

Region 8 Safe Drinking Water Program

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Coordinator
Office of Water Protection
**Transient Non-Community
Public Water System Training
April 2 & 4, 2019**



Brief History



Brief History

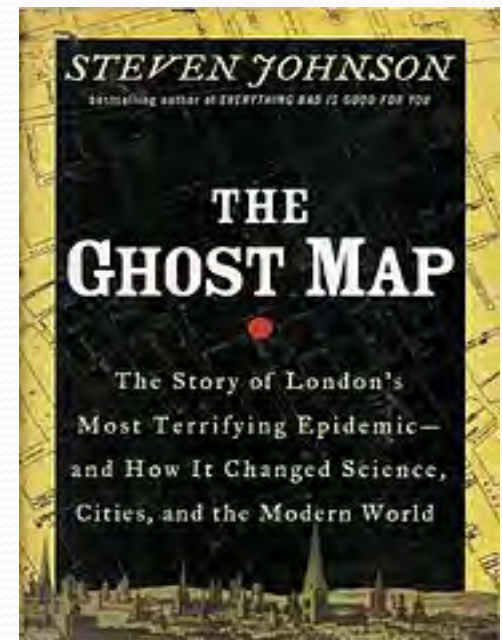
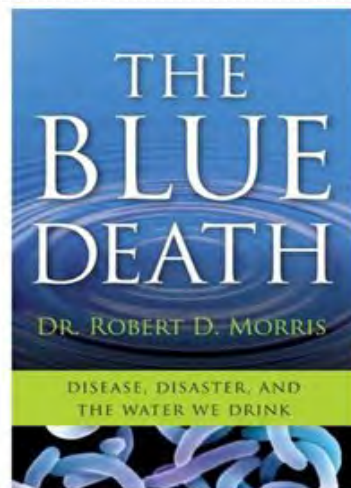
1500 BC – 200 BC

- Egyptians boiled water or dipped heated iron in water to make it potable
- Biblical reference Moses cleaned the water with a tree
- Hippocrates, the Greek Father of Medicine, created the Hippocratic Sleeve
- Romans developed aqueducts to transport water



Brief History

- In 1854, Broad Street Cholera Outbreak
 - Killed over 30,000 people in London
 - Epidemiologist, John Snow, mapped illness, linked outbreak to a hand pump contaminated by sewage



Brief History

- Philadelphia 1799 - built first public water system (PWS) in United States
 - pumped water from surface water source and distributed through a system of pipes
- By 1860, >400 water systems served US cities and towns.



Brief History



- Federal regulation of drinking water began in 1914
 - US Public Health Service (PHS) set standards for bacteriological quality of drinking water
 - Applied to water supplies serving interstate transportation
- By the early 1960s, more than 19,000 public water systems existed in US
- PHS survey 1969 – only 60% met current standards, major deficiencies

Brief History



- December 2, 1970 President Nixon created the Environmental Protection Agency (EPA)
 - Consolidated programs from 6 different federal agencies
 - Coordinate environmental research
 - Set and enforce consistent standards for land, air and water quality
 - Provide financial and technical assistance to the states
 - Create new policies for environmental protection





DANGER
WATER POLLUTED
NOT FIT
FOR SWIMMING
OR DRINKING





Safe Drinking Water Act

The Safe Drinking Water Act (SDWA)

- In 1974 the Safe Drinking Water Act was passed by Congress and signed by President Ford
- Protects public health by regulating the nation's public drinking water supply
- Concern over cancer-causing chemicals in New Orleans and Pittsburgh water supplies
- Lead contamination in Boston water pipes
- Foul odors and taste in cities and towns
- Created interim drinking water standards
- Enforced by states and EPA



President Ford's Statement, 1974

Nothing is more essential to the life of every single American than clean air, pure food, and safe drinking water. There have been strong national programs to improve the quality of our air and the purity of our food. This bill will provide us with the protection we need for drinking water.



