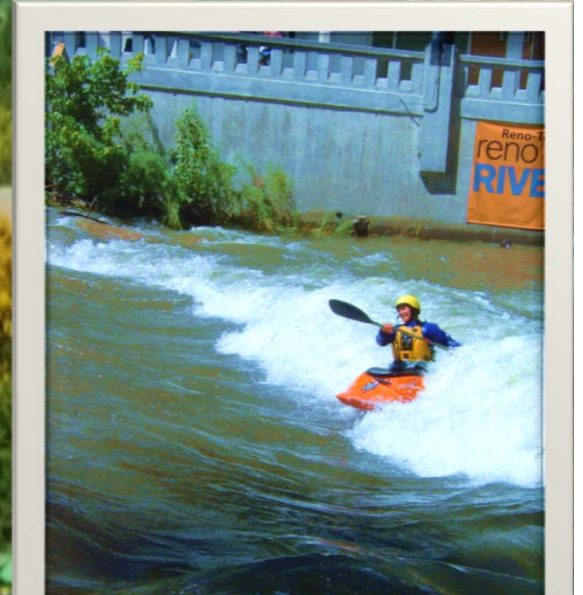


Source Water and Watershed Protection in Washoe County



Why Are We Doing This Plan ?

To create a tool for communities in Washoe County to help protect drinking water sources and manage the Truckee River watershed to maintain and or improve water quality.

The Plan Must Have These Qualities

Regional support and approval

Coordinated, consistent with and complementary to other plans

Useful to funding and regulatory agencies

Identify water quality problems and solutions

List of prioritized implementable projects

Process for implementation, with roles and responsibilities

Process to show benefits and accomplishments

Process



| Dates | Team Meeting Topics and Milestones |
|---------------|---|
| 2017 | |
| March 9 | Program Overview |
| April 11 | Existing planning documents; water quality concerns; plan needs |
| June 15 | Desired outcomes and steps to achieve them |
| August 3 | Plan purpose, goals understanding: Education, Funding, Collaboration, Communication |
| October 12 | Understanding our water resources and tools |
| Nov / Dec | Understanding our aquifers and watersheds |
| 2018 | |
| January | Source Water Protection Areas |
| Jan.-Feb. | Additional Stakeholder Outreach |
| March | Management Strategies for Aquifers and Watersheds |
| March to Dec. | Critical Project Profile Development and Prioritization |
| 2019 | |
| March | Plan Review |
| June | Final Plan Complete |
| May to Dec. | Public Review and Local Approval Process |

Who is participating?

City of Reno

City of Sparks

Washoe
County

Washoe
County Health
District

Remediation
District

Flood
Management

Regional
Planning

Storm Water
Committee

Conservation
District

TMWA

Other PWS

Nevada Land
Trust

Who is participating?

Engineering

Planning

Public Works

Emergency
Management

Community
Development

Flood
Management

Federal Land
Management

Public Water
Systems

Who Else?

2012 Regional Plan



Regional Plan Update 2017



The Truckee Meadows Regional Plan provides the framework for growth in our region for the next 20 years. It directs where growth will occur, identifies development constrained areas that are not suitable for future development, sets priorities for infrastructure development and addresses natural resource management. The Regional Plan is also designed to coordinate provision of services and capital improvements, as well as foster collaboration among the local governments and affected entities in the region. The Truckee Meadows Regional Planning Agency (TRMPA) is embarking on an effort to update the Truckee Meadows Regional Plan. The Regional Plan Update gives us a chance to envision and shape the future of the Truckee Meadows, which is expected to grow by approximately 100,000 new residents over the next 20 years. We invite everyone to participate in the update to help decide the future of our Region!

Subscribe to our Regional Plan Update mailing list

[Click here to take Our Regional Plan Update Survey](#)

Regional Plan Update Timeline



Truckee Meadows Regional Plan

◆ City of Reno ◆ City of Sparks ◆ Washoe County

2017/2018 Update

WESTERN REGIONAL WATER COMMISSION
Northern Nevada Water Planning Commission

2016-2035 Comprehensive Regional Water Management Plan

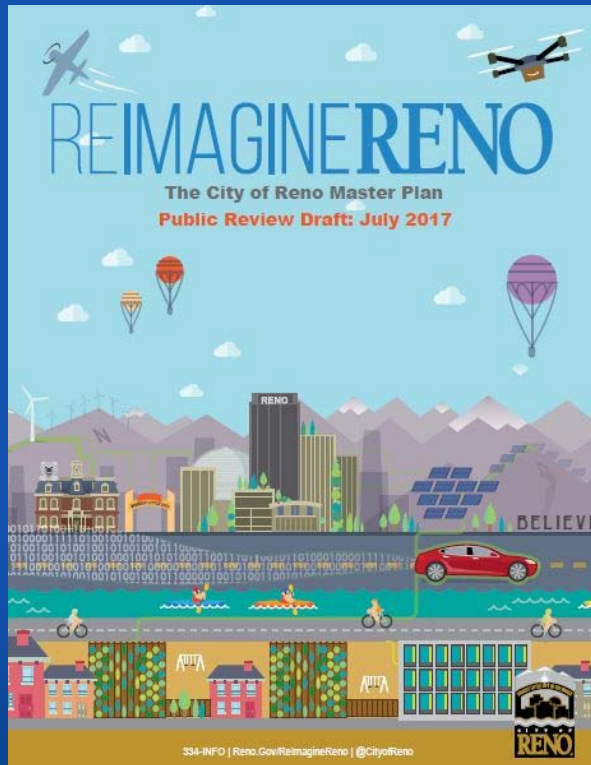
April 19, 2017

October 2017
Final Approval

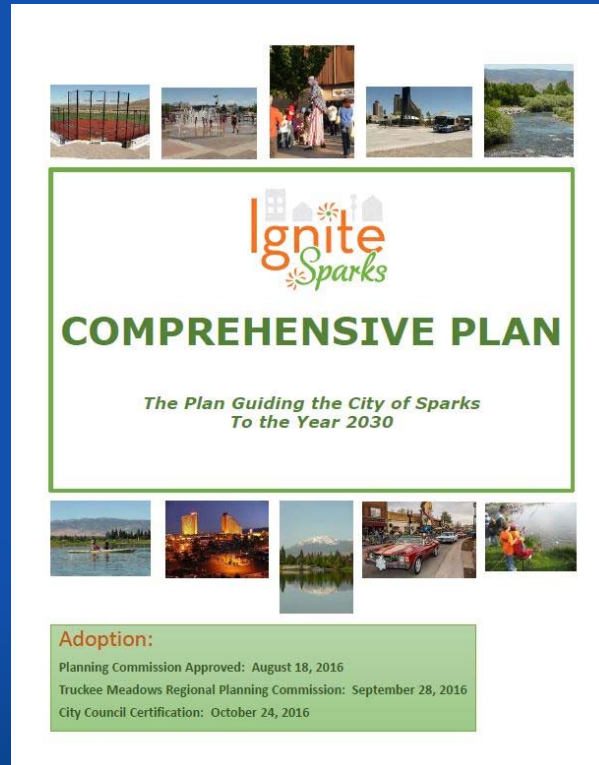


Photo by June Davis

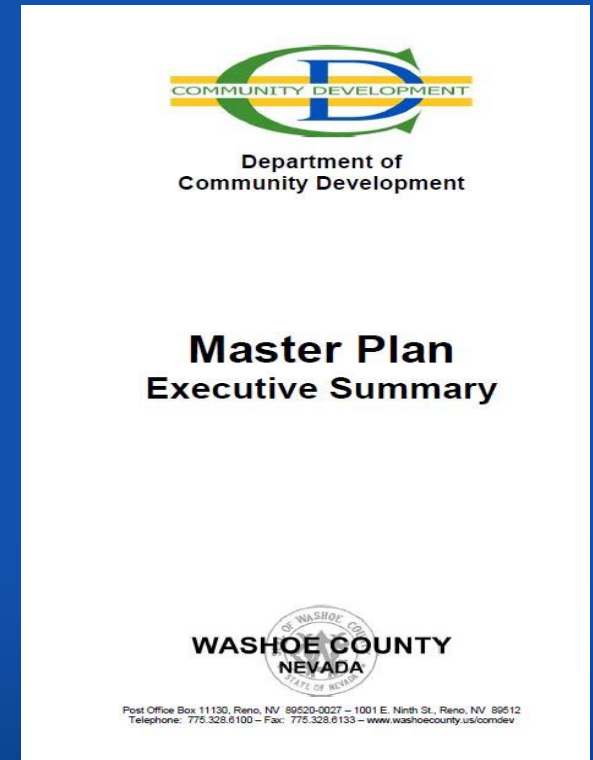
Master Plans



Final Stages of Draft



2016



2008

Key Planning Structure



Watershed Assessment for
Tributaries to the Truckee River

2015 Final Report



February 2016

Prepared for:
The Truckee Meadows Stormwater
Permit Coordinating Committee



Regional Storm Water Quality Management Program
Management Program (SWMP)



October 2016

Prepared for:
The Truckee Meadows Storm Water
Permit Coordinating Committee

TRUCKEE MEADOWS WATER AUTHORITY
WELLHEAD PROTECTION PROGRAM

May 4, 2016



TRUCKEE MEADOWS WATER
AUTHORITY

2016 – 2035 WATER RESOURCE PLAN

 **Goal #1**
Promote and protect water quality and ecosystem health in the Truckee River

Objectives:

