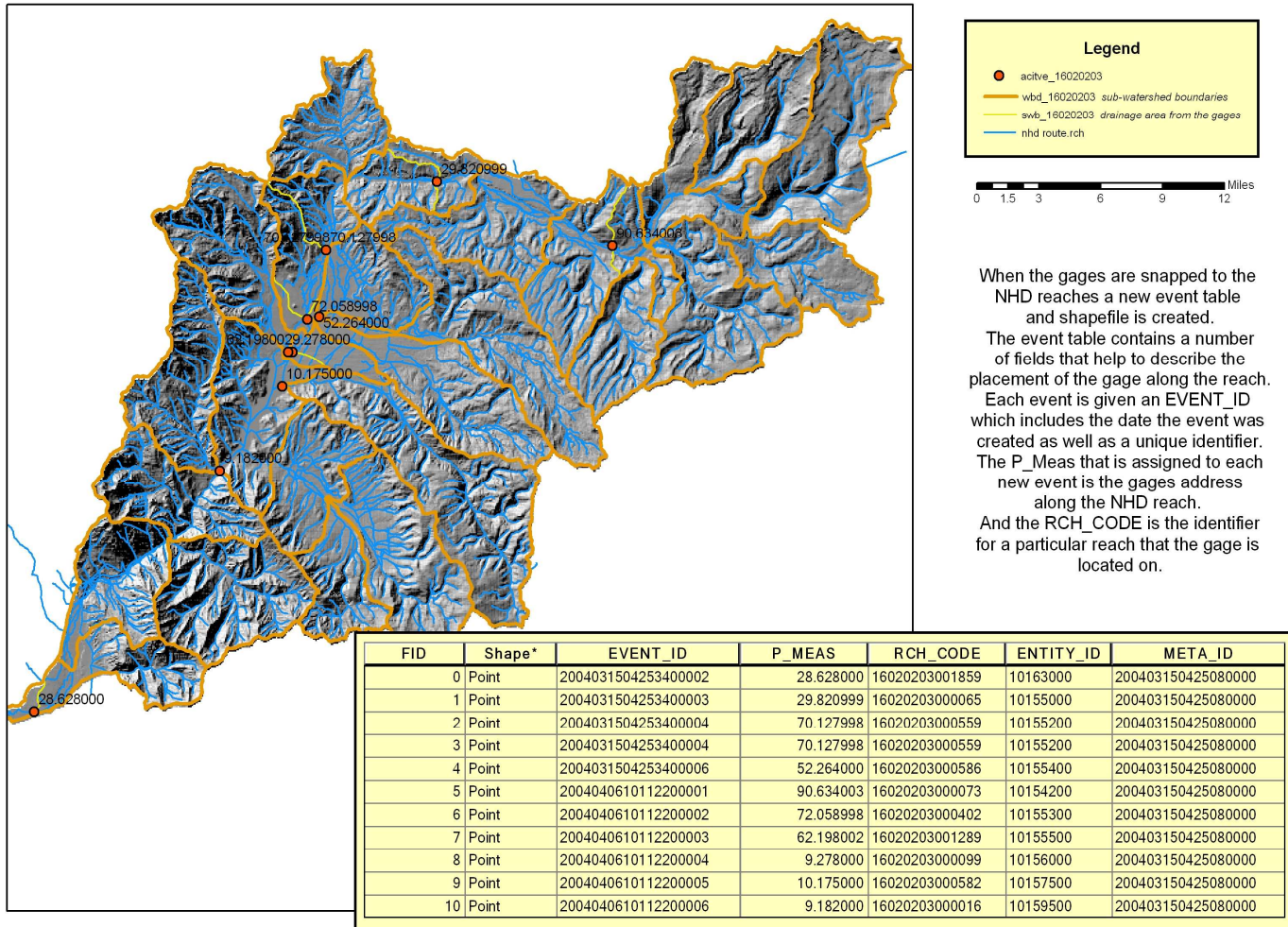
- Link event data
- Hydrologic navigation
  - Navigate in upstream or downstream direction
- Track changes to features
  - Track history of changes to data as local users verify data integrity



