

SOURCEWATER PROTECTION STAKEHOLDERS MEETING

DEVELOPING A PROTECTION PLAN FOR
CREEDE DRINKING WATER SUPPLIES

PUBLIC WELCOME

THREE OR MORE MEMBERS OF THE CREEDE BOARD OF
TRUSTEES MAY BE PRESENT

NO FORMAL ACTIONS WILL BE TAKEN BY BOT.

Posted 5/12/15

OPEN TO THE PUBLIC

From: [Colleen Williams](#)

To:

[REDACTED]

Subject: Creede Source Water Protection Plan - Meeting May 13, 2015

Date: Friday, May 08, 2015 11:32:44 AM

Dear Stakeholders:

The next meeting to develop a Source Water Protection Plan for the City of Creede will be held on Wednesday, May 13, 2015 at 5:30 pm at the Creede Town Hall located at 2223 North Main Street, Creede, Colorado. At our first kick-off meeting in January we identified the locations of the wells that provide drinking water to the City of Creede and reviewed the map of the protection area in the Colorado Department of Public Health and Environment's assessment report for the City. At the February meeting we discussed including in the protection area the land that drains into and recharges the ground water aquifer that is located along the Rio Grande River watershed. We will resume our stakeholder meetings in May to identify the potential contaminant sources in the newly delineated protection area that may be a risk to the water quality of the ground water alluvial aquifer. I have created a dropbox link for this Source Water Protection Plan which includes the last meetings presentation and the revised map of the Source Water Protection Area approved by the City of Creede. Please copy and paste this link into your browser window to access these documents.

https://www.dropbox.com/sh/ve699sdimn2jqei/AADCj5xy7i4PJ_4ef919tPdWa?dl=0

Your interest in helping develop this protection plan is greatly appreciated. The time spent at these planning meetings is used toward the in-kind match for the CDPHE Source Water Protection grant, so your contribution of time means funds for the City of Creede.

Regards,

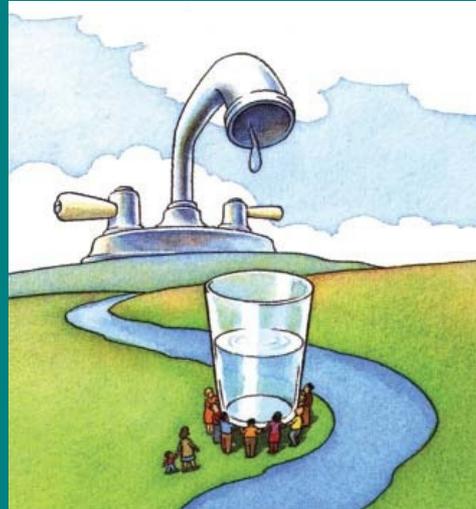
Colleen Williams

Colleen Williams
Source Water Specialist
Colorado Rural Water Association
P.O. Box 110
Jamestown, CO 80455

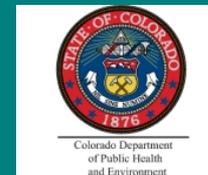
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Source Water Protection Planning

City of Creede



Colleen Williams
Source Water Specialist
Colorado Rural Water Association



AGENDA

I. Welcome and Introductions

II. Developing a Source Water Protection Plan

- o Review process of developing a plan and timeline
- o Source Water Protection Grant update

III. Delineation of the Source Water Protection Area

IV. Potential Contaminant Sources Inventory

- o Identify risks to water source and vulnerabilities
- o Risk Assessment Matrix: Priority Ranking

V. Identify Management Approaches

VI. Set next meeting date and agenda

Steps and Timeline for Developing Creede's SWPP

Jan

- 1st Stakeholders Meeting
- Form Steering Committee, Review State's Assessment, Delineate Source Water Protection Area

Feb

- 2nd Stakeholders Meeting
- Delineation SWPA, Discuss Potential Contaminant Sources

May -
June

- 3rd Stakeholders Meeting
- Potential Contaminant Sources & Best Management Practices

July

- Write Draft Source Water Protection Plan

Aug

- 4th Stakeholders Meeting
- Review and Edit Draft Plan

Sept

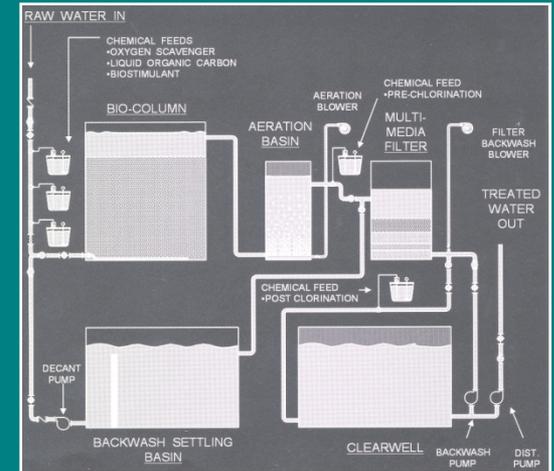
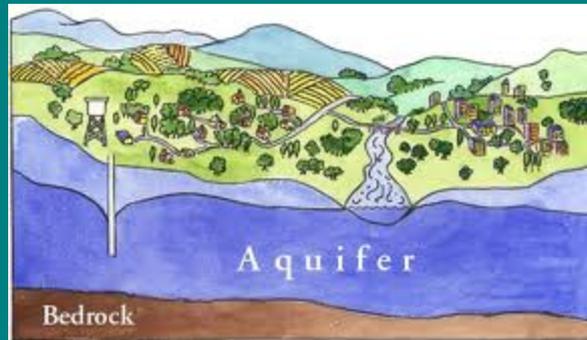
- 5th Stakeholders Meeting
- Steering Committee meeting to implement Final Plan

WHAT IS SOURCE WATER PROTECTION?

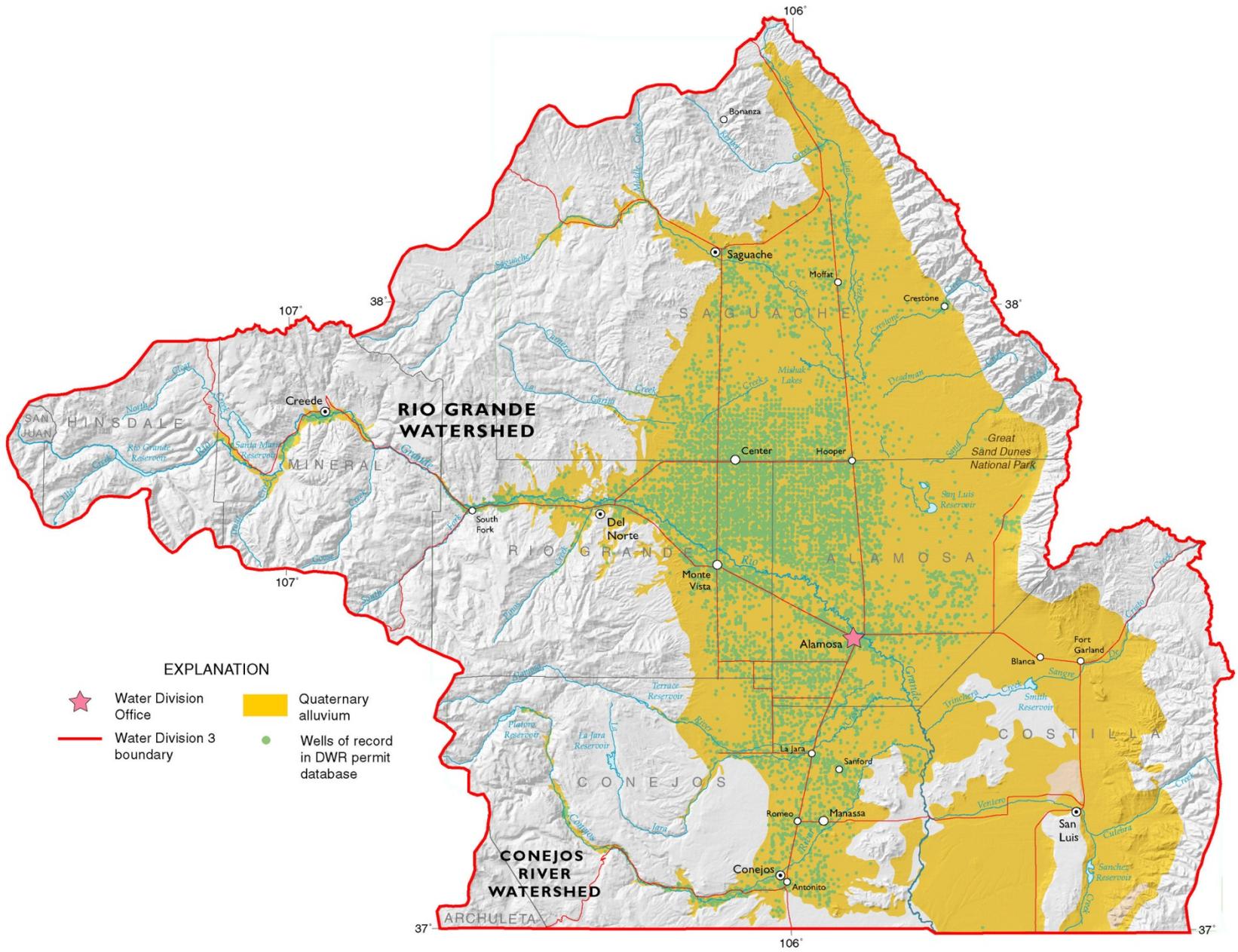
A local proactive approach to preventing the pollution of the ground water that serve as your drinking water source.