1. Assure that storm drains are delivering the cleanest water into the river
2. Assure effective watershed management on the river and its tributaries
3. Mitigate human impacts that adversely impact water quality on the river
4. Create a rich and diverse vegetative ecosystem
5. Improve wildlife habitat continuity, connectivity and integrity
6. Improve river function and flood water management



one truckee river

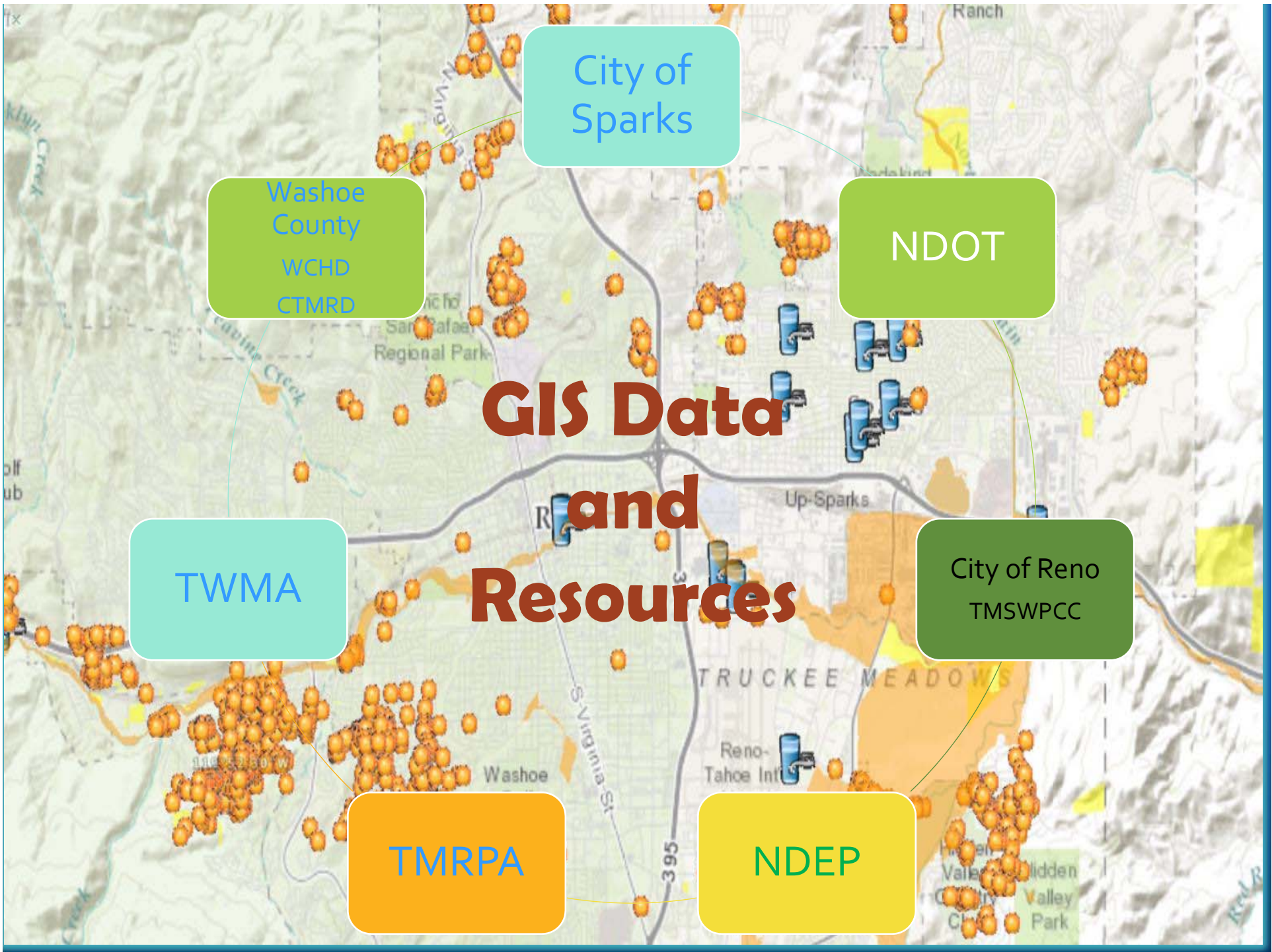
MANAGEMENT PLAN

PHASE 1 | WEST MCCARRAN TO SPARKS BOULEVARD



Funding Questions

- 1. Match:** Does your agency/department have non-federal match for projects (such as 319 grant funded projects).
 - Approximate lead time necessary to commit to match
 - For In kind
 - For Cash
 - Point person(s)?
 - Types of approvals necessary?
 - Dollar limitations for different levels of approval?
- 2. Funds:** Does your agency/department have funds that can be used for projects?
 - Timing for regular funding cycles
 - Amount of funding typically available
 - Point person / contact
 - Advertisement link
- 3. Lead Agency:** If grant opportunities were identified, could your agency be a lead?



City of Sparks

Washoe County
WCHD
CTMRD

NDOT

TWMA

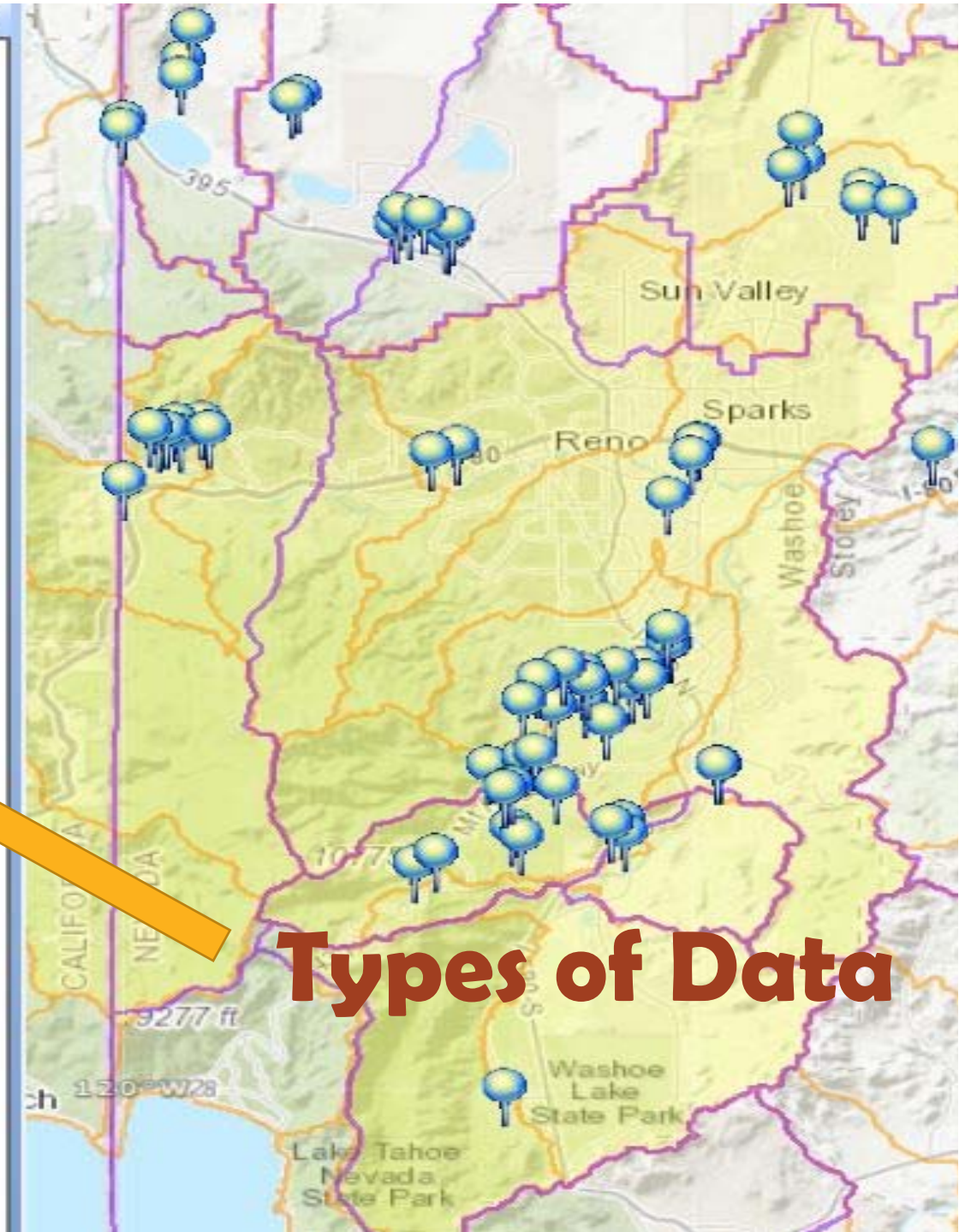
GIS Data and Resources

City of Reno
TMSWPCC

TMRPA

NDEP

- ents
- SWP_Working
 - Contaminat Sources
 - 2016 TMWA WHPA
 - EPA_data
 - NDEP_data
 - NDEP Map
 - eMap
 - NDOT
 - Washoe_Health
 - septic
 - UST
 - septic_100ft
 - 2017-05-08_EnviroFacts_JA
 - PCS_Info_VA_Rpt4-2017
 - Management Boundaries
 - Resources
 - Topography
 - Water Quality
 - Wells
 - DWR
 - NDEP
 - 2017-02-06_SDWIS_Rpt_Wells
 - 2017-02-06_SDWIS_Wells
 - 2017_02_06_SDWIS_Wells_150ft
 - 2017-04-07_VA_Rpt_Wells
 - Other
 - TMWA
 - Washoe_Health
- Basemap (Topographic)