Nitrate and Nitrite Rule

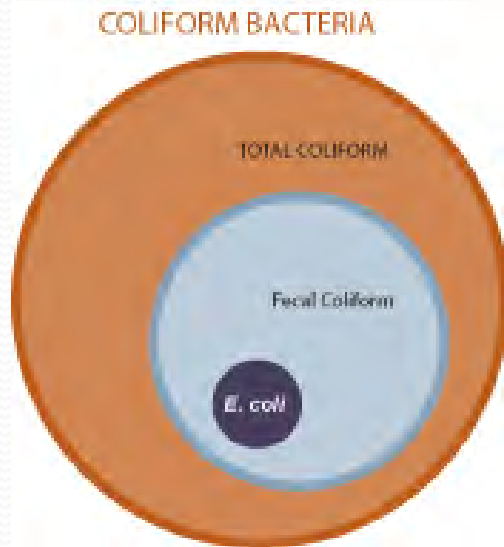
- Nitrate and Nitrite acute contaminant rule effective since 1993. Applies to all public water systems except water systems that purchase water (consecutive systems)
- Rule is to protect against the results of methemoglobinemia (minimizes the transport of oxygen through the blood)
- Sample collection at Entry Point to Distribution representative of treated water
 - Monitoring frequency quarterly or annually

Ground Water Rule

- Ground Water Rule went into effect December 2009
 - Created to provide additional protection against fecal contamination in ground water systems.
 - Addresses risks through:
 - 1) Triggered monitoring
 - 2) Identifying significant deficiencies found in sanitary surveys (every 5 years)

Total Coliform Rule

The goal of the original 1989 Total Coliform Rule was to protect public health by ensuring the integrity of the drinking water distribution and monitor for the presence of microbial contamination.



The **Revised Total Coliform Rule (RTCR)** (April 2016) has greater public health protection by requiring systems vulnerable to microbial contamination to identify and fix problems.

“Find and Fix method”
level 1 and 2 assessments



EPA Region 8 Drinking Water Program Responsibilities



EPA Region 8 Drinking Water Program Responsibilities

- The SDWA was designed for states with Primacy to manage
- 10 EPA Regional offices implement SDWA in areas without Primacy
 - Wyoming
 - District of Columbia
 - Native American Tribes except Navajo
 - Puerto Rico, US Virgin Islands
 - Guam, American Samoa



- Regulations are Compiled in the Code of Federal Regulations <https://www.govinfo.gov/app/collection/cfr>:
 - Part 141 – National Primary DW Regulations (NPDWRs)
 - EPA Region 8 Direct Implementation (DI) can only implement the regulations in 40 CFR Part 141
 - e.g. Part 142 requires states with primacy to have... adequate resources, legal authority to implement and enforce regulations at least as strict as the NPDWRs, and enforceable design/operating criteria for filtration treatment or a permit system...
- Other Regulatory Documents:
 - Safe Drinking Water Act (SDWA)
<https://www.govinfo.gov/content/pkg/CPRT-106SPRT67528/pdf/CPRT-106SPRT67528.pdf>
 - Federal Register <https://www.federalregister.gov/>

Water Division

Safe Drinking Water Branch

- Bahrman Supv.

Drinking Water A Section

- Kahn Supv. - Jirik
- Copeland - Morrison
- Vacancy - St. Clair
- Gindelberger - Tourney
- Harris - Hutchinson

Drinking Water B Section

- Diaz Supv. - Meredith
- Burkland - Vacancy
- Cannon - Kraidy
- Clement - Griese
- Crosby - Delano
- Le

Underground Injection Control

- Minter Supv. - Suchomel
- Boomgaard - Tinsley
- Bowling - Vacancy
- Cheung - Sierra-Lopez
- Shea

Immediate Office

- Division Director (O'Connor)
- Deputy Division Director (Garcia)
- Special Assistant (Schmit)
- Executive Assistant (Lucero)
- *Special Assistant (Hamilton)

Technical and Financial Services Branch

- Russo Supv. (14) - Friel
- Adams - Gonzales
- Berig - Maclear
- Cooper - Vacancy
- Dehnert - Rodriguez-S
- Dougherty - Trujillo

Clean Water Branch

- Miller Supv.