Source Water Protection

A Multi-Barrier Approach
to providing safe drinking water



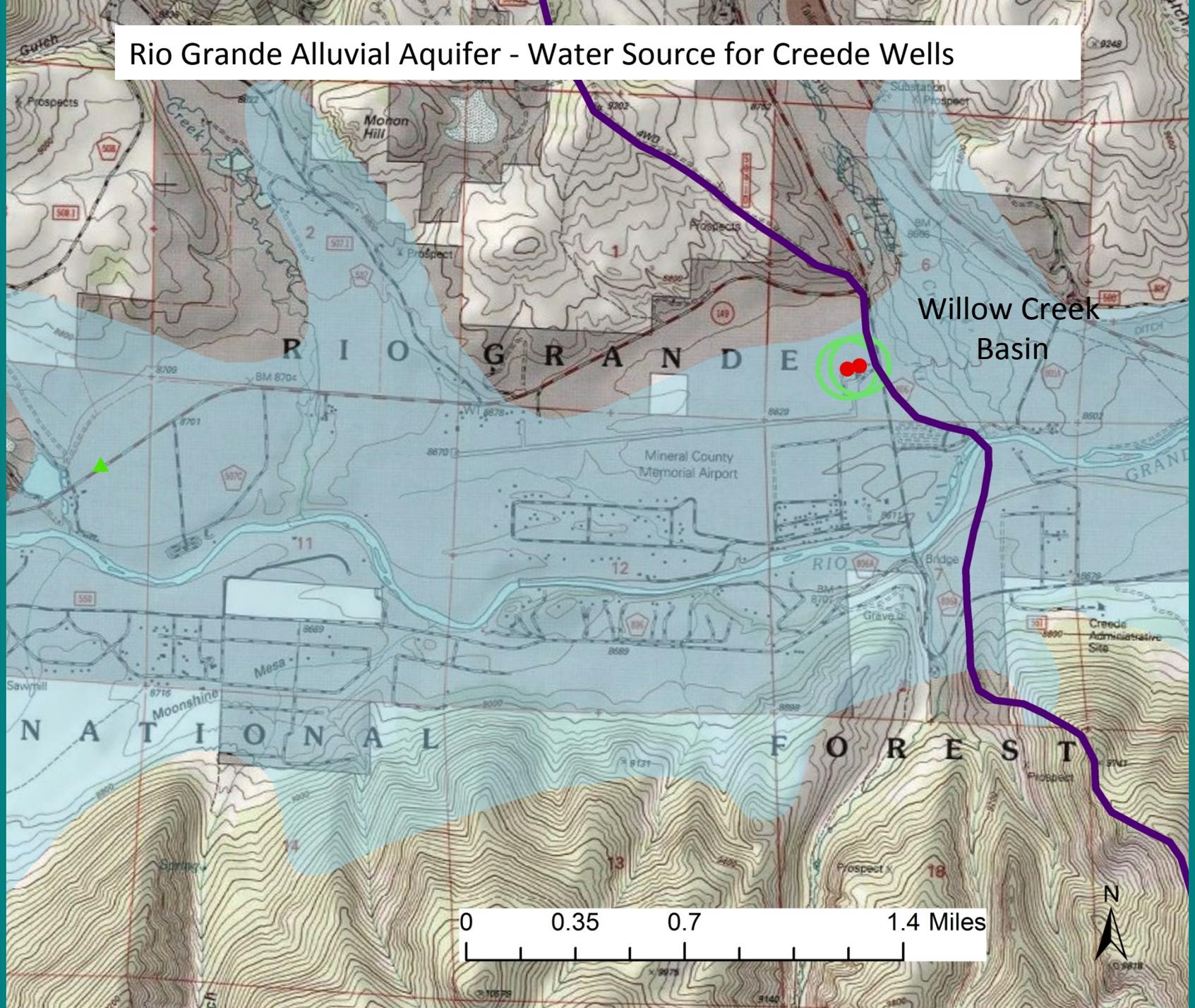
City of Creede In-Kind Contribution Summary - 5/1/15								
Name	Organization		1/27/15	2/17/15	3/30/15	Total Hours	Hourly Rate	Total
		Planning Activities	1st Meeting	2nd Meeting	Creede Mtg with County			
Eric Grossman	City of Creede Mayor		2	2	1	5	\$30	\$150
Clyde Dooley	City of Creede Manager	2	2			4	\$30	\$120
Robert Schlough	City of Creede Water Operator		2	2	1	5	\$30	\$150
Teresa Wall	City of Creede Trustee		2	2		4	\$30	\$120
Catherine Kim	City of Creede Trustee		2			2	\$30	\$60
Kay Wyley	City of Creede Trustee		2	2		4	\$30	\$120
Randi Snead	City of Creede Clerk		2			2	\$30	\$60
Elizabeth Zurn	City of Creede Trustee		2	2		4	\$30	\$120
Molly McDonald	City of Creede Trustee			2		2	\$30	\$60
Ginger Alexander				2		2	\$30	\$60
Guinevere Freer	Willow Creek Restoration Committee		2			2	\$30	\$60
Randy McClure	Rio Grande Silver		2		1	3	\$30	\$90
Martha Williamson	Rio Grande Ranger District			x		0	\$30	\$0
Heather DeLonga	City of Creede Trustee			2		2	\$30	\$60
Ron Carpenter	Deep Creek Water & Sanitation			2	1	3	\$30	\$90
Dail Gale				2		2	\$30	\$60
Debby Roughton	Resident			2		2	\$30	\$60
Daryl Grant				2		2	\$30	\$60
Greg Pearson				2		2	\$30	\$60
Shelley Parham				2		2	\$30	\$60
R. Scott Lamb	Mineral County Commissioner				1	1	\$60	\$60
Janelle Kukuk	Mineral County				1	1	\$30	\$30
Ramona Weber	Mineral County				1	1	\$30	\$30
Zeke Ward	Resident				1	1	\$30	\$30
						TOTAL 58 IN-KIND		\$1,770



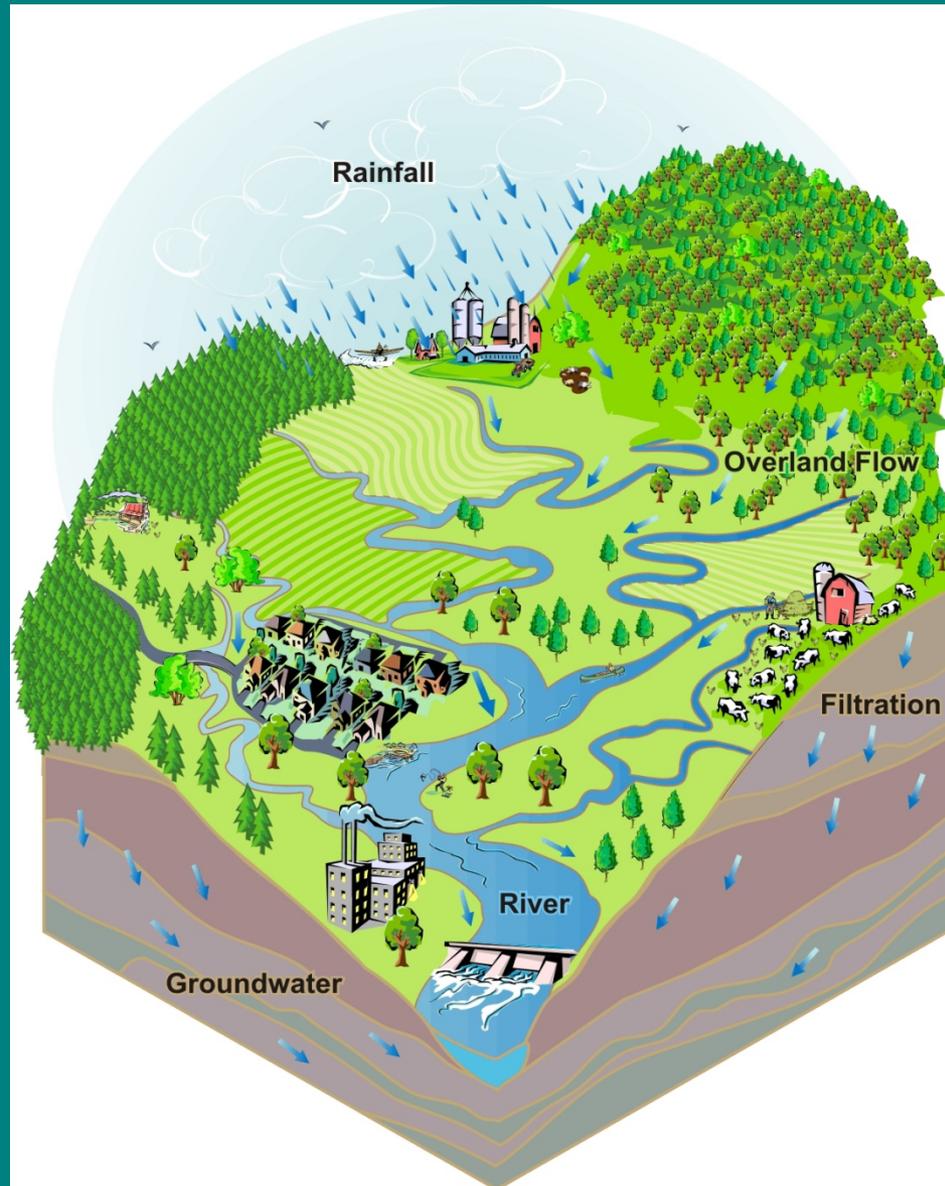
EXPLANATION

- ★ Water Division Office
- Water Division 3 boundary
- Quaternary alluvium
- Wells of record in DWR permit database

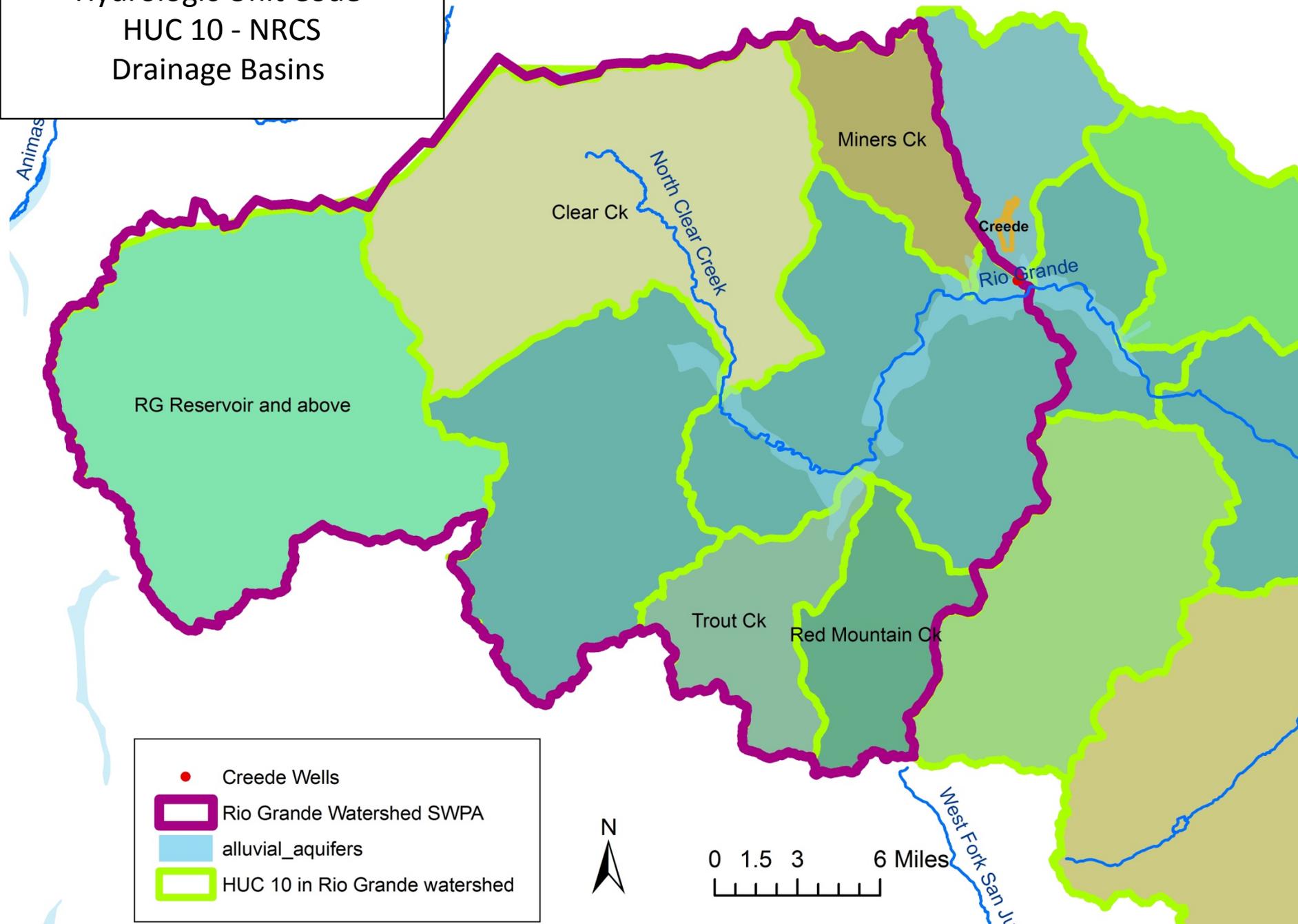
Rio Grande Alluvial Aquifer - Water Source for Creede Wells