Types of Data

Search

Search

ex: 37 25' 19.1"N, 122 05' 06"W

Get Directions

Places

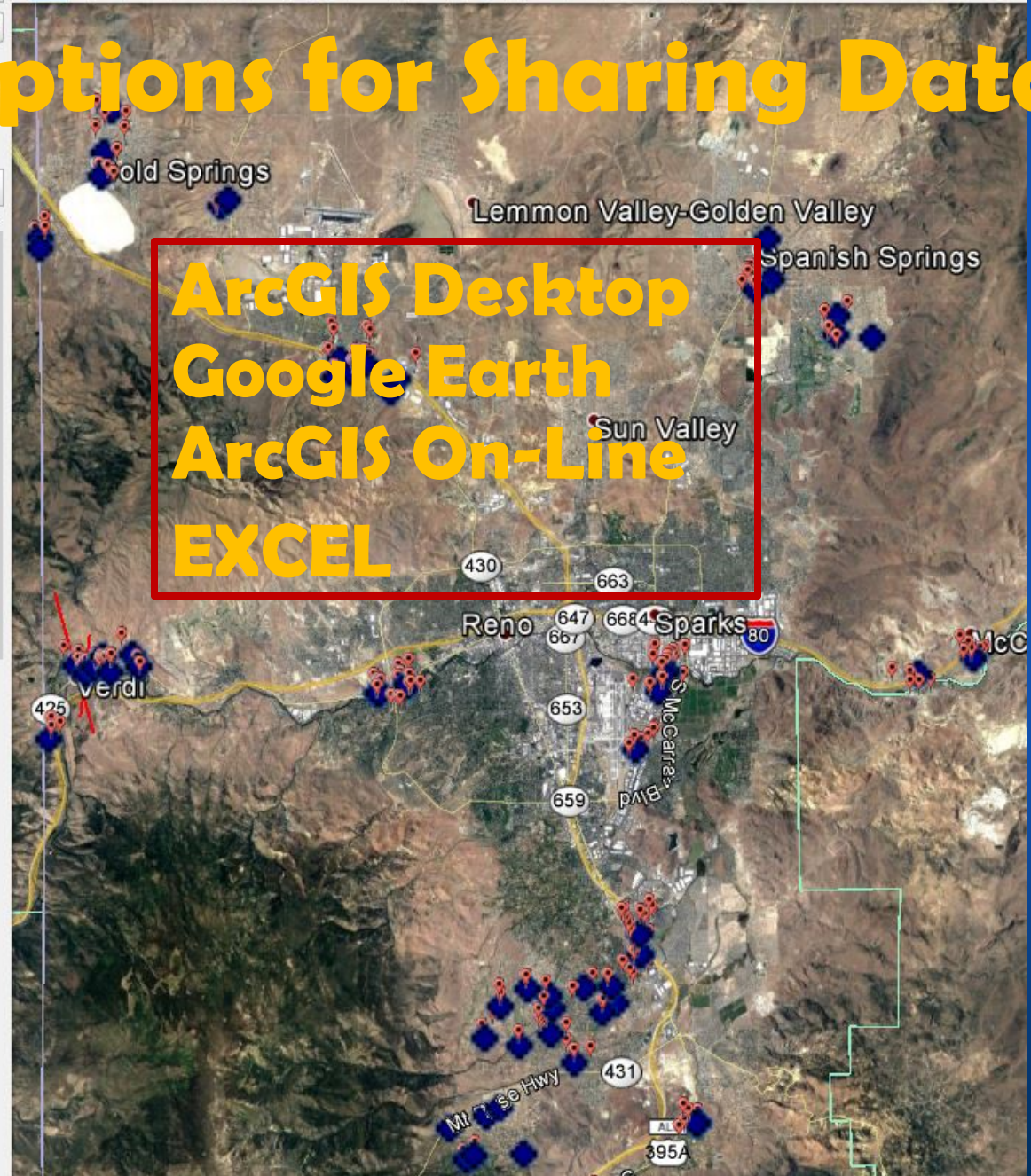
My Places

- Sightseeing Tour
Make sure 3D Buildings layer is checked
- SDWIS_02-2017_Locations
- 'Source Water Vul 04-2017S' Events
 - GRAND VIEW TERRACE WATER DISTRICT
 - GRAND VIEW TERRACE WATER DISTRICT
 - GRAND VIEW TERRACE WATER DISTRICT
 - EMPIRE WATER COMPANY
 - EMPIRE WATER COMPANY
 - EMPIRE WATER COMPANY
 - GERLACH GID
 - GERLACH GID
 - ARROWHEAD MHP
 - ARROWHEAD MHP
 - CRYSTAL TP
 - VERDI MEADOWS UTILITY COMPANY INC
 - VERDI MEADOWS UTILITY COMPANY INC
 - HIDDEN VALLEY
 - HIDDEN VALLEY
 - HIDDEN VALLEY
 - HIDDEN VALLEY
 - KE TA MOBILE HOME PARK
 - KE TA MOBILE HOME PARK
 - FOOTHILL TRAILER PARK
 - UTILITIES INC. OF NEVADA
 - UTILITIES INC. OF NEVADA
 - UTILITIES INC. OF NEVADA
 - UTILITIES INC. OF NEVADA
 - UTILITIES INC. OF NEVADA
 - SOUTH TRUCKEE MEADOWS GID
 - SOUTH TRUCKEE MEADOWS GID
 - SOUTH TRUCKEE MEADOWS GID
 - SOUTH TRUCKEE MEADOWS GID
 - SOUTH TRUCKEE MEADOWS GID
 - SOUTH TRUCKEE MEADOWS GID



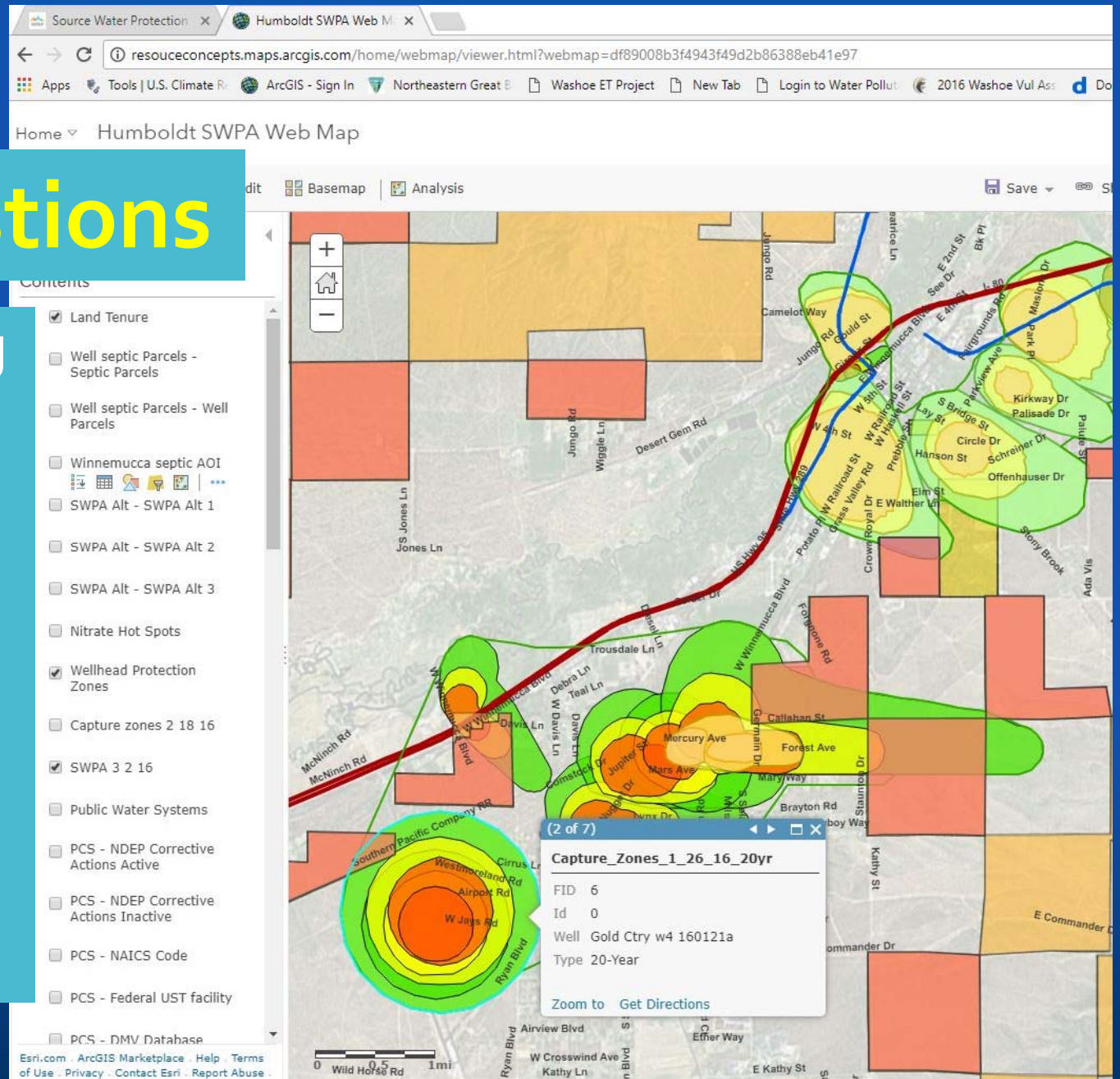
Options for Sharing Data

ArcGIS Desktop
Google Earth
ArcGIS On-Line
EXCEL



Questions

- Requesting data?
- Format for sharing?
- Approvals for certain data?
- Minimum standards?



What are the problems?

Wells? Where are the wells?

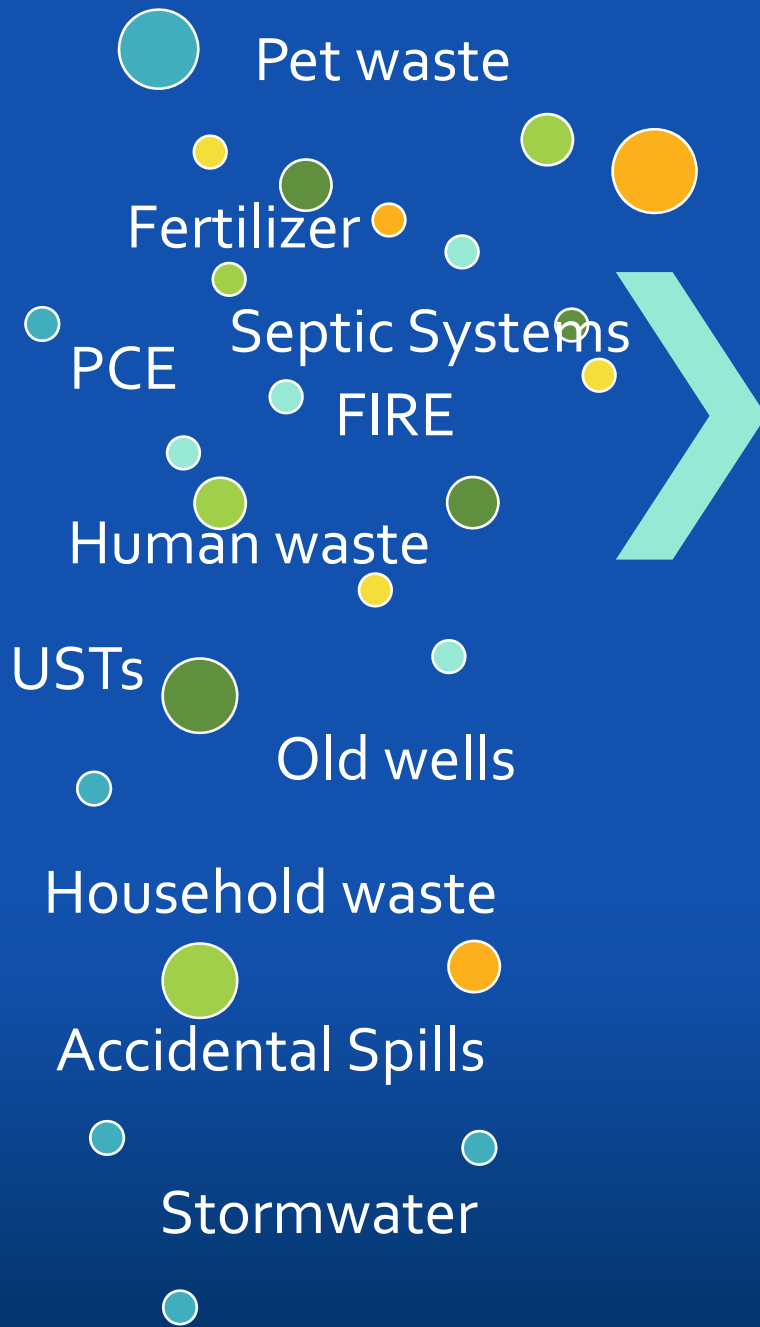
Will this cost me more money?

Drinking water and watershed protection are not always elevated in local / regional development review or on the ground actions.

Will this deter development?

Do developers care?

Doesn't someone else do this?



There are many contaminants in capture zones and watersheds across jurisdictional boundaries.

Coordination for protection is needed on many levels.



What are the problems?