# How is NHD used?

## Event Data: Linking Streamgages to the NHD in Utah

Sub-basin 16020203 Active Streamgages



# How is NHD used?

## Event Data: Water Quality Monitoring

**St. Johns River  
Water Management District**

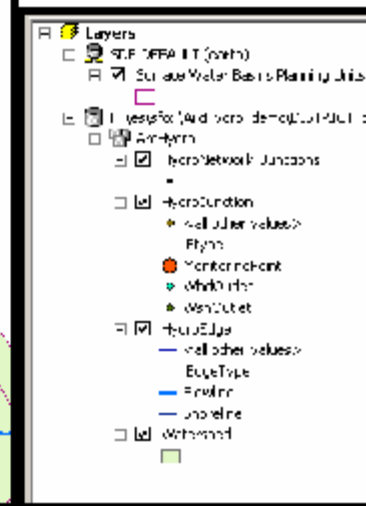
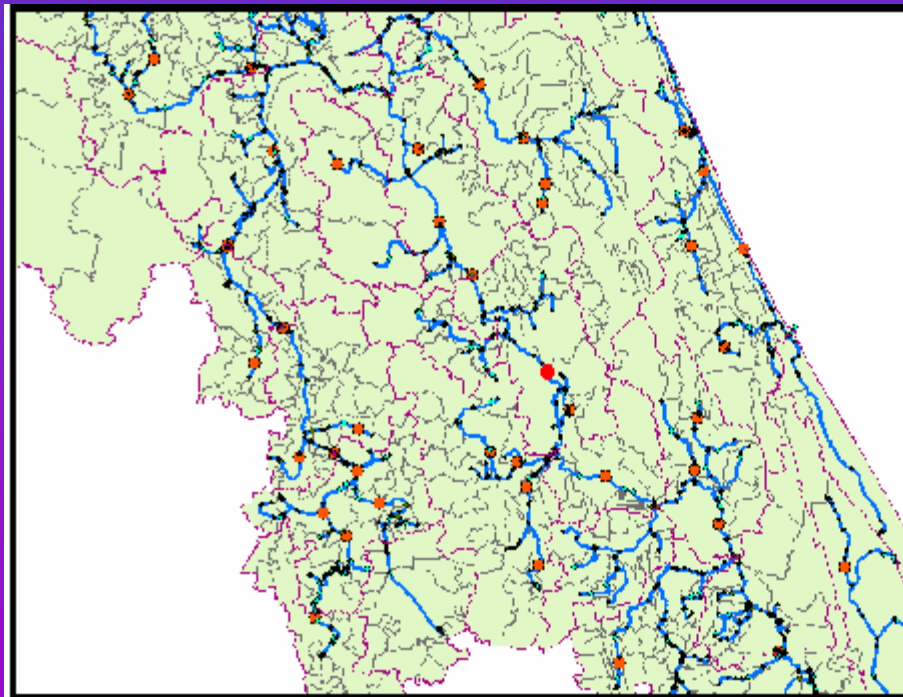
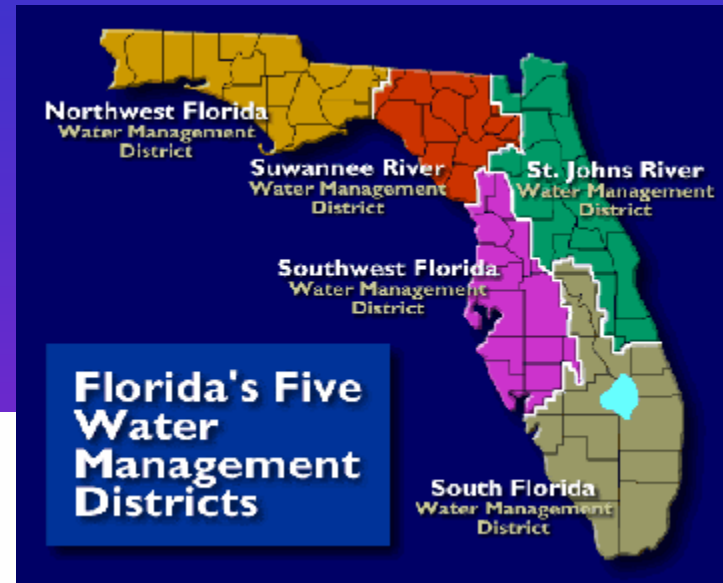
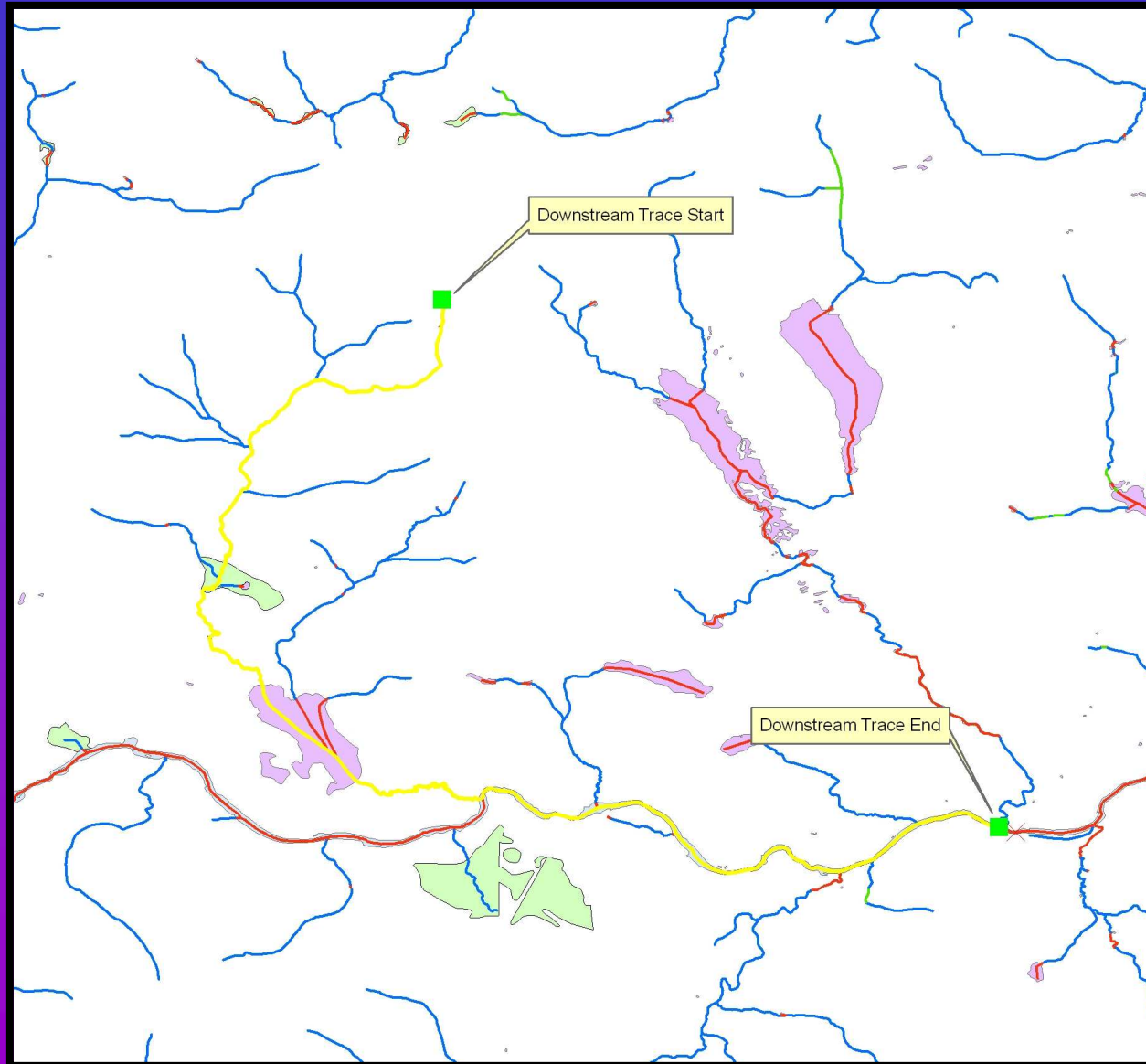