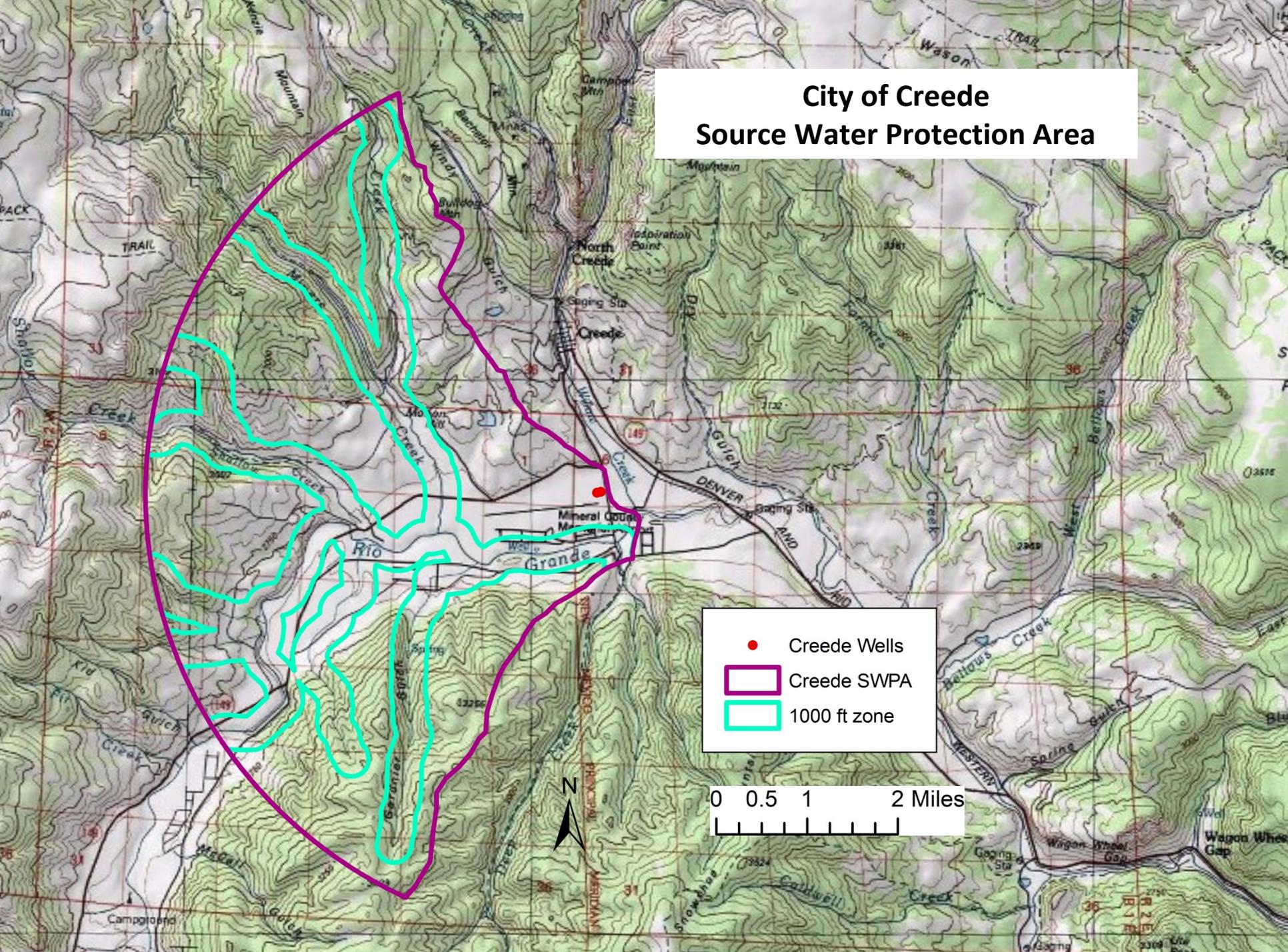
Surface Water Source – Watershed Delineation