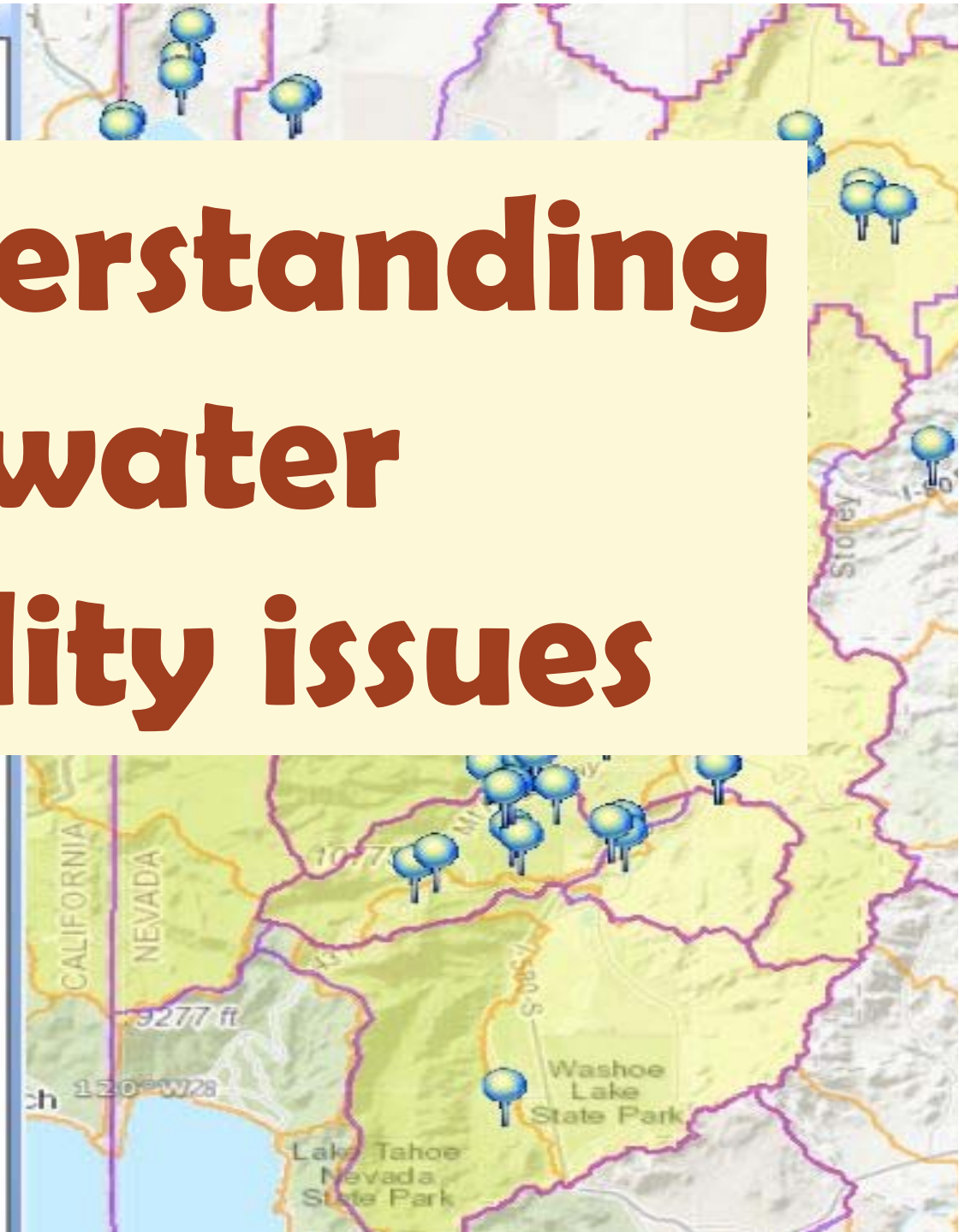
| PCS Category | Management Strategy |
|---|---|
| PCE Sites | TMWA, CTMRD |
| Leaking Underground Storage Tanks | Identification and Reduction Plan Regulatory Enforcement WHPP Team Involvement |
| Abandoned or Private Wells | Well Survey Contact Owners and Drillers |
| Monitoring Wells | Management and Reduction Plan WHPP Team Involvement |
| Septic Systems | Septic Survey Contact Owners and Installers |
| Auto Repair, Gas Stations, Fueling Facilities, Manufacturing, Businesses | Regulatory Enforcement Contact Owners |
| Recreation Facilities | Interagency Cooperation WHPP Team Involvement |
| Government Installations | Interagency Cooperation WHPP Team Involvement |

Do you need a
break?



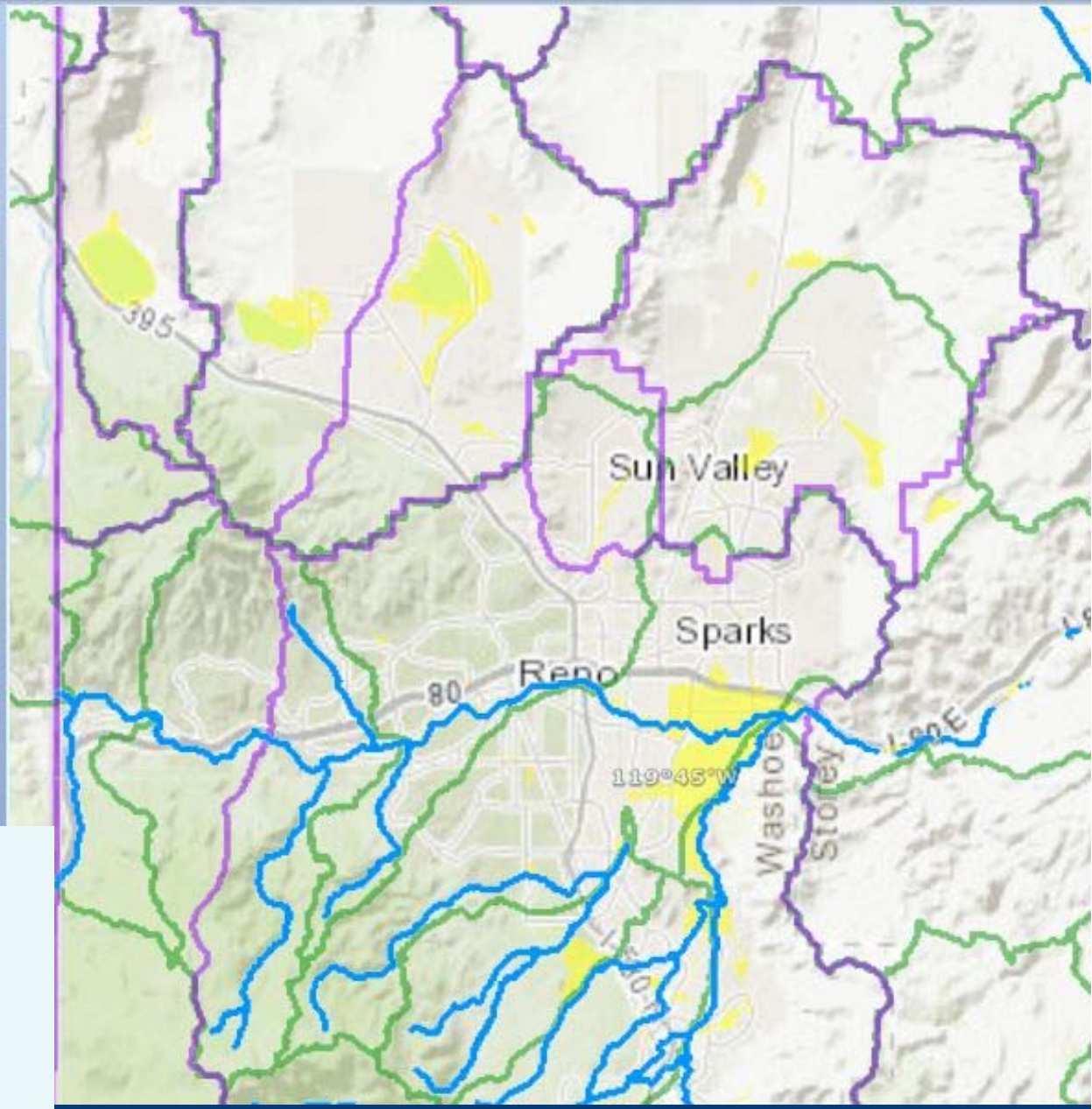
Understanding our water quality issues

- ents
- SWP_Working
 - Contaminat Sources
 - 2016 TMWA W...
 - EPA_data
 - NDEP_data
 - NDEP Map
 - eMap
 - NDOT
 - Washoe_ Heal
 - septic
 - UST
 - septic_100f
 - 2017-05-08_En
 - PCS_Info_VA_R
 - Management Bou
 - Resources
 - Topography
 - Water Quality
 - Wells
 - DWR
 - NDEP
 - 2017-02-06_SDWIS_Rpt_Wells
 - 2017-02-06_SDWIS_Wells
 - 2017_02_06_SDWIS_Wells_150ft
 - 2017-04-07_VA_Rpt_Wells
 - Other
 - TMWA
 - Washoe_Health
 - Basemap (Topographic)