Figure 5. Water quality monitoring points (MonitoringPoint) in the Arc Hydro model.

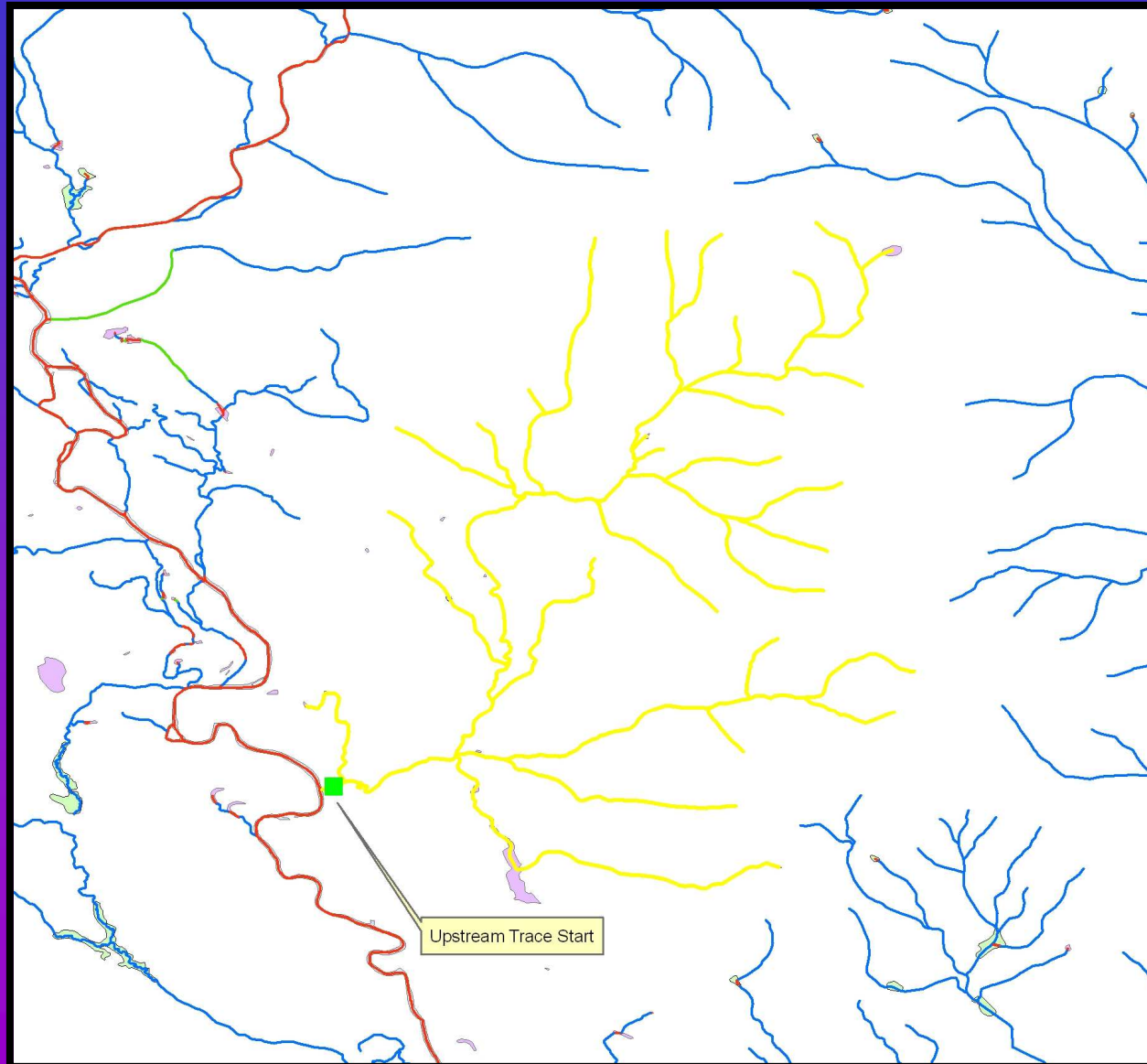
# How is NHD used?