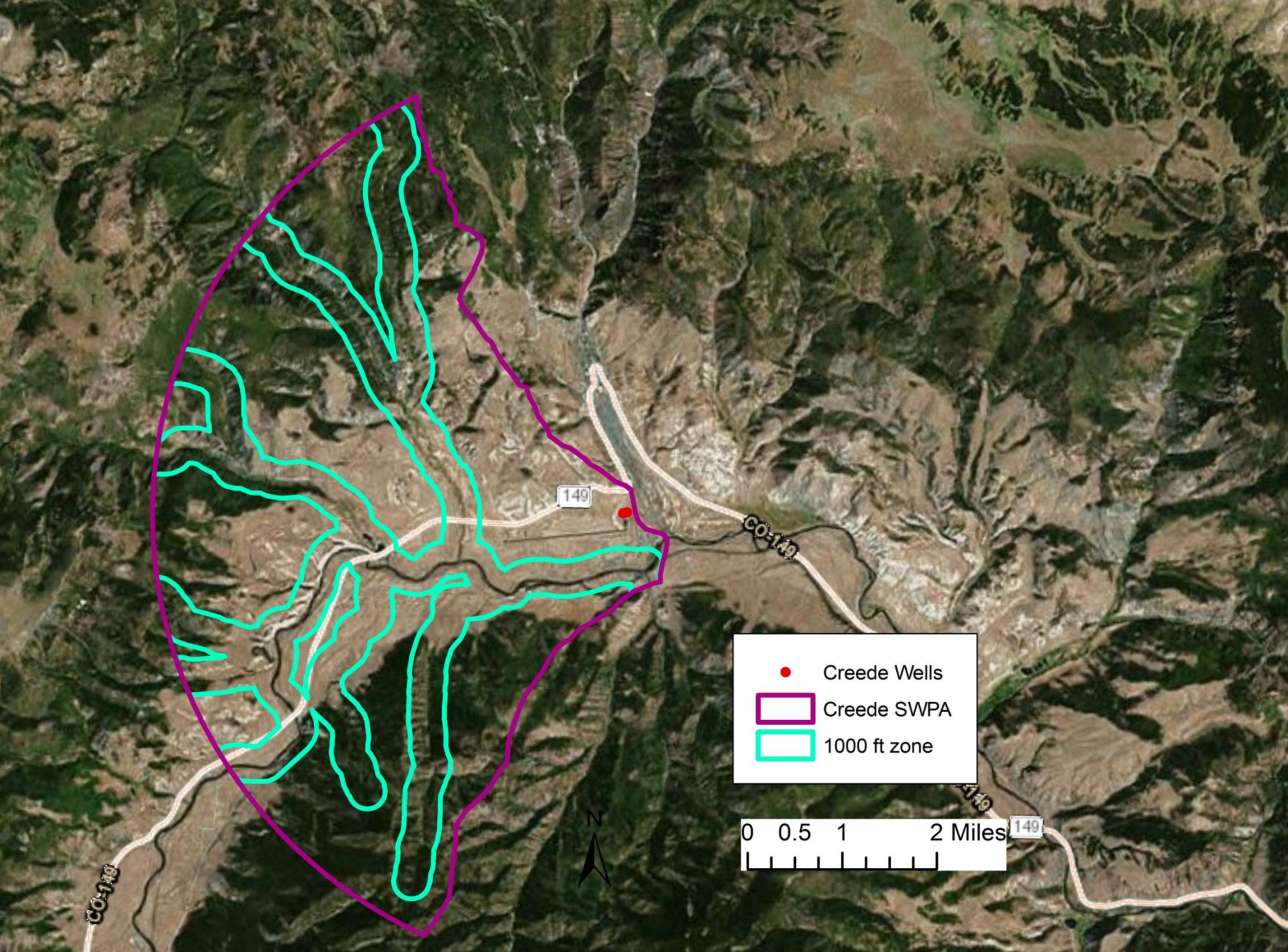


Hydrologic Unit Code
HUC 10 - NRCS
Drainage Basins



City of Creede Source Water Protection Area



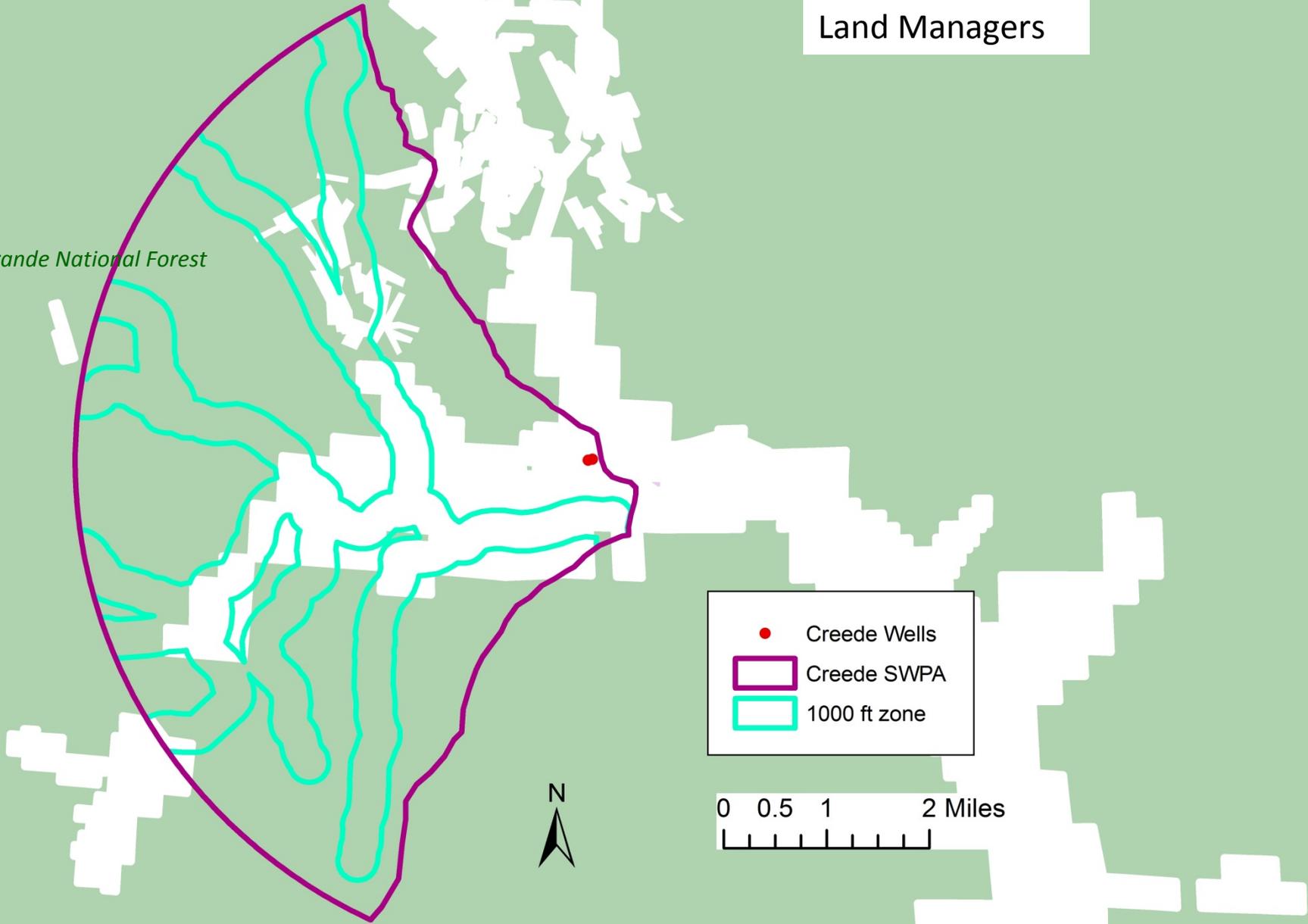


- Creede Wells
- ▭ Creede SWPA
- ▭ 1000 ft zone



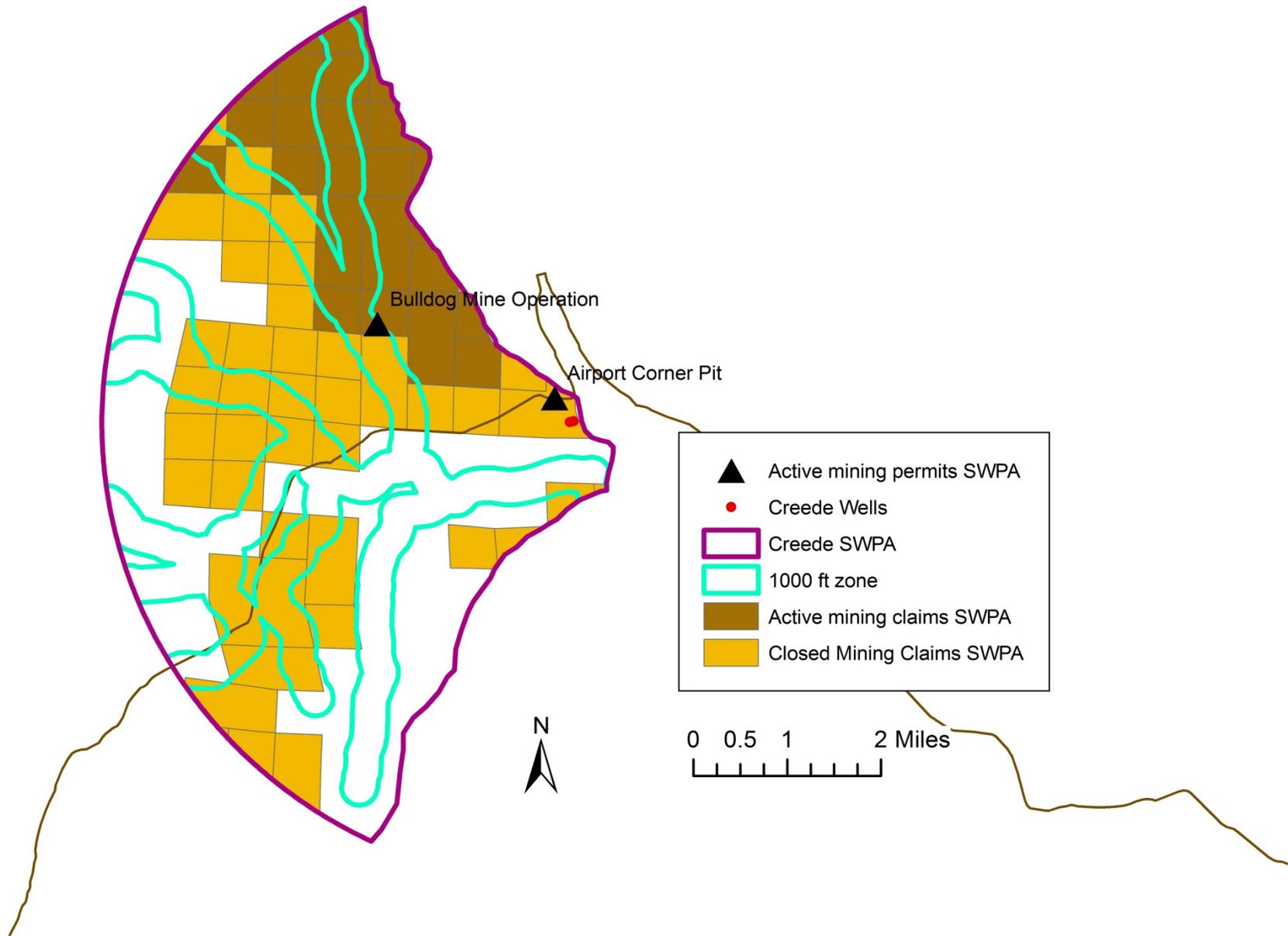
Land Managers

Rio Grande National Forest



- Creede Wells
- ▭ Creede SWPA
- ▭ 1000 ft zone





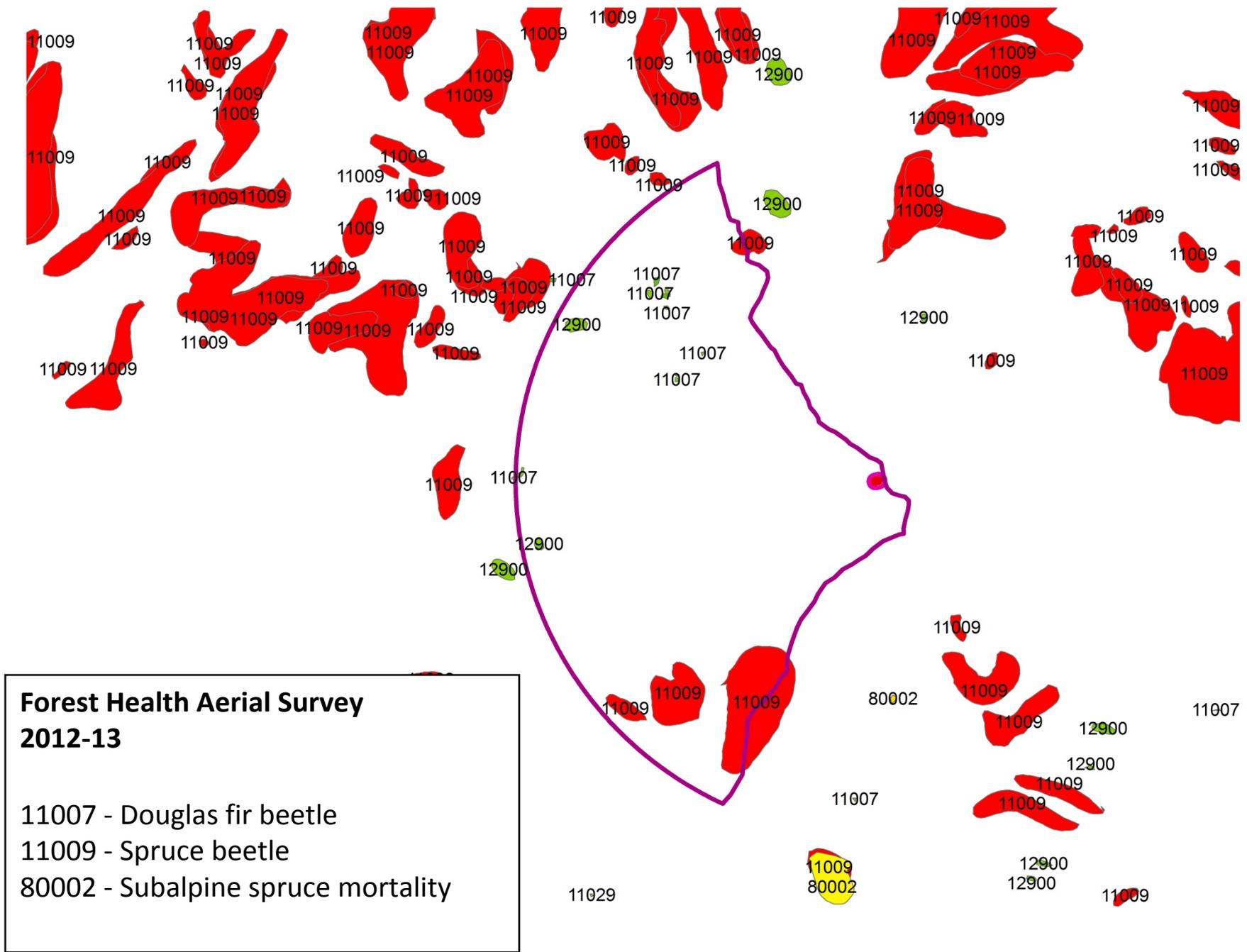
Bulldog Mine Operation

Airport Corner Pit

- ▲ Active mining permits SWPA
- Creede Wells
- ▭ Creede SWPA
- ▭ 1000 ft zone
- ▭ Active mining claims SWPA
- ▭ Closed Mining Claims SWPA

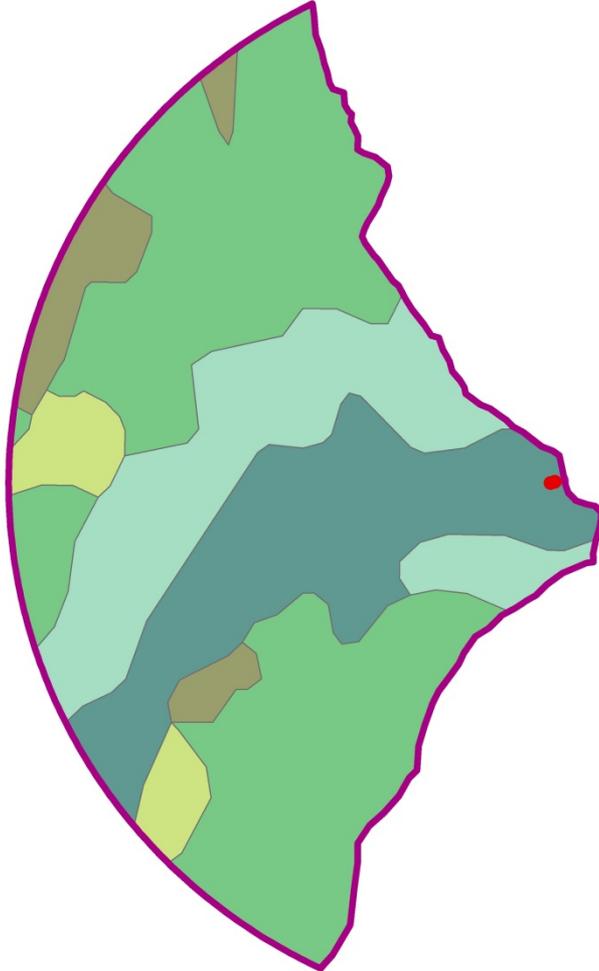


0 0.5 1 2 Miles



**Forest Health Aerial Survey
2012-13**

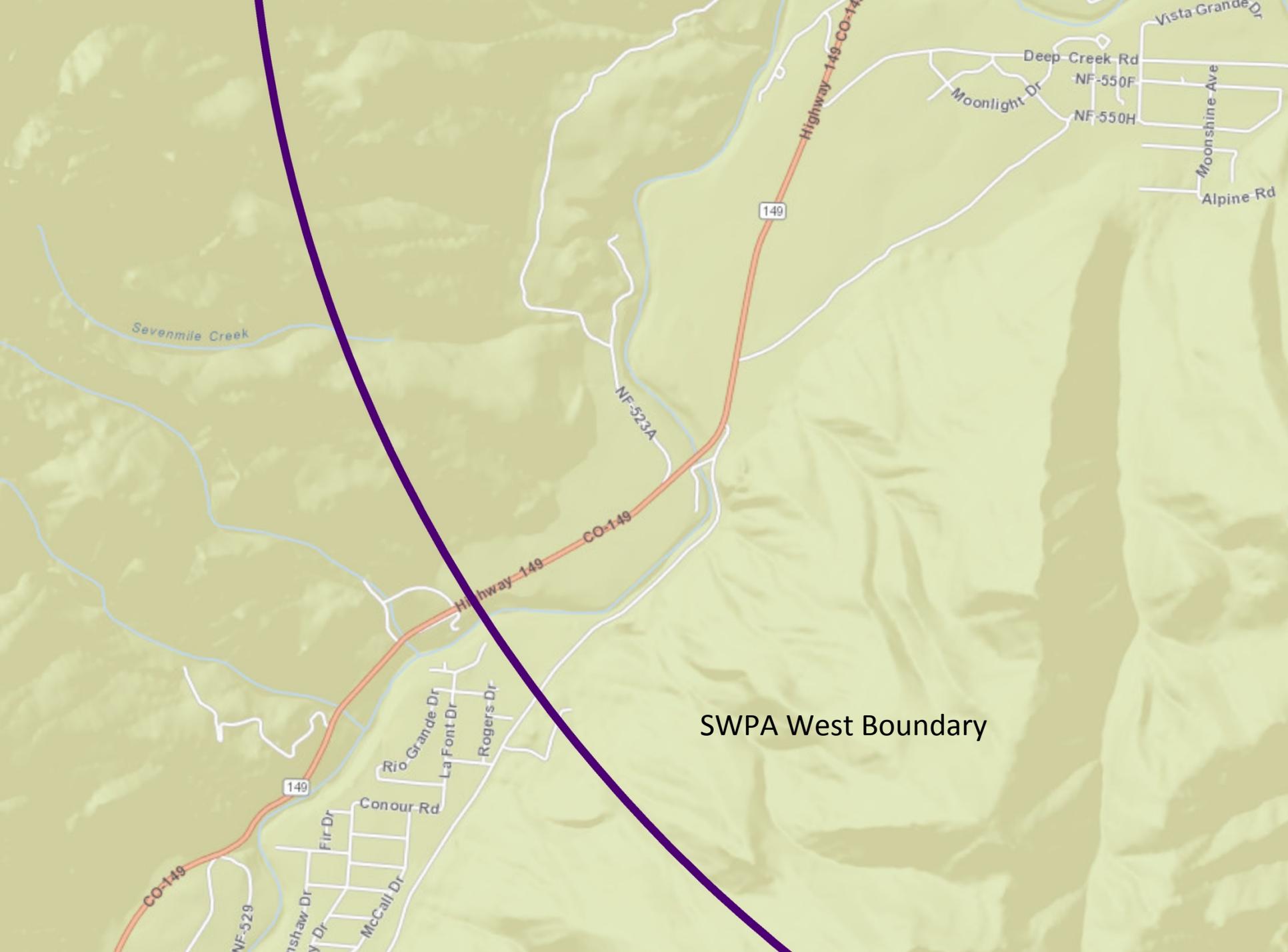
- 11007 - Douglas fir beetle
- 11009 - Spruce beetle
- 80002 - Subalpine spruce mortality