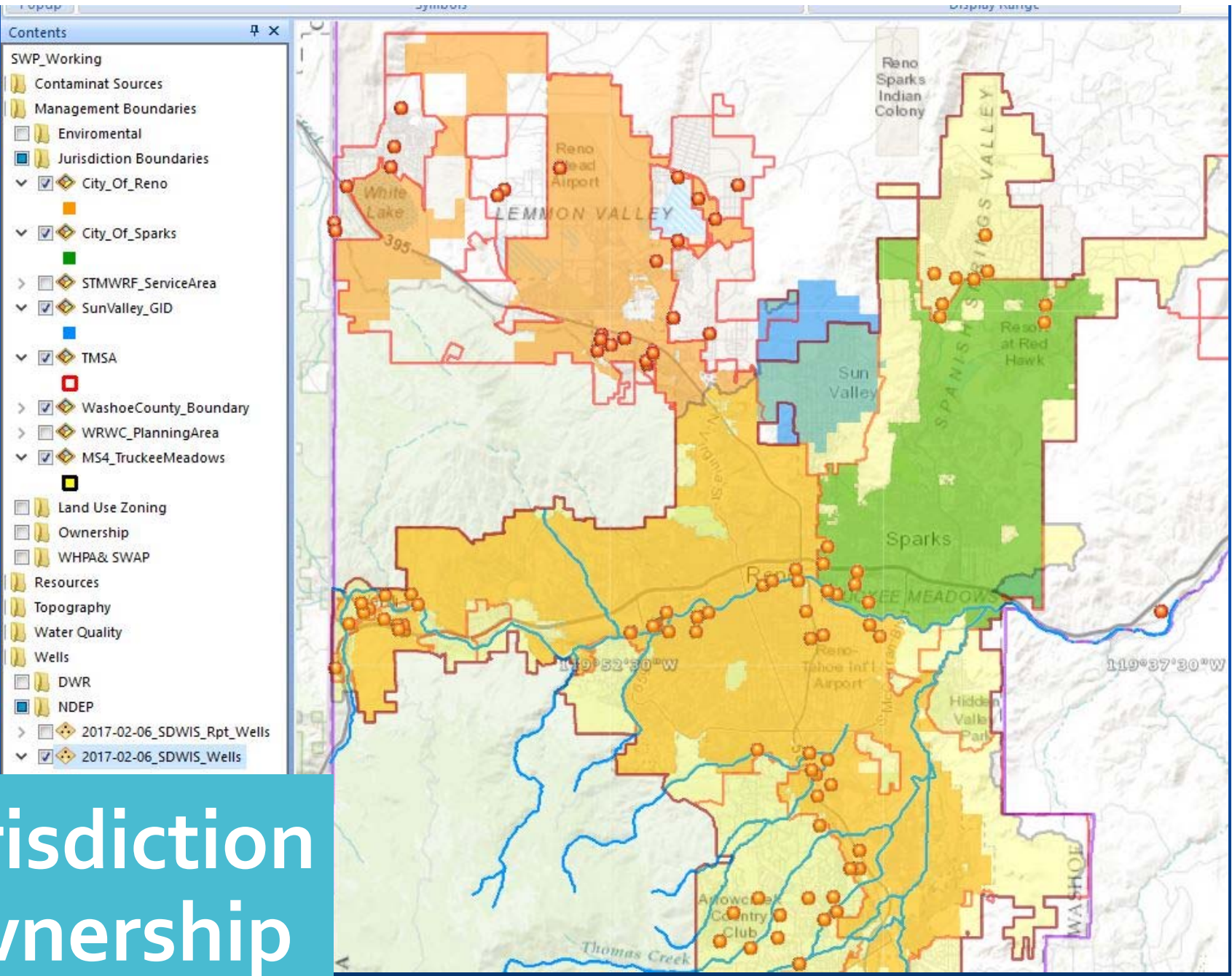


Contents

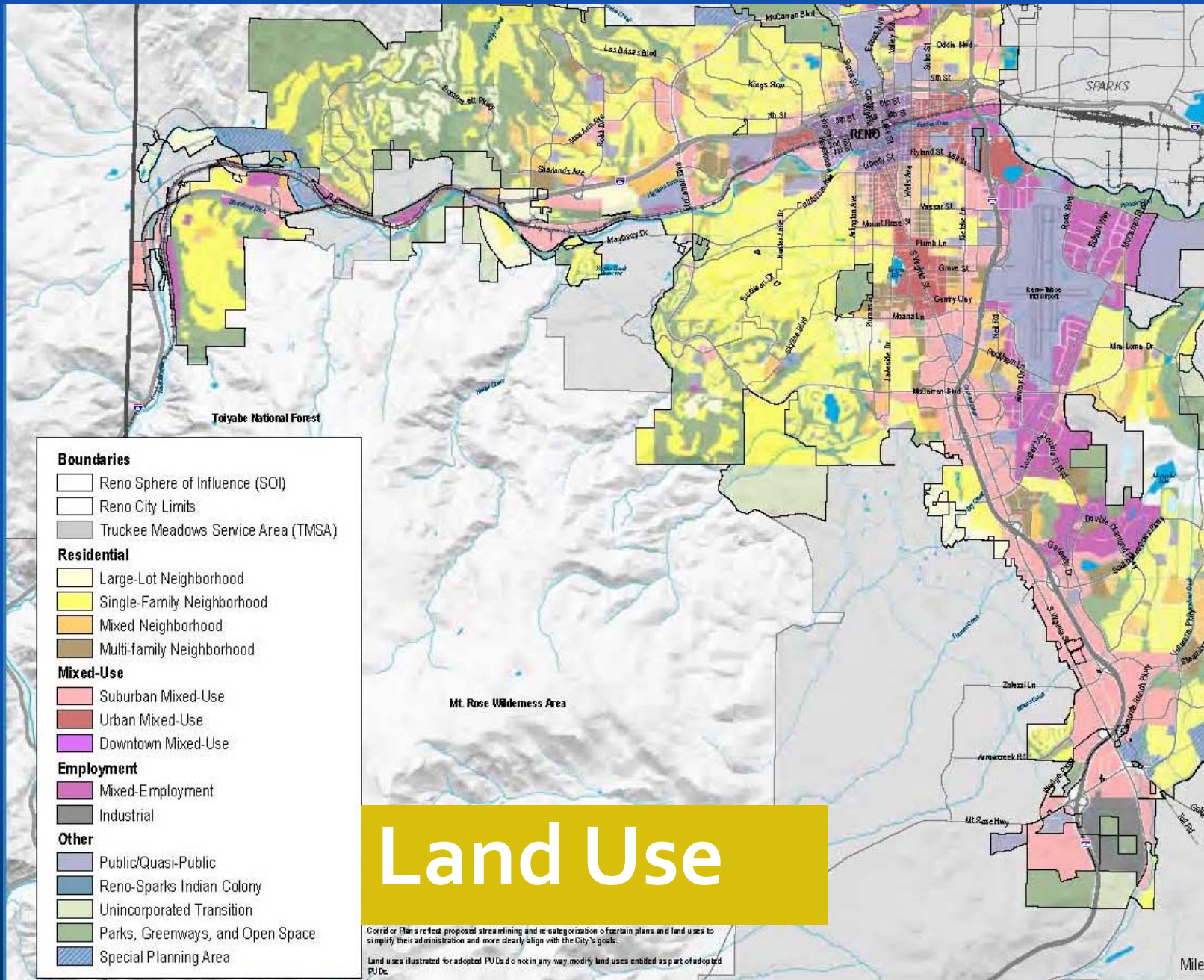
- ▼ SWP_Working
 - > Contaminat Sources
 - > Management Boundaries
 - ▼ Resources
 - ▼ FEMA
 - > FEMA100yrFloodPlan
 - ▼ Geology
 - > Washoe_area_Geolog
 - ▼ Hydrology
 - > reno_sparks_Waterlir
 - > Watershed_Project_A
 - ▼ wbdhu12_a_nv031
 - ▼ WC_HydroBasins
 - > Topography
 - > Water Quality
 - > Wells
 - Basemap (Topographic)