## Hydrologic Navigation



# How is NHD used?

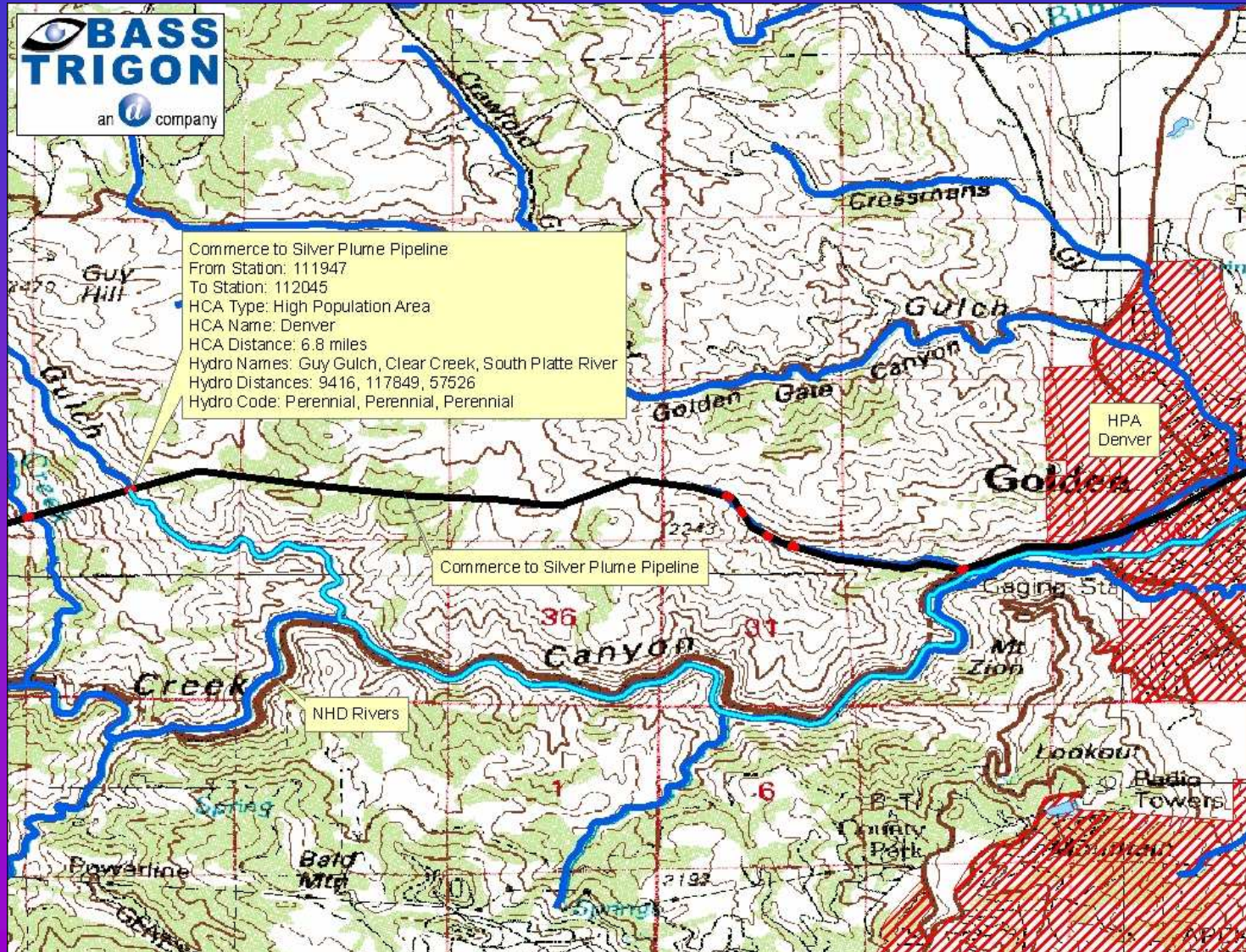
## Hydrologic Navigation





# How is NHD used?