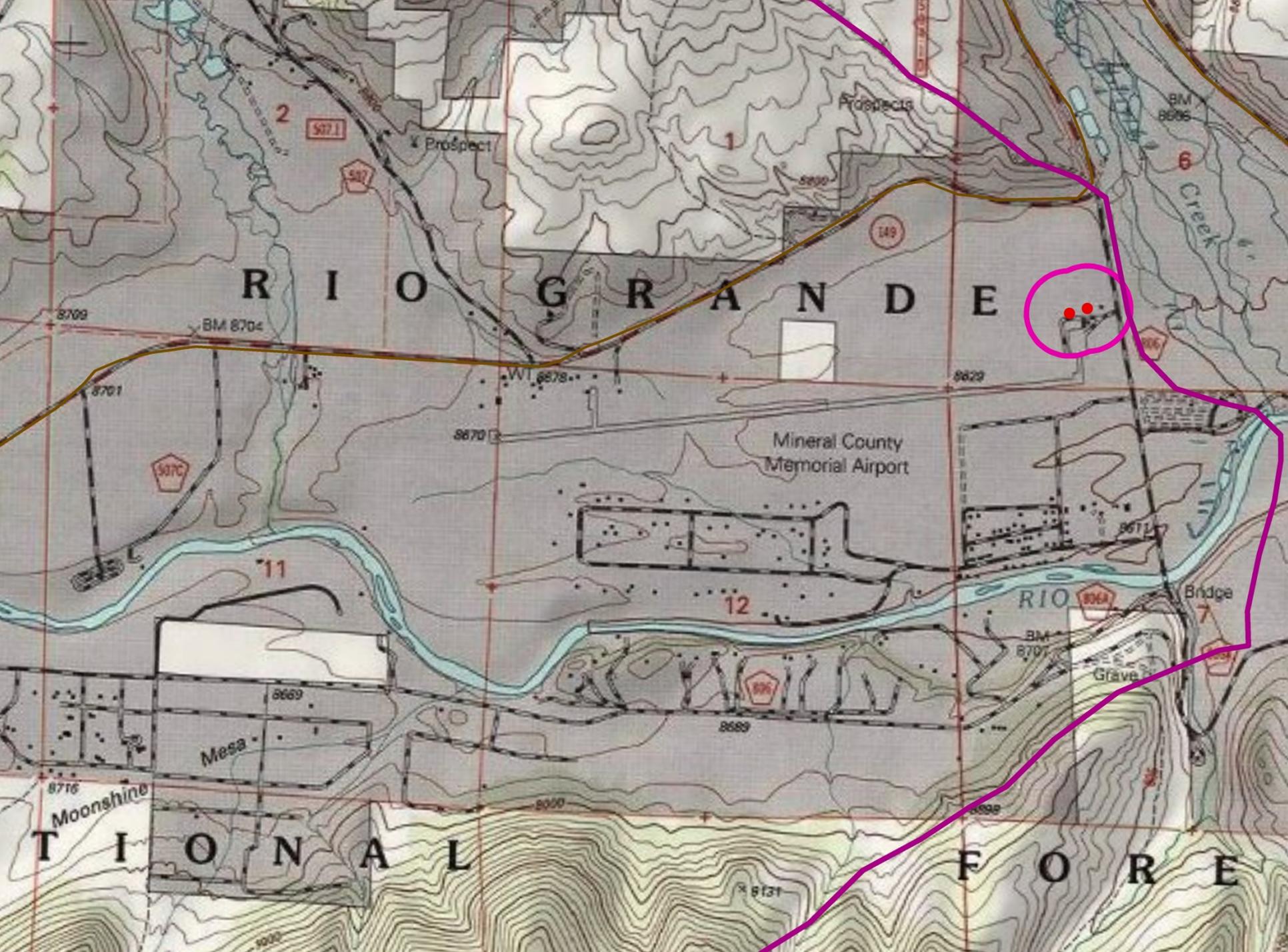
Geology SWPA
UNIT AGE and ROCKTYPE

	Quaternary, alluvium
	Quaternary, landslide
	Tertiary, ash-flow tuff
	Tertiary, quartz latite
	Tertiary, sandstone





SWPA West Boundary



R I O G R A N D E

Mineral County Memorial Airport

R I O

N A T I O N A L

F O R E S T

Mesa

Moonshine

Prospect

Prospect

Creek

Bridge

Grave

2

1

6

11

12

7

507.1

507

149

507C

806A

806

8709

BM 8704

8701

VVI 8878

8870

8829

8871

8669

8716

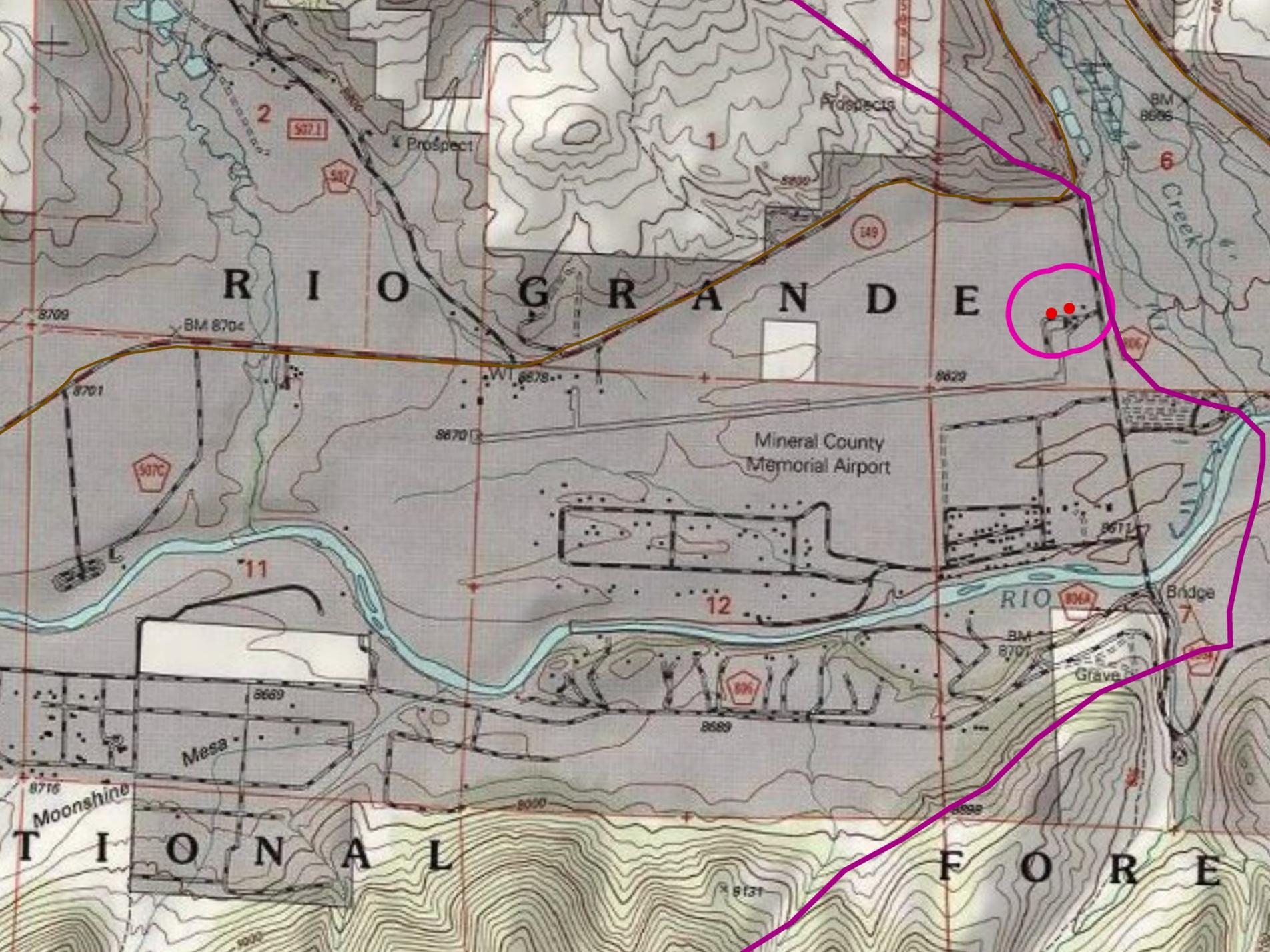
9000

8000

8131

8890

BM 8686





Mineral County
Memorial
Airport

Airport Rd

500 foot Zone 1 Around Town Wells

Well #1



Plain Casing
0-62 ft.

Perforated
Pipe
62-77 ft.

Plain Casing
77-85 ft.

Perforated
Pipe
85-115 ft.

Plain Casing
115-120

Well #2



Plain Casing
0-56 ft.

Perforated
Pipe
57-77 ft.