Wastewater Section

- Rathbone Supv. - Tien
- Clark - Zhang
- Garcia - Lozano
- Garrison - Vacancy

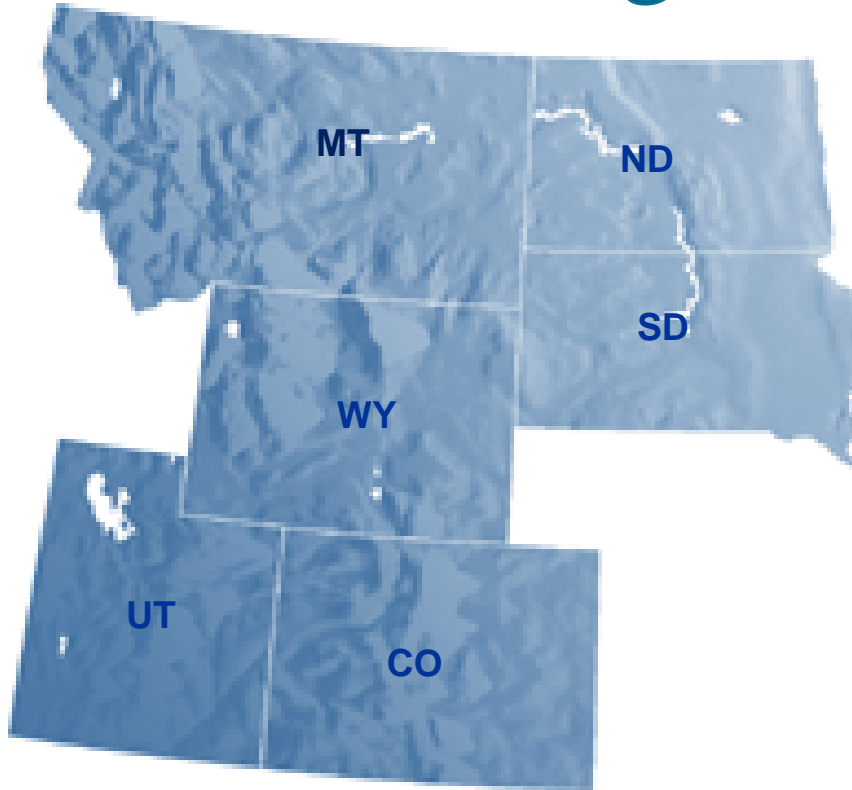
Water Quality Section

- Spence Supv. - Moon
- Fish - Parrish
- Hermann - Pierce
- Jensen - Reems
- Johnson - Rogers
- Laidlaw - Wirick

Watershed Section

- Bloom Supv. - Ismert
- Berry - Kinsey
- Brumm - Kleeman
- Gildea - Berkley
- Monahan - Basile
- Bunch - Code
- McCarthy - Ott

EPA Region 8 Drinking Water Program Responsibilities



- Direct implementation of SDWA in Wyoming and Indian Country
- State oversight of 5 Primacy states – they manage surveys, compliance, enforcement, and Technical Assistance
- Public Water System Supervision program oversight (state oversight)
- Water Emergency Response Team

What is Regulated under the NPDWRs?

- **RTCR (Revised Total Coliform Rule)** *Jamie Harris*
- **Nitrates** *Kyle St. Clair*
- **GWR (Ground Water Rule)** *Matt Langenfeld*
- **IOCs, VOCs, and SOCs (Phase II/V Chemicals)** *Kendra Morrison*
- **Radionuclides** *Kim Le*
- **SWTRs (Surface Water Treatment Rules)** *Jake Crosby*
- **D/DBPRs (Disinfectants and Disinfection ByProducts Rules)** *Seth Tourney*
- **LCR (Lead and Copper Rule)** *Vacant*
- **CCR (Consumer Confidence Report Rule)** *Nara Jirik*
- **Aircraft Drinking Water Rule** *Nara Jirik*
- **Regulatory Oversight/Inventory (WY and Tribal)**- *Bolor Bertelmann*

What does a Rule Manager Do?

- Ensure monitoring data is entered in SDWIS-State database system
- Evaluate the data to determine compliance –
 - Were the required samples taken?
 - Were they taken at the right time and place?
 - Were any trigger levels exceeded?
 - Increased sampling may be required
 - Additional notification, evaluation or treatment actions may be required
 - Issue violation letters for Failure To Monitor (FTM), Maximum Contaminant Level (MCL) or other issues
 - Provide a LOT of compliance assistance to 1000 operators – phone, email, presentations

Who Is Regulated Under the NPDWRs?