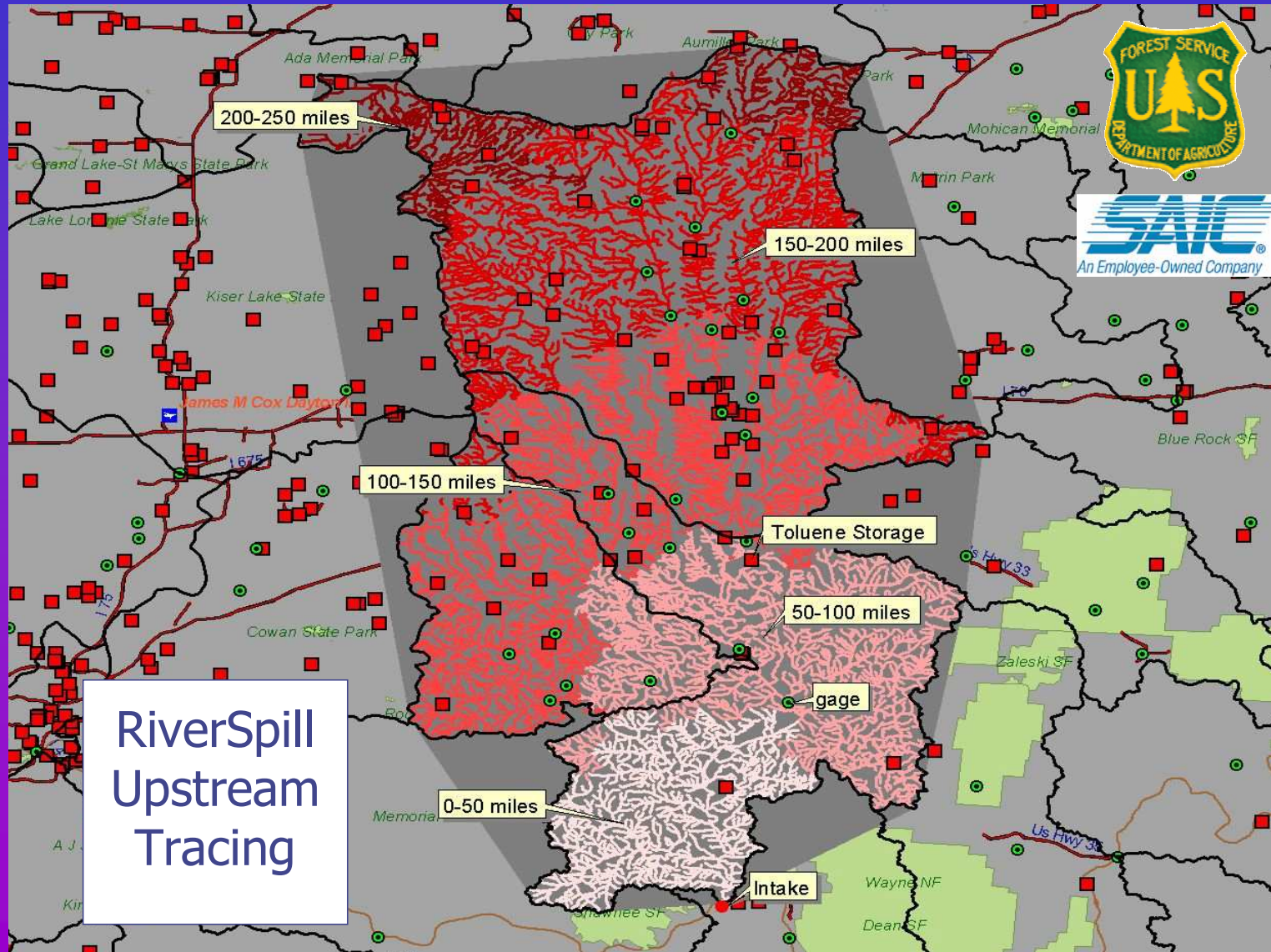
## Hydrologic Navigation: Pipeline Safety Analysis - Nationwide