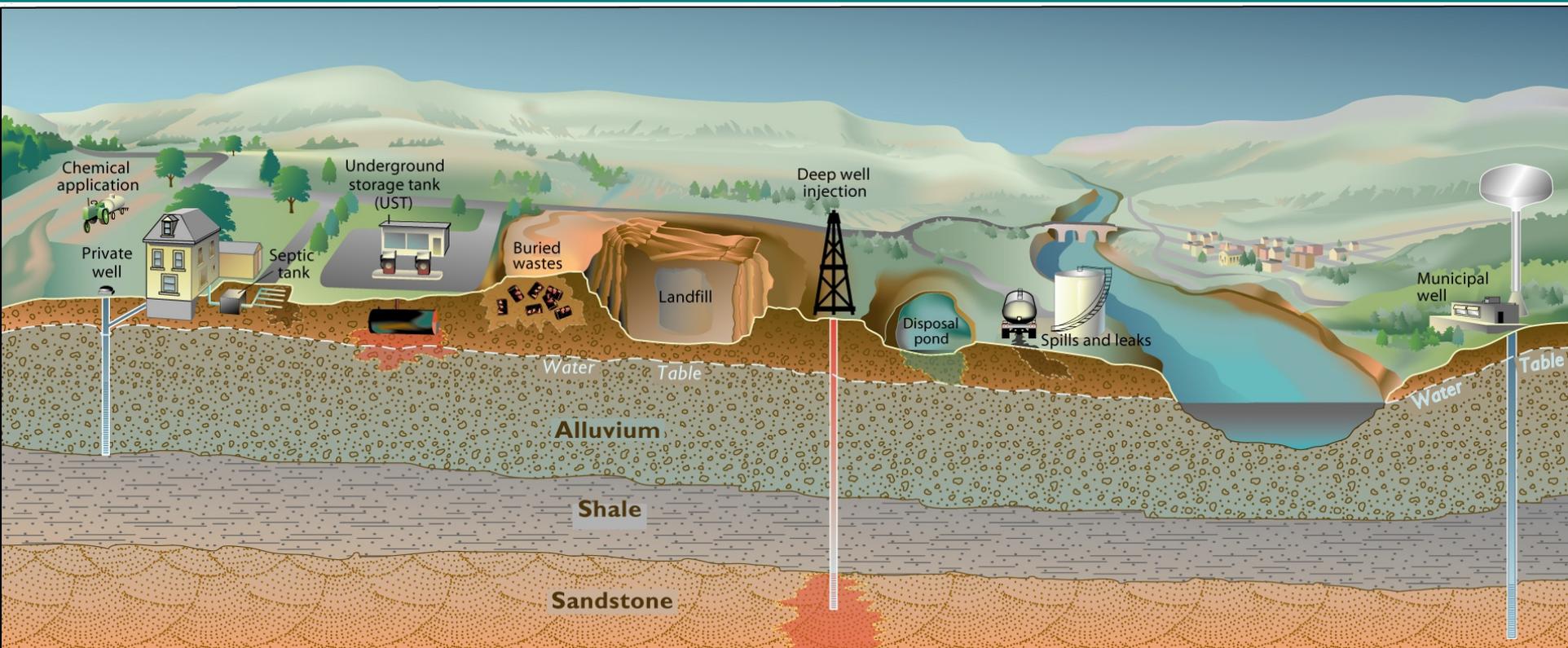
Plain Casing
77-87 ft.

Perforated
Pipe
87-112 ft.

Plain Casing
112-115 ft.

→
Water
drawn in
from
aquifer
through
perforated
pipe
→

Identify Potential Sources of Contaminants, Risks and Vulnerabilities to the Water Source





CDPHE SWAP Report: 2004

Potential Contaminants:

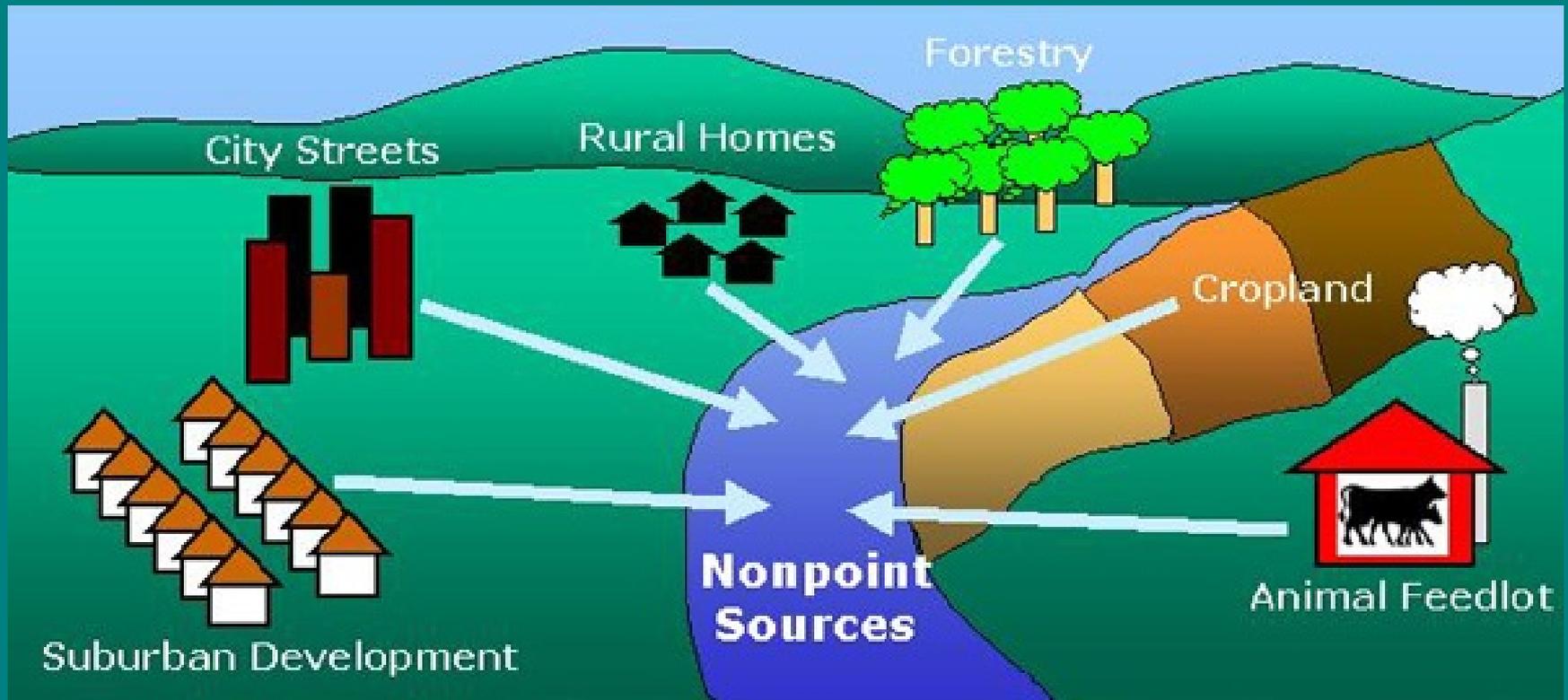
- Wastewater discharger
- Transportation
- Roads
- Residential
- Forests
- Septic systems



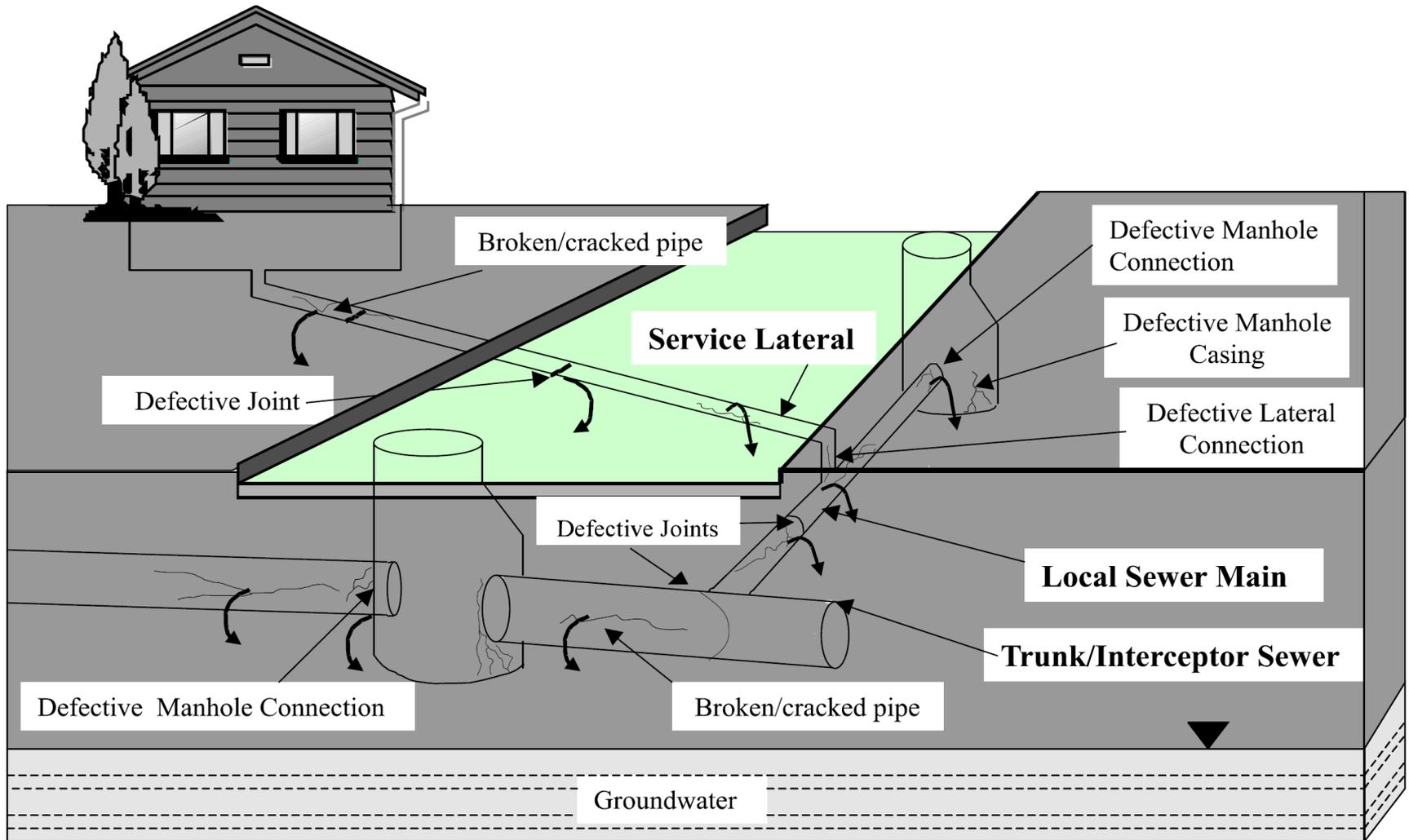
Potential Contaminant Source: Aboveground Storage Tanks



Mines in Miner Creek Drainage Area



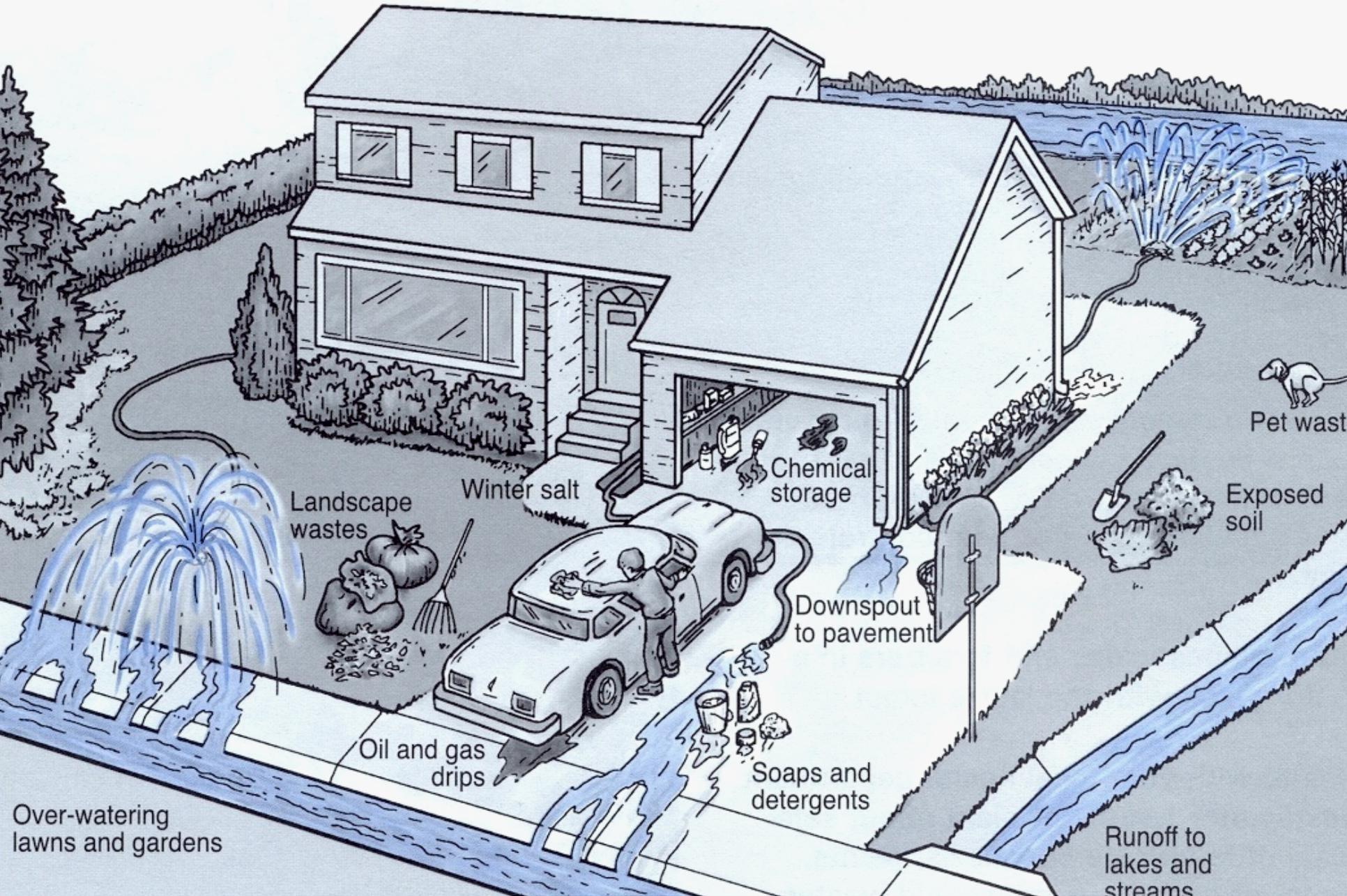
Potential Contaminant Source: Stormwater runoff