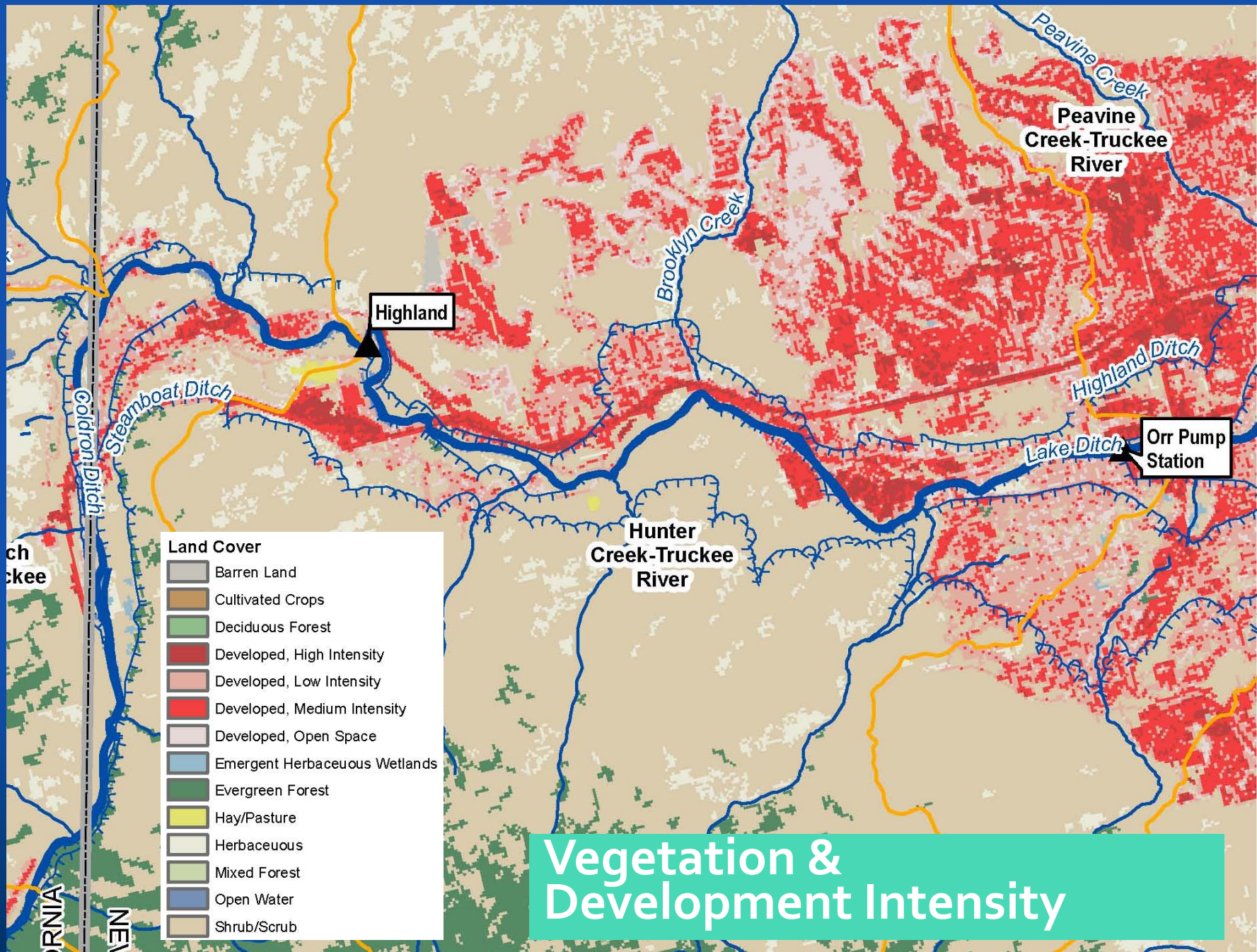
Topography, Geography, Hydrology



Jurisdiction Ownership

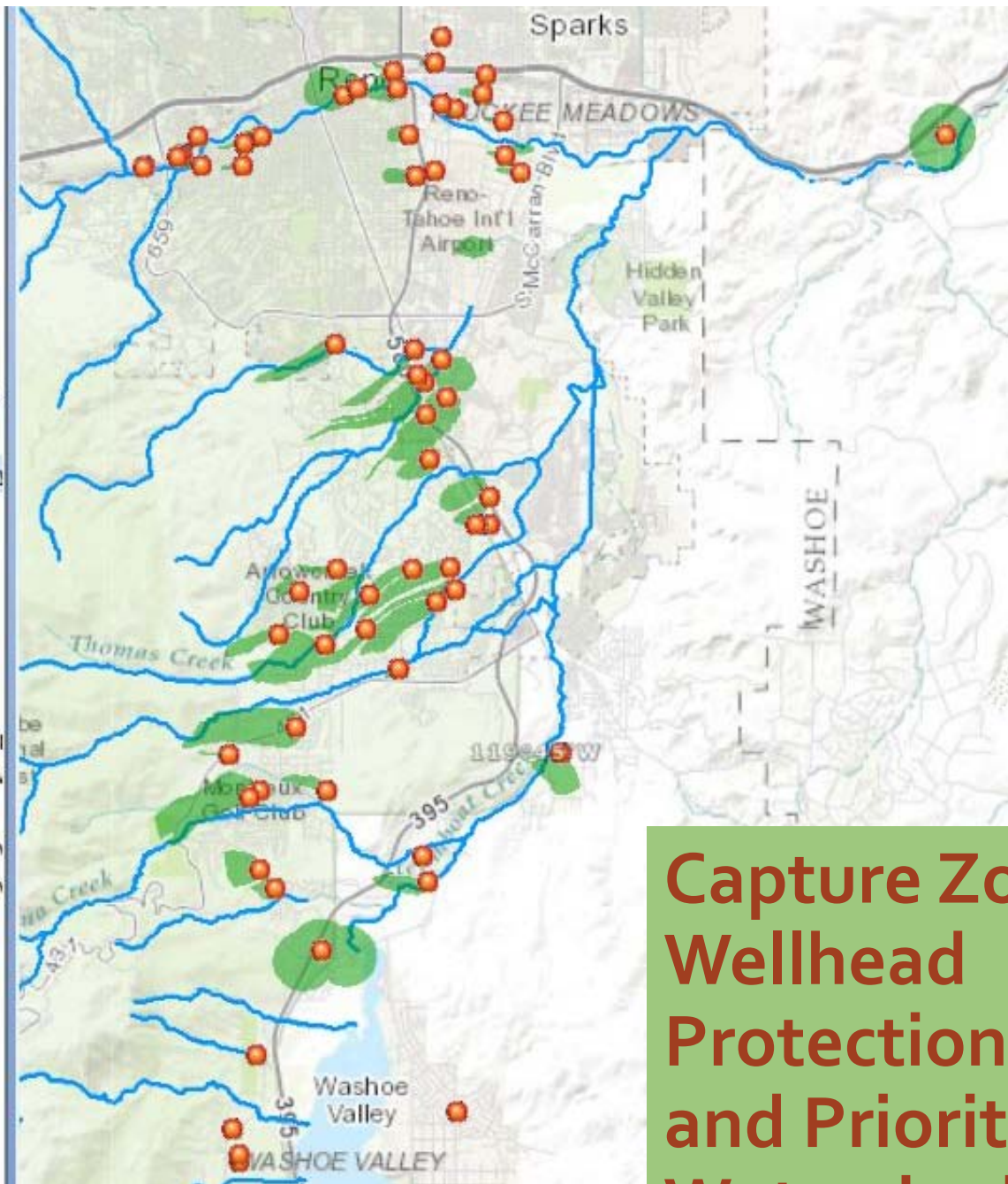


Source: City of Reno Master Plan Public Review Draft July 2017



Source: TMWA Truckee River Watershed Middle Watershed Land Use Figure

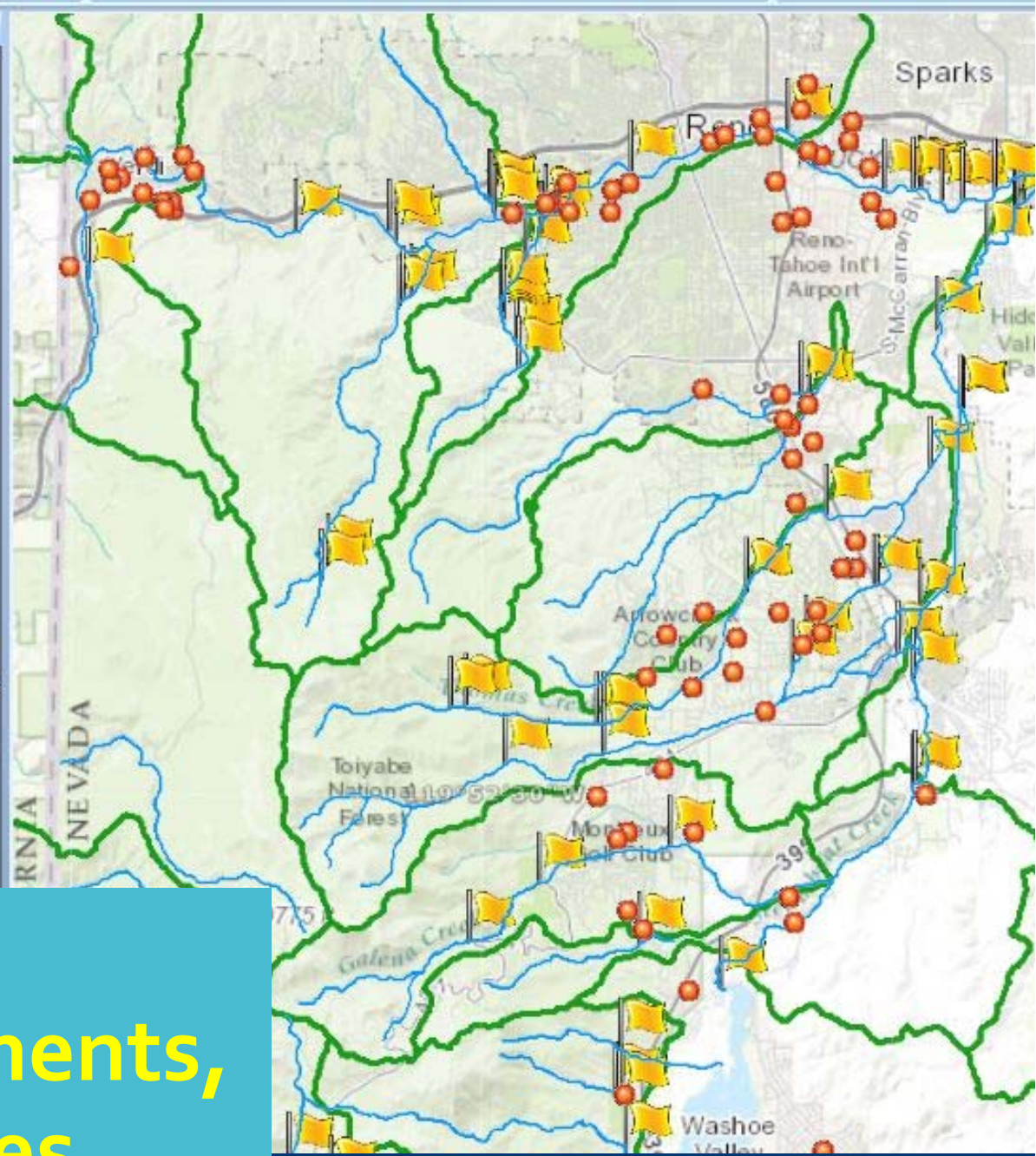
- ▼ SWP_Working
 - > Contaminat Sources
 - ▼ Management Boundaries
 - > Enviromental
 - > Jurisdiction Boundaries
 - > Land Use Zoning
 - > Ownership
 - ▼ WHPA& SWAP
 - > DWPA_2013
 - > TMWA_2016_WHPAs
 - > Washoe_DWPA_2013
 - > WHPA_2014
 - > Washoe_Vulnerability
 - > Resources
 - > Topography
 - > Water Quality
 - ▼ Wells
 - > DWR
 - ▼ NDEP
 - > 2017-02-06_SDWIS_R1
 - ▼ 2017-02-06_SDWIS_W
 - > 2017_02_06_SDWIS_W
 - > 2017-04-07_VA_Rpt_V
 - > Other
 - > TMWA
 - > Washoe_Health
- Basemap (Topographic)



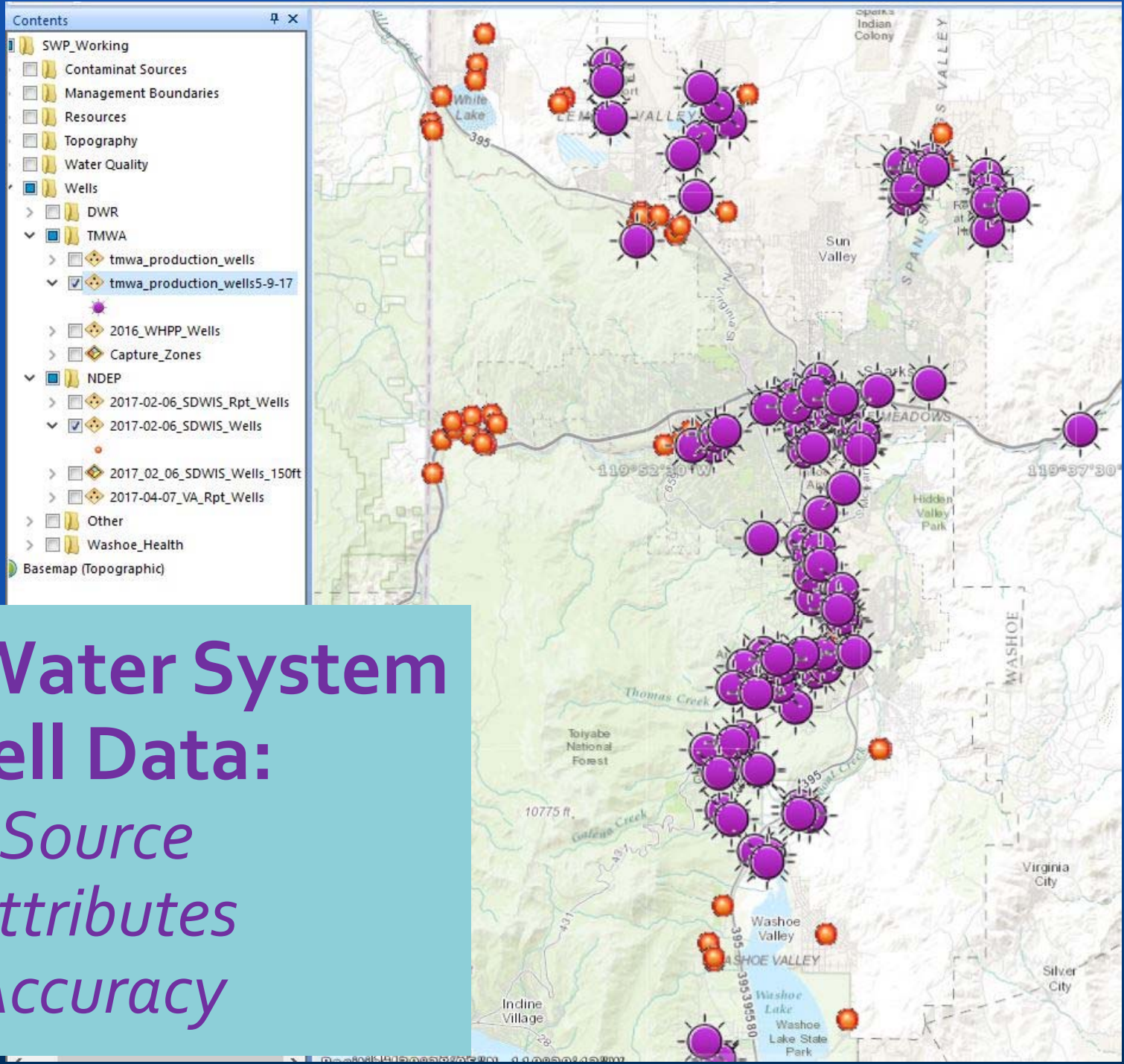
**Capture Zones,
Wellhead
Protection Areas,
and Priority
Watersheds**