– Public Water Systems:

- 15 or more service connections or
- Regularly serves an average of 25 people/day for at least 60 days/year (does not have to be consecutive days)

EPA does not regulate private systems

<https://www.epa.gov/privatewells>



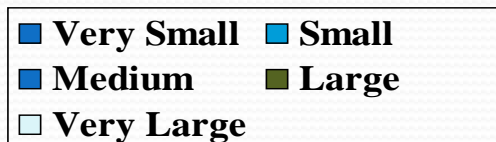
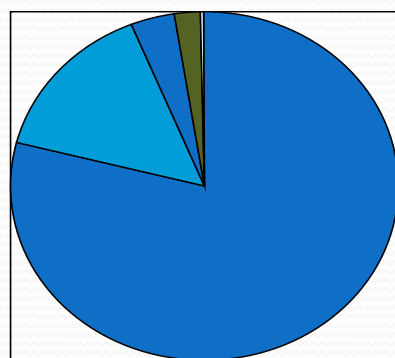
– Public Water Systems

- Community (CWS) serves at least 25 year round residents or has 15 service connections used by year round residents
- Noncommunity –
 - Nontransient (NTNC) serves at least 25 of the same people at least 6 months/year (school, factory)
 - Transient (TNC) does not serve at least 25 of the same people for 6 months/year (campground, dude ranch, restaurant)