Potential Contaminant Source: Leaky Sewer System



Potential Contaminant Source: Wildland Fires



Potential Contaminant Source: Residential practices



Well Field and Airport Area
Future Aboveground Fuel Storage Tanks



New School: Traffic From School
Vulnerability to Wellheads



Wildland Fire Area

Inventory of Potential Contaminant Sources

- Mining: Active mines, abandoned mines, future mining
- Septic systems and sewerage system
- Roads - spills, de-icers, dust abatement
- Airport - potential for future fuel tanks and spills
- Fuel storage tanks
- Residential sources

Issues of Concern: Other Risks and Vulnerabilities

- Wildland fire
- Heavy rain events / flooding
- Growth and development - ? Number of $\frac{1}{4}$ acre sites to be developed
- School - increased traffic and vulnerability to wellheads

What Measures are Currently in Place?

- Well protection (fencing around wellheads?)
- Water quality monitoring (wells and Rio Grande)
- Compliance with and enforcement of existing regulations (i.e. stormwater permits, septic permits, zoning, land use regulations, mining)
- Waste management: trash, recycling, household hazardous waste collection
- Land use planning (County and USFS)

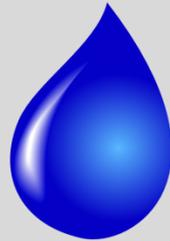
Source Water Protection Toolbox

- Non-regulatory Approaches
 - Building partnerships
 - Education and public outreach
 - Information sharing
 - Encouraging a watershed approach
 - Land purchases, Conservation Easements
 - Water quality monitoring
- Regulatory Approaches
 - Zoning and Land Use Regulations
 - Watershed District Ordinances
 - Health Department Regulations on septics
 - COGCC Regulates oil/gas industry in Colorado

SWP Goals for Colorado:

- Public outreach: brochures, displays, mailings
- Participate in land use decisions (county, local, and public lands)
- SWPAs included in Master Plans and Forest Plans
- Signage on roads “Drinking Water Protection Area”
- Build networks
- Share information on what others are doing

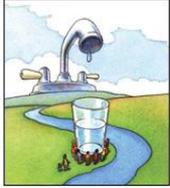
**DRINKING
WATER**



**PROTECTION
AREA**

"OURS TO PROTECT"

Contact Your Water Provider



What Can You Do to Protect Your Drinking Water Source?

- **PROPERLY DISPOSE OF CHEMICALS** - Never pour on the ground, down the drain, or toilet: cleaning supplies, paints, solvents, lawn and garden chemicals, gasoline, motor oil, antifreeze, or other waste chemicals. Participate in household hazardous waste collection events.
- **PURCHASE SAFER ALTERNATIVE PRODUCTS** - Instead of hazardous household products and pesticides, choose natural alternatives or Green Products. Read product labels carefully before purchasing to determine what substances they contain.
- **USE FERTILIZERS, HERBICIDES AND PESTICIDES PROPERLY** - Apply chemicals according to label instructions and avoid runoff. Do not exceed recommended application rates.
- **GOOD LIVESTOCK MANAGEMENT** - Keep animals and their waste out of streams, rivers, and lakes. Consider fencing off or bridging streams, applying and storing manure away from source waters, and manage grazing to maintain plant cover.
- **MAINTAIN YOUR SEPTIC SYSTEM** - Inspect and pump your septic tank every 2-4 years. Do not drive over the tank or adjacent absorption field. Never flush down the toilet waste chemicals, dental floss, drugs, and personal care products.
- **PROPERLY DISPOSE OF DRUGS AND PERSONAL CARE PRODUCTS** - Pour medications into a sealable plastic bag and add kitty litter, sawdust, or coffee grounds. Seal the bag and dispose in the trash along with unused personal care products.
- **DISPOSE OF PET WASTE PROPERLY** - Clean up and dispose of pet waste by flushing down the toilet, seal it in a plastic bag and put into the garbage, or bury under 8 inches of soil. Pick up your pet waste when walking your dog.
- **PETROLEUM STORAGE** - Above ground storage tanks should be made of high quality steel and located on a concrete pad (or other impermeable surface) that has secondary containment to guard against leaks and spills.
- **PRIVATE WATER WELLS** - Properly plug abandoned water wells and protect existing wells to prevent a direct route for contaminants to enter the ground water.
- **CONTROL THE SPREAD OF ZEBRA AND QUAGGA MUSSELS** - Recreational boaters and fisherman should clean their boats and equipment before entering lakes within the watershed. The CDOW has issued a mandatory state-certified boat inspections to help prevent the spread of aquatic invasive species in Colorado lakes.
- **TREAD LIGHTLY ON PUBLIC LANDS** - Visitors, residents and users of Public Lands should obey all rules to protect the natural resources. Use motorized vehicles only on system routes identified with signage or appropriate maps. While in the backcountry, pack it in and pack it out. Keep informed on forest and land management issues, participate in the planning activities related to public lands and work together with your public land managers.
- **REPORT SPILLS ON ROADWAYS** - Report spills from vehicles on the roadways in the protection area by calling "911" so that local emergency response teams can effectively contain and remediate the spill to prevent it from entering the waterways.
- **GET INVOLVED IN LOCAL SOURCE WATER PROTECTION EFFORTS**



Town of Rangely Source Water Protection Plan



Protecting Our Drinking Water Supply

For More Information Contact the Town of Rangely at (970) 675-8476

Our Water Source

The Town of Rangely provides high quality drinking water to 2,200 residents. Rangely's source of drinking water is from White River watershed. A watershed is an area of land that drains into a lake, reservoir or river.

Source Water Protection

There is a growing effort in the country to protect drinking water sources before they become contaminated.

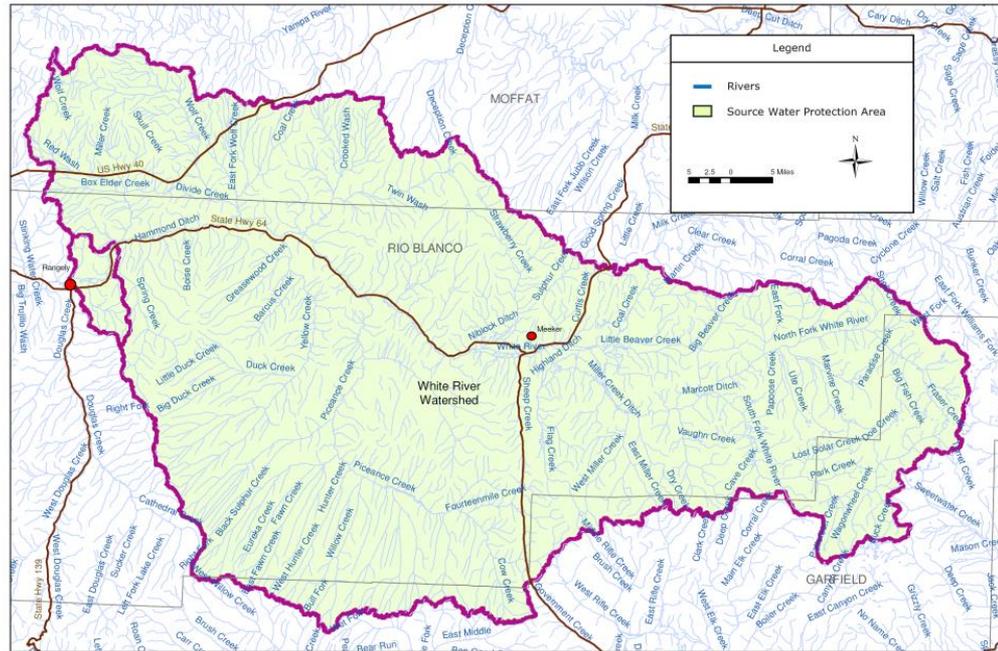
Why should the Rangely community protect its sources of drinking water?

- Safe drinking water is essential to the community's quality of life and to aid in continued economic sustainability.
- It is good for public health when drinking water supplies are protected.
- The costs of preventing contamination are very small compared to the costs of cleaning up after a contamination incident.

For generations, water quality was taken for granted and still today many people assume that our water is naturally protected. But, anything we do on top of the ground has the potential to affect someone's drinking water. As water moves through and over the ground, contaminants in and on the ground can be picked up and carried to a stream, river, reservoir or well that supplies drinking water to a home or a community.

Source water protection involves minimizing the negative water quality impacts on both land and water.

Rangely's Source Water Protection Area



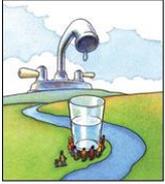
SOURCE: COLORADO WATER QUALITY CONTROL DIVISION

Protection Planning Process

In June 2010, stakeholders within the Rangely community worked together to complete a Source Water Protection Plan. The Plan identifies: the area in need of protection, the potential sources of contaminants, and management approaches that could help to reduce the risk of contaminants entering the source waters. Activities that have a potential to cause pollution include: agricultural practices, septic systems, transportation on roads, land use, mining, oil/gas and oil shale development, residential practices, solid waste and transfer sites, private water wells, noxious weeds treatment, wastewater discharge sites, hazardous waste generators, zebra and quagga mussels, future reservoir dredging, storage tanks, and management and visitor activities on forest lands.

It is the people living and working in communities who have the most to gain or lose from the quality of their drinking water. Become an environmentally aware citizen and help avoid drinking water contamination. To obtain a copy of the Source Water Protection Plan contact the Town of Rangely at (970) 675-8477.