Contents

- ▼ SWP_Working
 - > Contaminat Sources
 - > Management Boundaries
 - ▼ Resources
 - > FEMA
 - > Geology
 - ▼ Hydrology
 - > reno_sparks_Waterlines
 - > Watershed_Project_Area
 - ▼ wbdhu12_a_nv031
 - ▼ WC_HydroBasins
 - > Topography
 - ▼ Water Quality
 - > Washoe_AssessedLakes2014
 - ▼ Washoe_AssessedSampleSite:
 - ▼ Washoe_AssessedStreams201
 - > Wells
 - Basemap (Topographic)



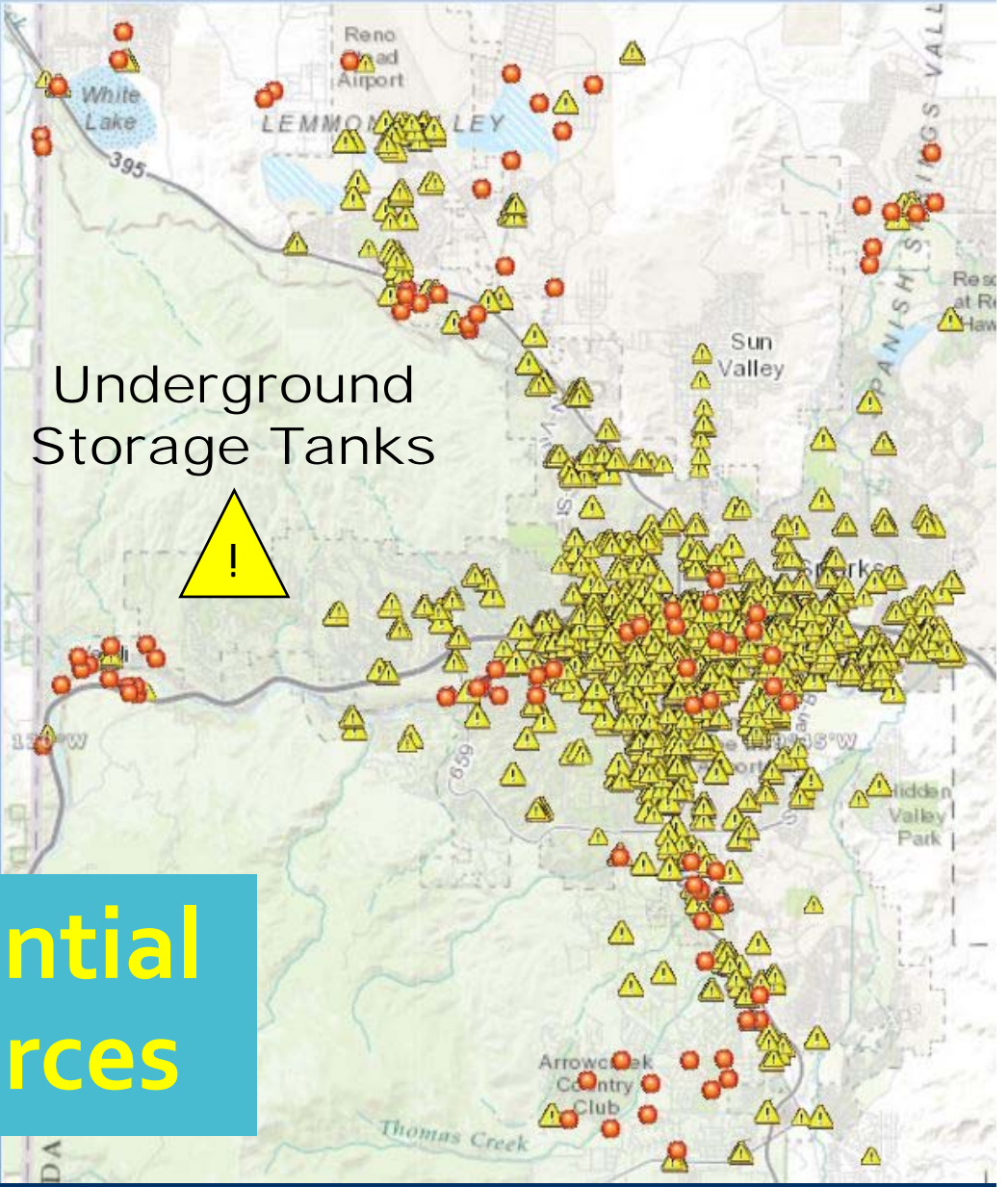
Watersheds, Tributary Segments, Monitoring Sites



Public Water System Well Data: *Source Attributes Accuracy*

Popup Content
 Symbols
 Transparency
 Point Style
 Size
 Color
 Minimum: <None>
 Maximum: <None>
 Display Range
 Use Current
 Use Current
 Clear

- Contents
- SWP_Working
 - Contaminat Sources
 - 2016 TMWA WHPA
 - EPA_data
 - NDEP_data
 - UndergroundStorageTank_Active
 - UndergroundStorageTank_Facility
 - NDEP Map
 - eMap
 - NDOT
 - Washoe_Health
 - septic
 - UST
 - septic_100ft
 - 2017-05-08_EnviroFacts_JA
 - PCS_Info_VA_Rpt4-2017
 - Management Boundaries
 - Resources
 - Topography
 - Water Quality
 - Wells
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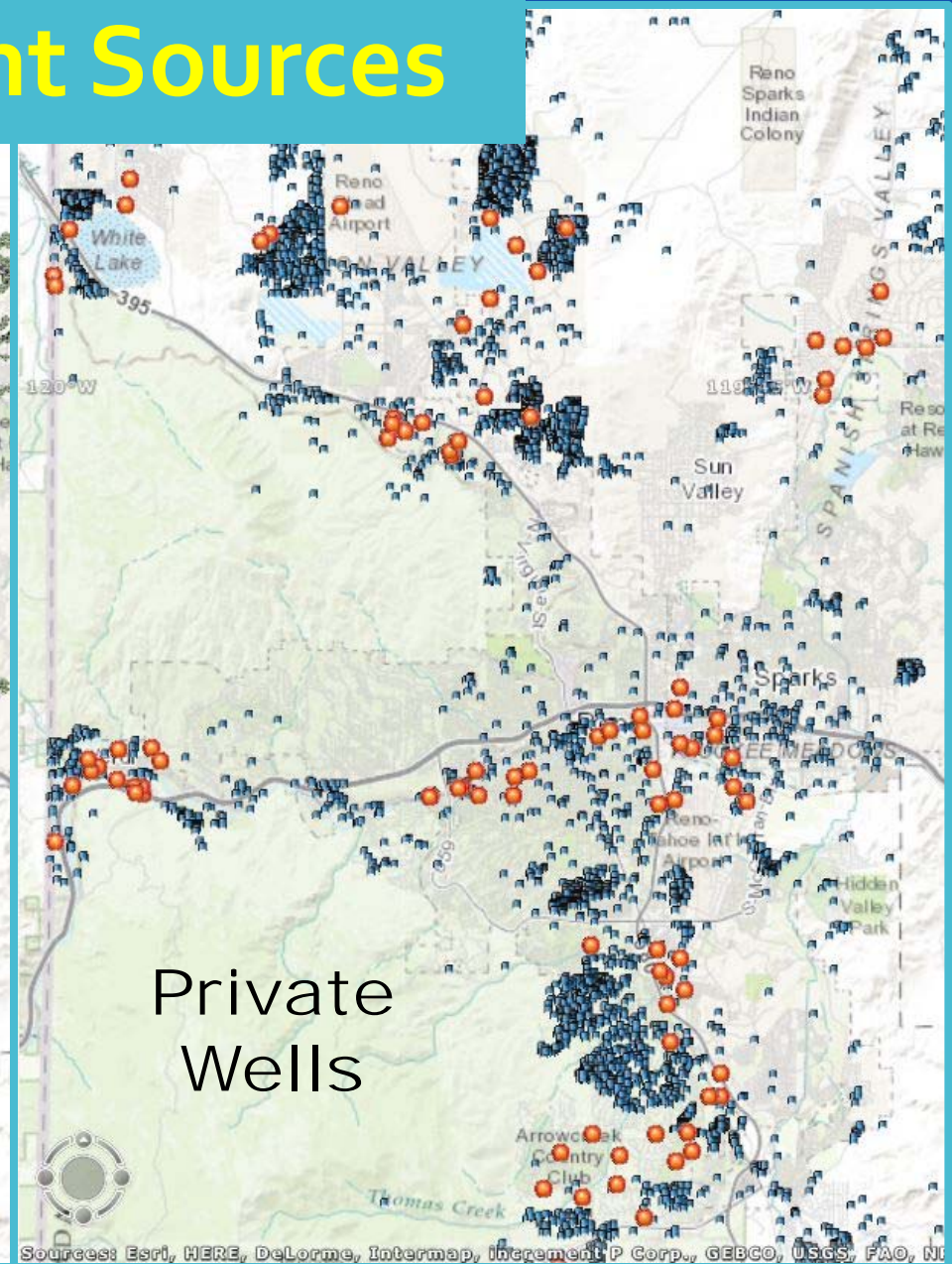
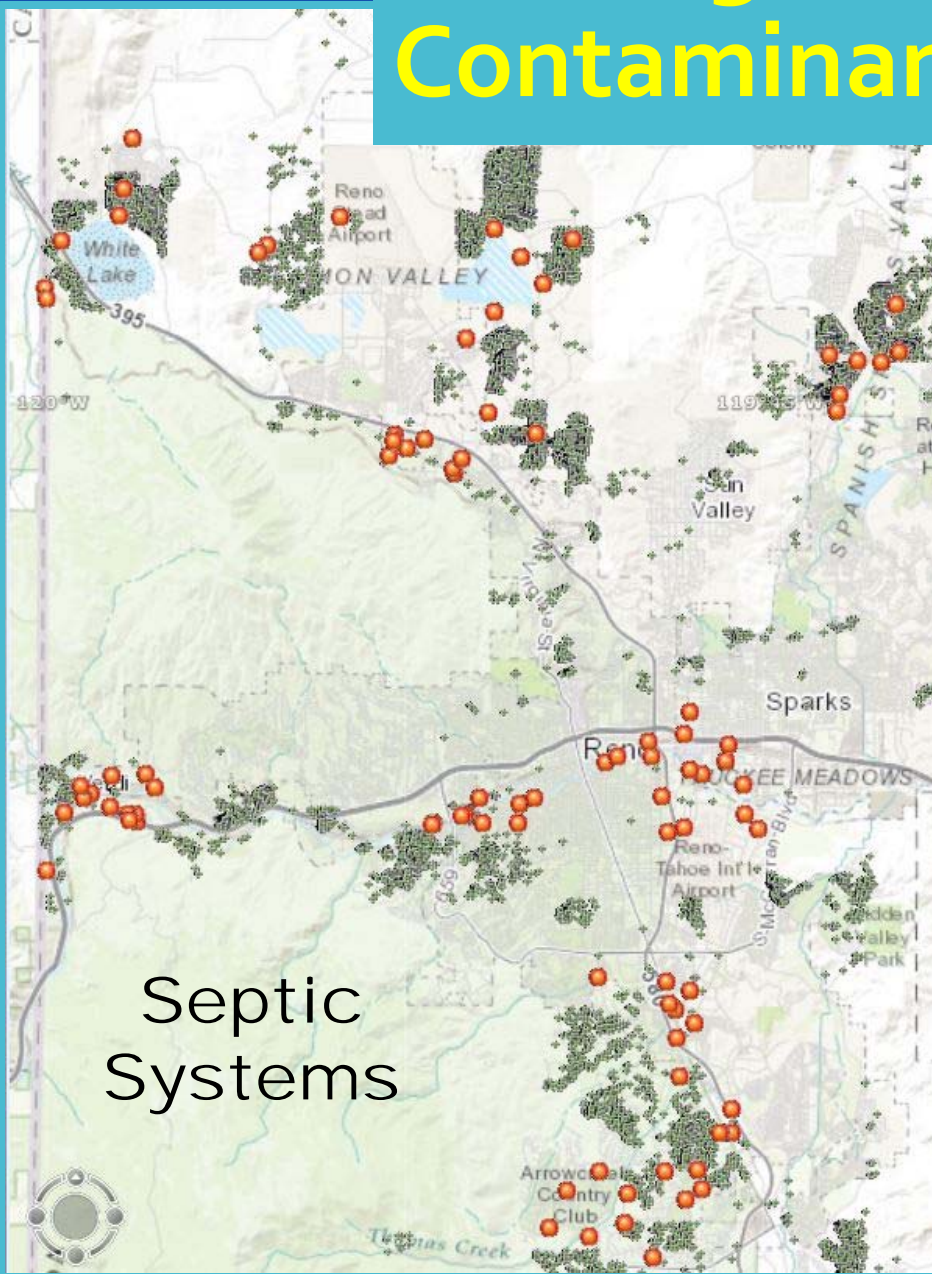