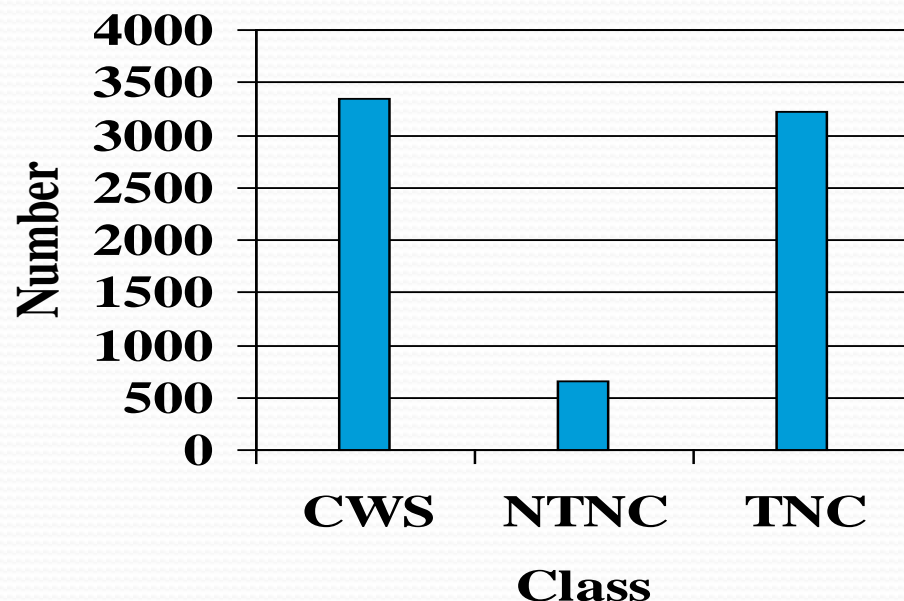


R8 Water Systems at a Glance

Water System Size



Water System Classification

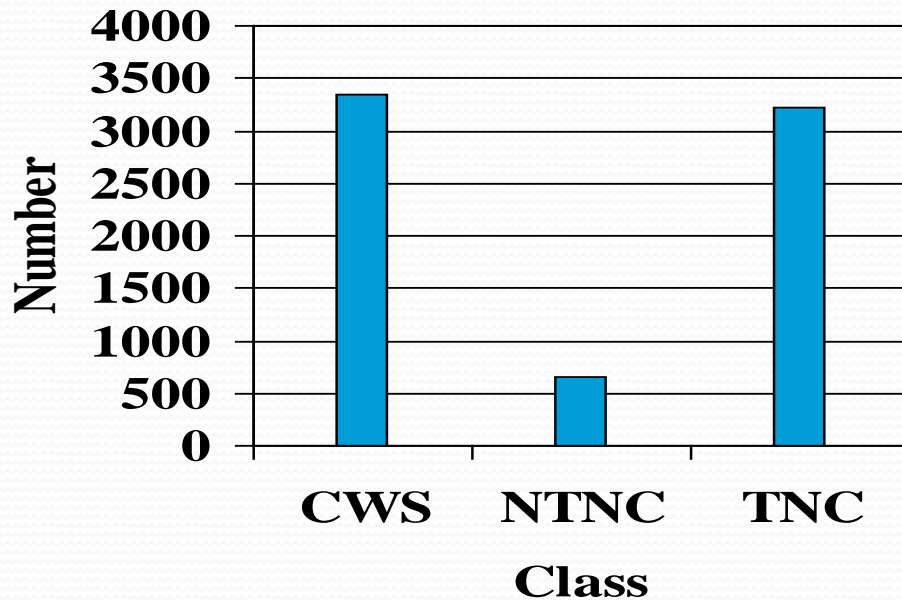


– 6 States

- 581,916 sq mi
- 13,068,273 population served
 - 77% drink surface water
- 7,353 PWSs
 - Denver, CO is largest @ 1,362,071

R8 Water Systems at a Glance

Water System Classification

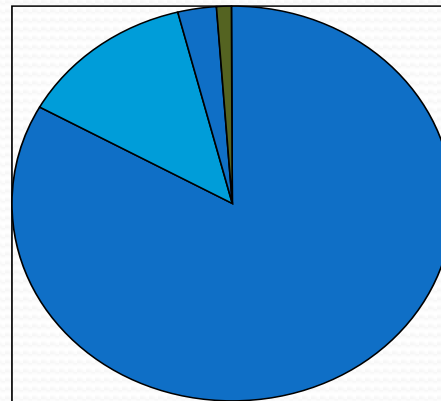


- Source Water Type
 - 80% Ground water
 - 20% Surface water

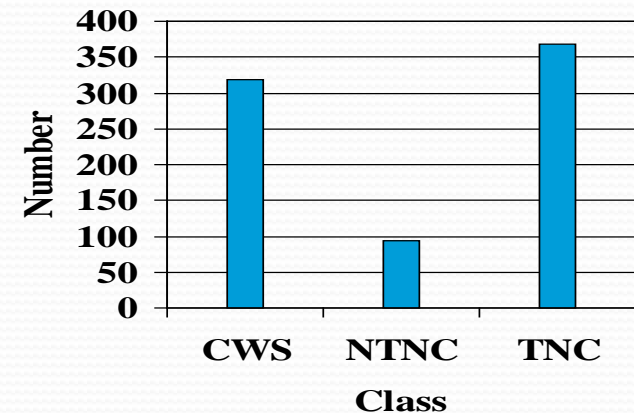


WY DI at a Glance

Water System Size



Water System Classification



Wyoming

- Region 8 EPA is the Primacy Agency
- 97,914 sq mi
- 590,269 population served
 - 62% drink surface water
- >781 PWSs
 - Cheyenne, WY is largest @ 58,182

Source Water Type

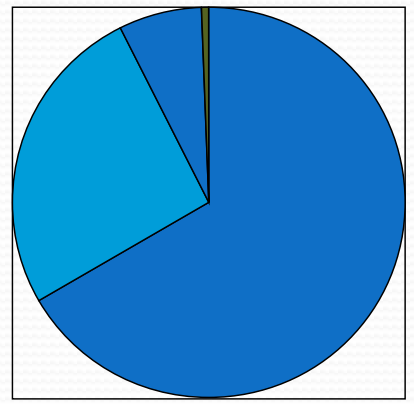
- 609 Ground water
- 26 Purchased GW
- 50 Surface water
- 75 Purchased SW
- 20 Ground water under the direct influence of surface water



R8 Tribal DI Program at a Glance

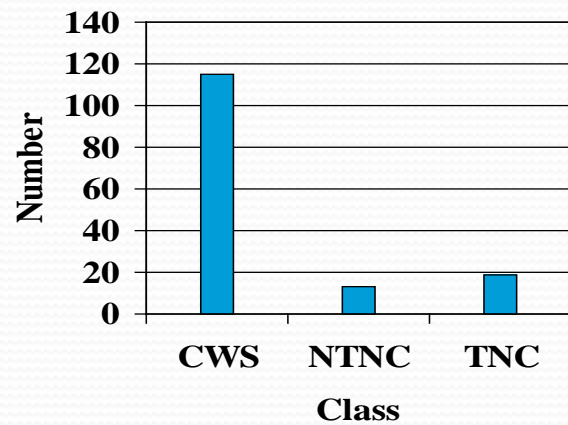
- 27 Tribes on 26 Reservations
 - Region 8 is the Primacy Agent
 - 46,644 sq mi
 - 139,875 population served
 - 53% drink ground water
 - 139 PWSs
 - Belcourt-Turtle Mountain RWS is largest @ 13,500