Rangely's Mission Statement: *"To engage the community in the protection of Rangely's drinking water sources by fostering stewardship of the watershed through education and outreach."*

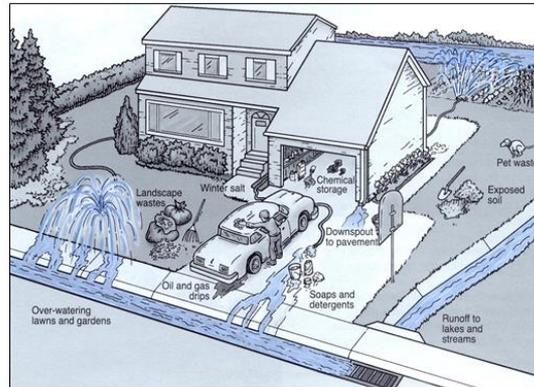


Ways to Protect Your Drinking Water Source

(Whether a private well or community supply)

- **PROPERLY DISPOSE OF CHEMICALS** - Never pour on the ground, down the drain, or toilet: cleaning supplies, paints, solvents, lawn and garden chemicals, gasoline, motor oil, antifreeze, or other waste chemicals. Participate in household hazardous waste collection events. Contact the Boulder County Public Health's Department Environmental Health Division for more information. 303-441-1564 or www.bouldercounty.org/env/hazwaste
- **PURCHASE SAFER ALTERNATIVE PRODUCTS** - Instead of hazardous household products and pesticides, choose natural alternatives or Green Products. Read product labels carefully before purchasing to determine what substances they contain.
- **USE FERTILIZERS, HERBICIDES AND PESTICIDES PROPERLY** - Apply chemicals according to label instructions and avoid runoff. Do not exceed recommended application rates.
- **MAINTAIN YOUR SEPTIC SYSTEM** - Inspect and pump your septic tank every 2-4 years. Do not drive over the tank or adjacent absorption field. Never flush down the toilet waste chemicals, dental floss, drugs, and personal care products. See www.SepticSmart.org for more information.
- **REPORT SPILLS ON ROADWAYS** - Report spills from vehicles on the roadways in the protection area by calling "911" so that local emergency response teams can effectively contain and remediate the spill to prevent it from entering the waterways.

- **PETROLEUM STORAGE** - Above ground storage tanks should be made of high quality steel and located on a concrete pad (or other impermeable surface) that has secondary containment to guard against leaks and spills. Consider using stock tanks as a secondary containment for private fuel storage tanks.
- **PROPERLY DISPOSE OF DRUGS AND PERSONAL CARE PRODUCTS** - Participate in medication take back programs when available. As an alternative, pour medications into a sealable plastic bag and add kitty litter, sawdust, or coffee grounds. Seal the bag and dispose in the trash along with unused personal care products. For additional information see www.bouldercounty.org/family/disease/pages/rx_disposal.aspx.
- **TREAD LIGHTLY ON PUBLIC LANDS** - Visitors, residents and users of Public Lands should obey all rules to protect the natural resources. Use motorized vehicles only on system routes identified with signage or appropriate maps. While in the backcountry, pack it in and pack it out. Keep informed and participate in forest management issues.



Common household practices may cause pollutants to runoff residential property and enter the surface or groundwater.

Pine Brook Water District's Source Water Protection Plan



Helping to Protect Everyone's Drinking Water Supply

For More Information Contact
the
Pine Brook Water District

At (303) 443-5394

Our Water Source

Pine Brook Water District operates a community water supply system that supplies drinking water to over 400 homes in the Pine Brook Hills subdivision, and unincorporated mountain community within Boulder County, Colorado. Pine Brook Water District obtains their drinking water from a diversion on Fourmile Creek which is then pumped to their storage reservoir in Pine Brook Hills. **This watershed also provides drinking water to hundreds of private well owners in the Fourmile Canyon area.**

Source Water Protection

There is a growing effort in the country to protect drinking water sources before they become contaminated.

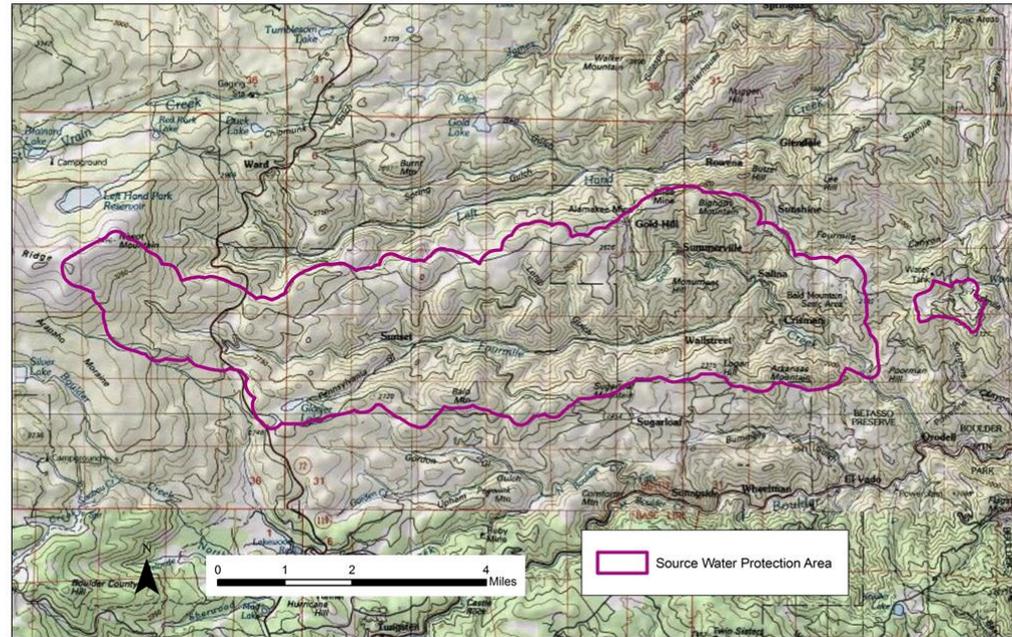
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For generations, water quality was taken for granted and still today many people assume that our water is naturally protected. But, anything we do on top of the ground has the potential to affect someone's drinking water. **As water moves through and over the ground, contaminants in and on the ground can be picked up and carried to a stream, reservoir or well that supplies drinking water to a home or a community.**

Source water protection involves minimizing the negative water quality impacts on both land and water. We encourage the community and visitors to get involved in the local source water protection efforts.

Pine Brook Water District's Source Water Protection Area



Protection Planning Process

In October 2014 stakeholders within the local rural community worked together to complete a Source Water Protection Plan. The Plan identifies: the area in need of protection, the potential sources of contaminants, and management approaches that could help to reduce the risk of contaminants entering the source waters. Activities that have a potential to cause pollution include: mining, decommissioning of wells, residential issues, dam failure, road spills, septic systems, public land use, illegal dumping, fuel storage tanks, herbicide application, road maintenance, wildland fire, and flooding.

It is the people living and working in communities who have the most to gain or lose from the quality of their drinking water whether from a community water system or from a private water well. Become an environmentally aware citizen and help prevent drinking water contamination.

To obtain a copy of the Source Water Protection Plan contact the Pine Brook Water District at (303) 443-5394. For more information on protecting our watershed, go to www.pinebrookwater.com.

Plateau Valley Source Water Protection Plan

Town of Collbran, Mesa Water & Sanitation District and Powderhorn Ski



Source Water Protection Measures Implemented:

- County and Public Land managers overlays protection area on maps
- Source Water Protection brochures mailed to residents of the Plateau Valley
- Dump around springs are cleaned up
- Signage on major roads identifying protection area and reporting spills are placed
- Town of Collbran passed a Watershed District Ordinance and requires Watershed District Permits from Oil/Gas Industry

Mancos Source Water Protection Plan

Town of Mancos, Mancos Rural Water Company, Mesa Verde National Park



Source Water Protection Measures Implemented:

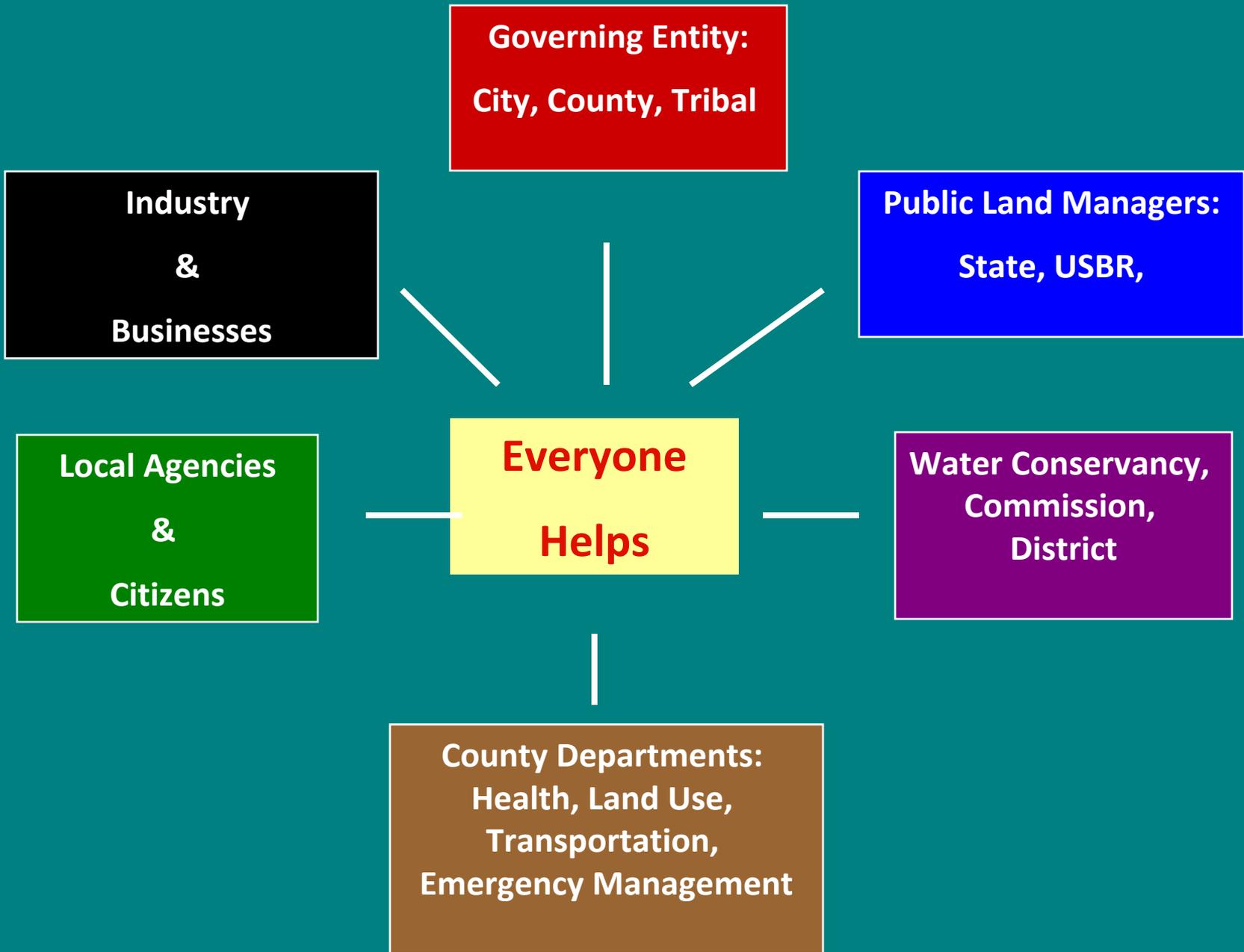
- Educated the community at Mancos River Days with a SWP booth, brochures, and copies of the protection plan
- Water quality monitoring for Zebra and Quagga mussels and mercury deposition in the reservoir and the Mancos River with the River Watch program
- Colorado Oil and Gas Conservation Commission designated protection zones upstream of their surface water intakes as “no drill zones”
- Mancos Watershed group obtained 319 grant funding from State Health Department to develop a Watershed Protection Plan

Town of Saguache Source Water Protection Plan



Source Water Protection Measures Implemented:

- Signage on major roads identifying protection area and reporting spills
- Secondary containment for above ground storage tanks
- Water Bottles printed with the Town logo on it and the wording “Protect Our Drinking Water” will be given out to citizens during events throughout the year
- Source Water Protection brochure, “Town of Saguache – Protecting the Drinking Water Supply” mailed to area residents and includes information about source water protection, a map of the protection area, and what you can do to protect your drinking water
- Gas station managers received information on spill prevention of fuel storage tanks







Colorado Rural Water Association
Source Water Protection Program

Colleen Williams, CRWA
colleen@jimtown.org