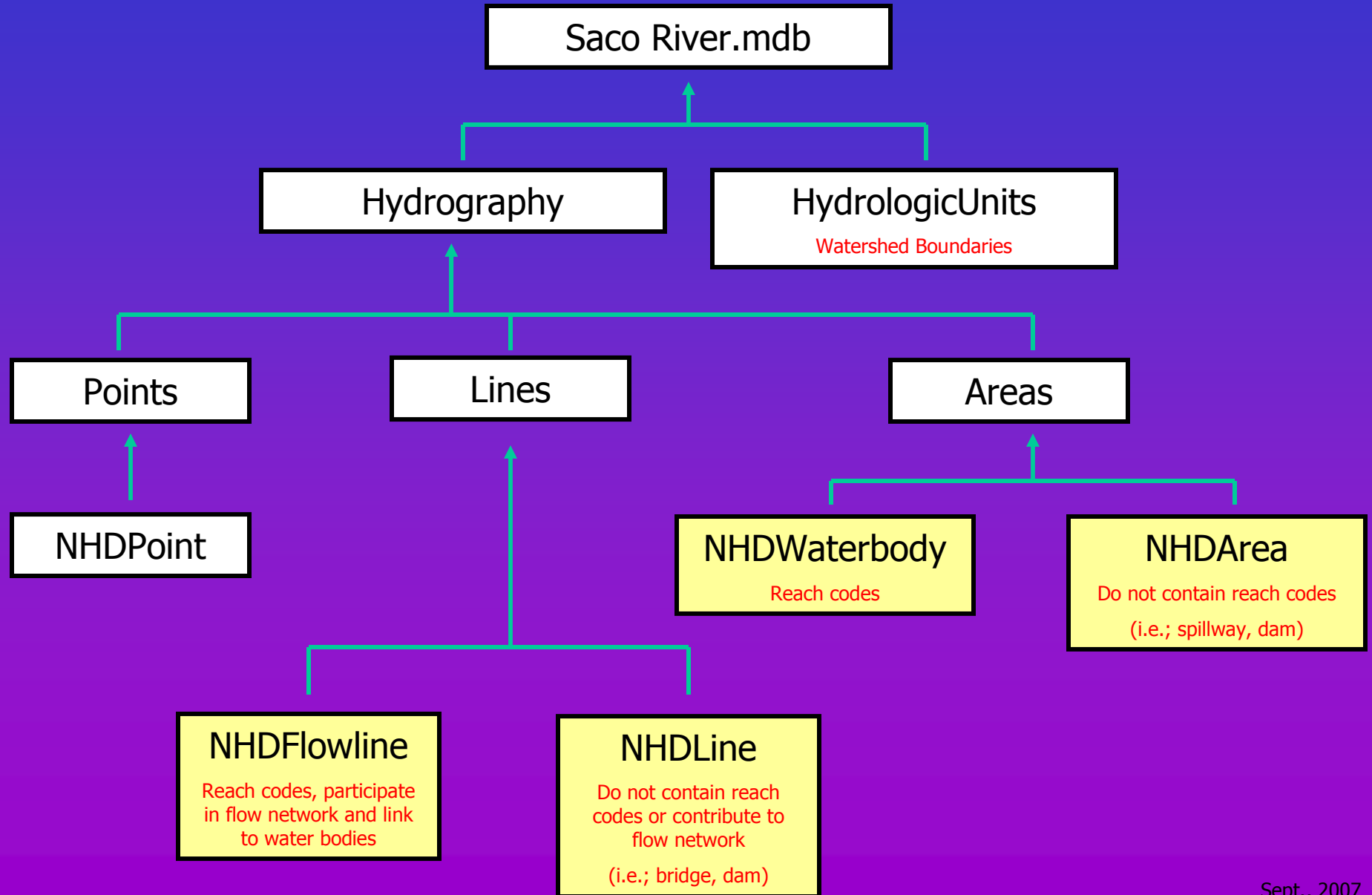


# How is NHD used?

## Hydrologic Navigation: Time-of-Travel Analysis



# Data Structure



# How to Acquire NHD Data

Download from the Internet:

**GRANIT Website**  
[www.granit.sr.unh.edu](http://www.granit.sr.unh.edu)



**For more information about NHD ...**

**NHD Home Page**  
<http://nhd.usgs.gov/>



## New Hampshire 8-Digit Cataloging Units



March, 2006

- 01040001 Upper Androscoggin River
- 01040002 Lower Androscoggin River
- 01060002 Saco River
- 01060003 Salmon Falls-Piscataqua Rivers
- 01070001 Pemigewasset River
- 01070002 Winnepesaukee River
- 01070003 Contoocook River
- 01070004 Nashua River
- 01070006 Merrimack River
- 01080101 Upper Connecticut River
- 01080103 Connecticut-Johns River to Waits River
- 01080104 Connecticut River-Waits River to White River
- 01080106 Connecticut-White River to Bellows Falls
- 01080107 Connecticut-Bellows Falls To Vernon Dam
- 01080201 Connecticut-Ashuelot River-Vernon Dam to Millers River
- 01080202 Connecticut River-Millers River