Water System Size








- Very Small
- Small
- Medium
- Large

Water System Classification



- Source Water Type
 - 87 Ground water
 - 12 Purchased GW
 - 16 Surface water
 - 29 Purchased SW
 - 3 Ground water under the direct influence of surface water

U.S. EPA Region 8 Reservations & Tribes

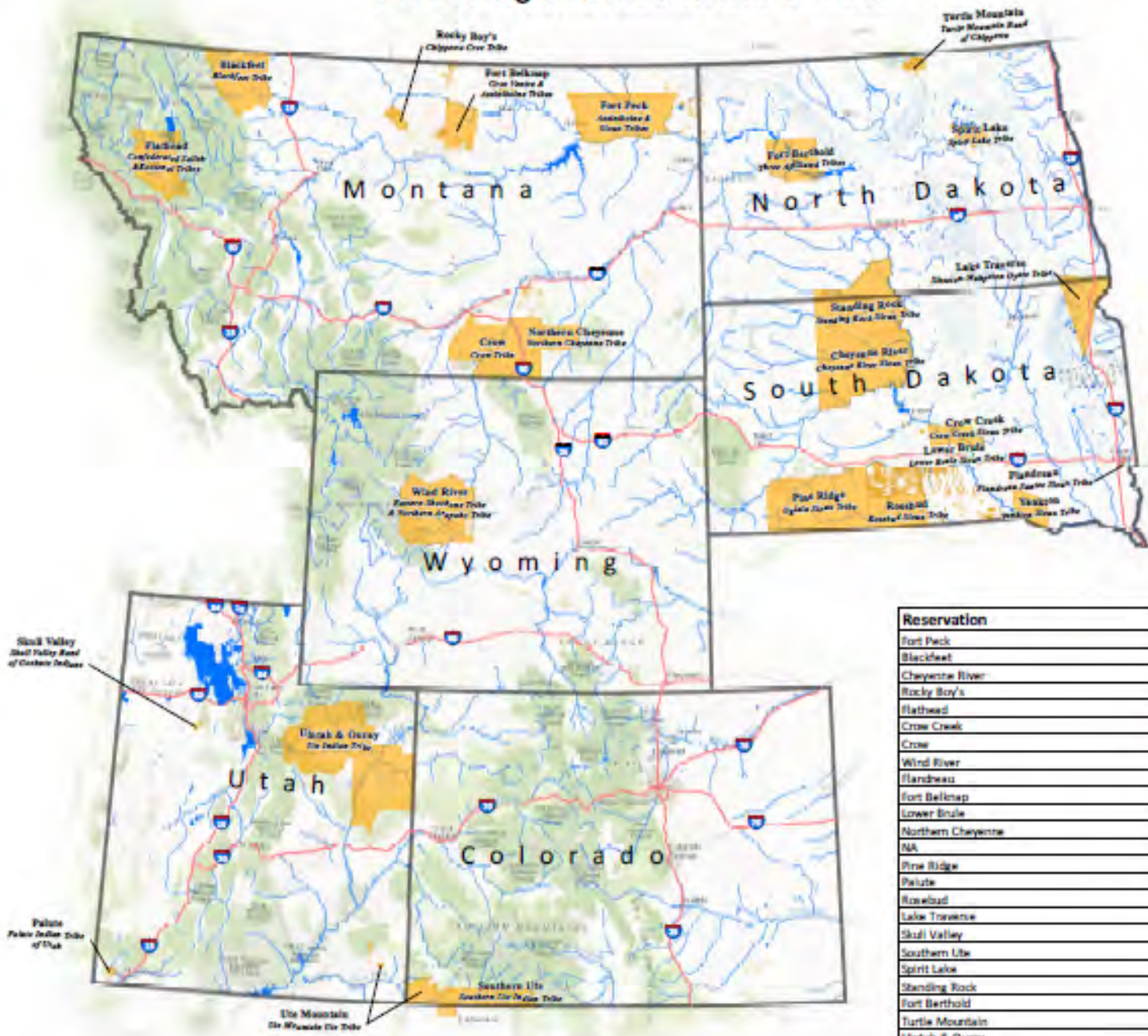
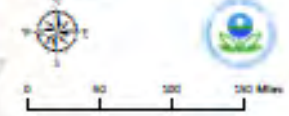
-  Interstate Highway
-  Tribal Boundary
-  State Boundary
-  Waterbody
-  River

Date: July 11, 2017

Data Sources:
 Base Map: NAD Topographic Webservice (2011)
 Coordinates: NAD83 (2011)
 Rivers: NHDPlus (2012)
 State Boundaries: U.S. Census Bureau (2010)
 Tribal Boundaries: U.S. Census Bureau (2008)
 Tribal and Reservation names are those used by the Tribal Assistance Program (TAP) and do not necessarily reflect those published by the U.S. Census Bureau.
 Waterbodies: NHDPlus (2012)

Map Coordinate System/Projection:
 Projection: Albers
 Central Meridian: -100°
 Standard Parallel 1: 38°
 Standard Parallel 2: 48°
 Latitude Of Origin: 47°
 Linear Unit: Meter
 Datum: North American 1983

Disclaimer: EPA makes no claim regarding the accuracy or precision of these data. Questions concerning the data should be referred to the source agency. This map does not necessarily represent EPA's position on any Indian Country boundaries or the jurisdictional status of any specific location.



Reservation	Tribe(s)
Fort Peck	Assiniboine & Sioux Tribes
Blackfeet	Blackfeet Tribe
Cheyenne River	Cheyenne River Sioux Tribe
Rocky Boy's	Chippewa-Crow Tribe
Rathaw	Confederated Salish & Kootenai Tribes
Crow Creek	Crow Creek Sioux Tribe
Crow	Crow Tribe
Wind River	Eastern Shoshone & Northern Arapahoe Tribes
Flandreau	Flandreau Santee Sioux Tribe
Fort Belknap	Gros Ventre and Assiniboine Tribes
Lower Brule	Lower Brule Sioux Tribe
Northern Cheyenne	Northern Cheyenne Tribe
NA	Northwestern Band of the Shoshone Nation
Pine Ridge	Oglala Sioux Tribe
Paite	Paite Indian Tribe of Utah
Rosebud	Rosebud Sioux Tribe
Lake Traverse	Sisseton-Wahpeton Oyate
Skull Valley	Skull Valley Band of Goshute Indians
Southern Ute	Southern Ute Indian Tribe
Spirit Lake	Spirit Lake Nation
Standing Rock	Standing Rock Sioux Tribe
Fort Berthold	Three Affiliated Tribes
Turtle Mountain	Turtle Mountain Band of Chippewa
Utah & Ouray	Ute Indian Tribe
Ute Mountain	Ute Mountain Ute Tribe
Yankton	Yankton Sioux Tribe

EPA/WY Drinking Water Responsibilities

– Region 8

- Track Monitoring/Reporting Data
- Compliance Determinations
- Technical Assistance
- Sanitary Surveys
- Formal Enforcement
- Lab Certification

Michael Copeland is EPA WY Liaison

Nate Delano is EPA Tribal Liaison

– State of Wyoming

- Plan/Spec Review
- Permitting (Wells & Infrastructure)
- Water Rights
- Operator Certification
- Capacity Development
- Source Water Program
- State Revolving Fund (SRF)
- Public Health
- Food Service Inspections
- Laboratory Analyses

WARWS EPA Region 8 Partnership

- Technical Assistance to water systems
- Trouble shooting and system emergencies
- Train new operators
- Teach about new regulations
- Evaluate system capacity
- Source Water Protection
- Emergency Response Planning



Shared Goals and Dedication

- High quality water in Wyoming
- Protect public health
- Provide assistance to operators to comply with regulations



Transient Non-Community Systems Assistance

- Half of WY systems are TNC
 - Dude ranches, restaurants, campgrounds, recreation areas
 - Many seasonal systems without certified operator
 - Facility often primarily a business