Underground Storage Tanks



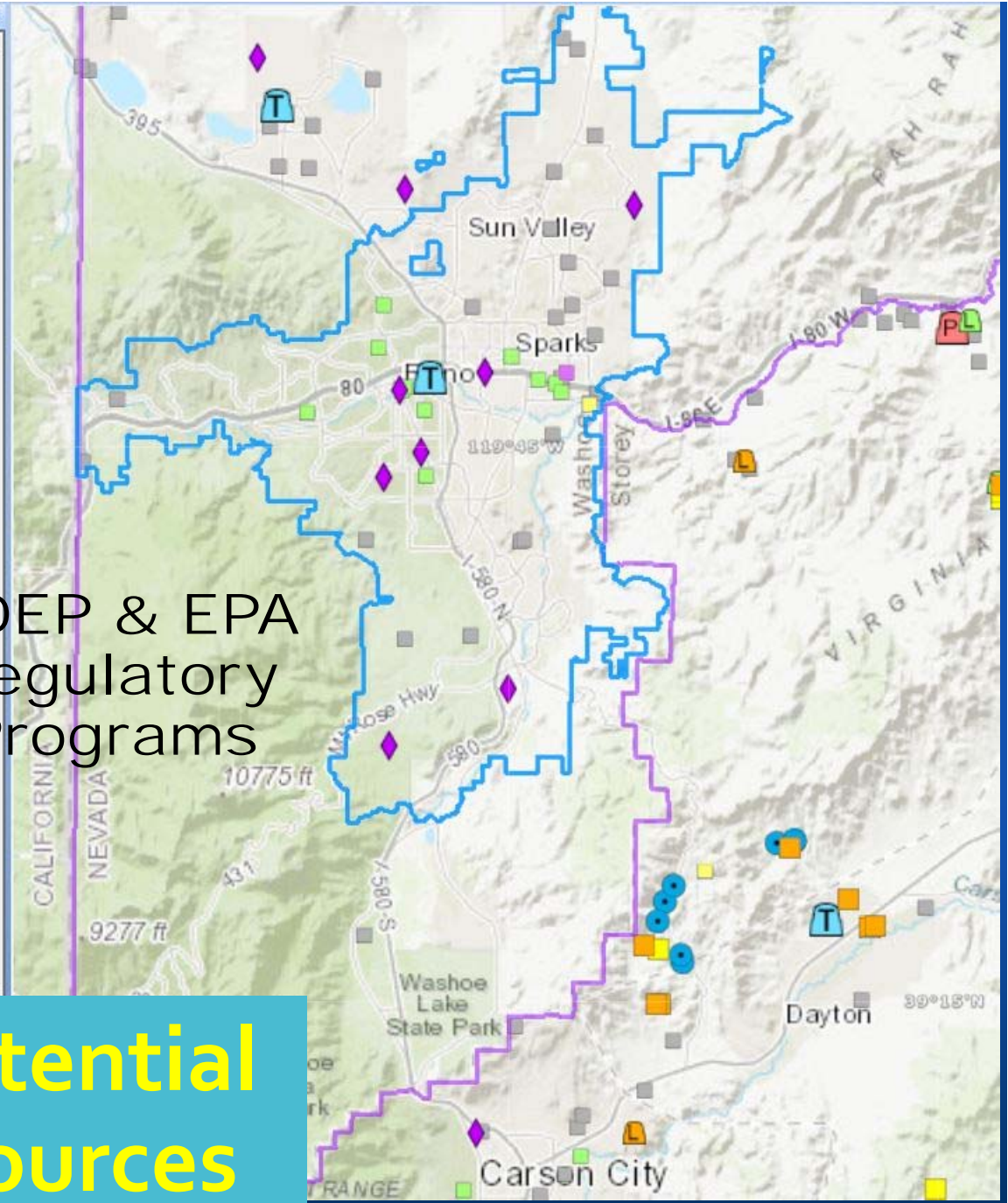
Existing and Potential Contaminant Sources

Existing and Potential Contaminant Sources



Contents

- SWP_Working
 - Contaminat Sources
 - 2016 TMWA WHPA
 - NDEP Map
 - eMap
 - Air Quality
 - Corrective Actions
 - Federal Facilities
 - Mining
 - BMRR Reclamation Sites
 - BMRR Regulation Sites
 - BMRR Leach Pads
 - BMRR Pits
 - BMRR Pit Lakes
 - BMRR Tailings
 - BMRR Waste Rock Dumps
 - Waste Management
 - BWM Composting Facilities
 - BWM Landfills
 - BWM Transfer Stations
 - BWM Waste Bins
 - BWM Process Facilities
 - Water Pollution Control
 - BWPC Permits UIC
 - BWPC Permits
 - PERMITTYPE
 - Existing Manufacturing, Comme
 - Manufacturing, Commercial, Mir
 - NEV Groundwater Discharge
 - New & Existing Concentrated Ar
 - New & Existing Publicly Owned
 - New Manufacturing, Commerci



NDEP & EPA Regulatory Programs

Existing and Potential Contaminant Sources

Creating a Useful Tool for Decision Making

Pulling it all together to something
you can use!

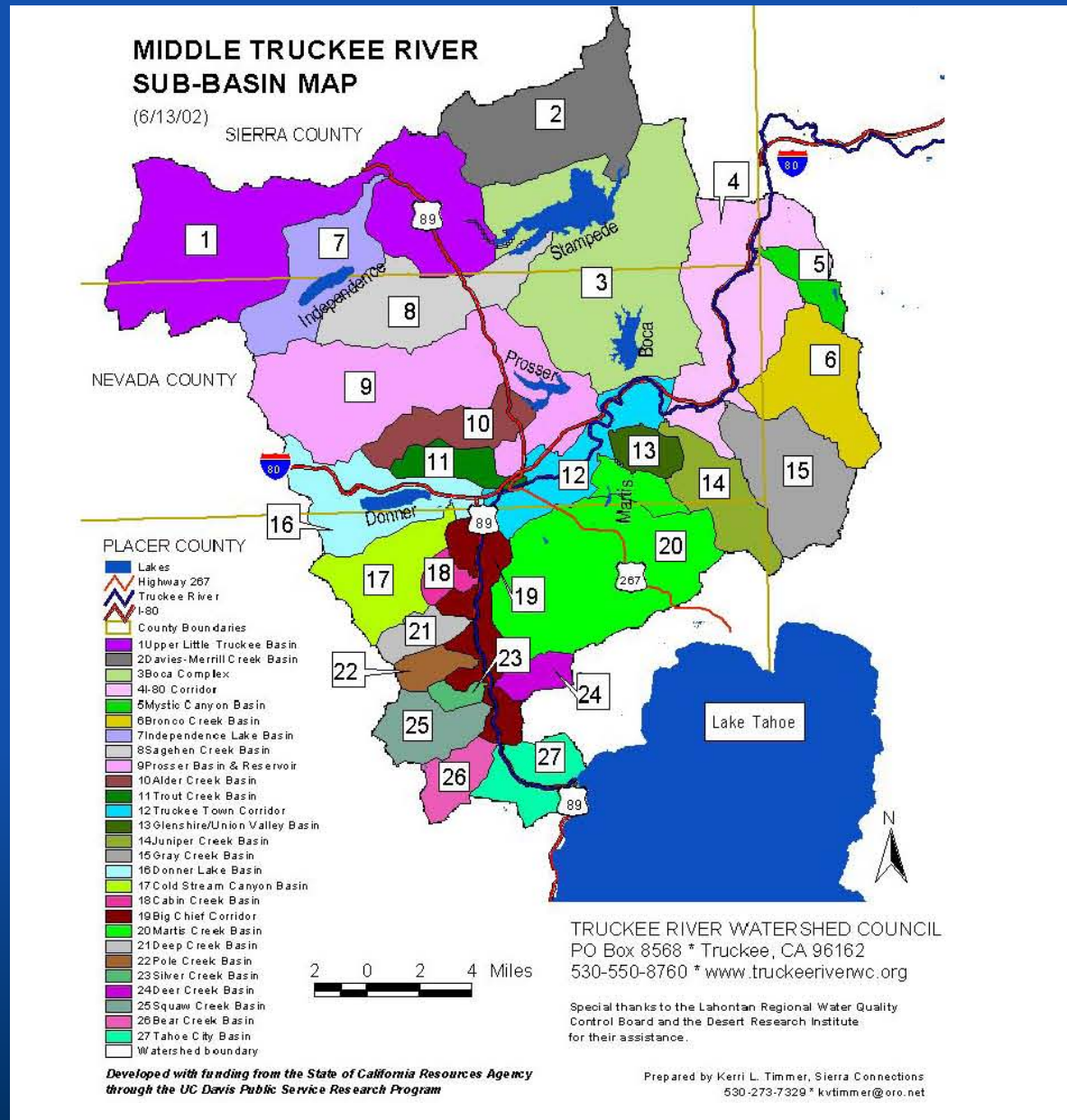
- Describe the Situation
- Prioritize Actions
- Implement

How to Break it Down?

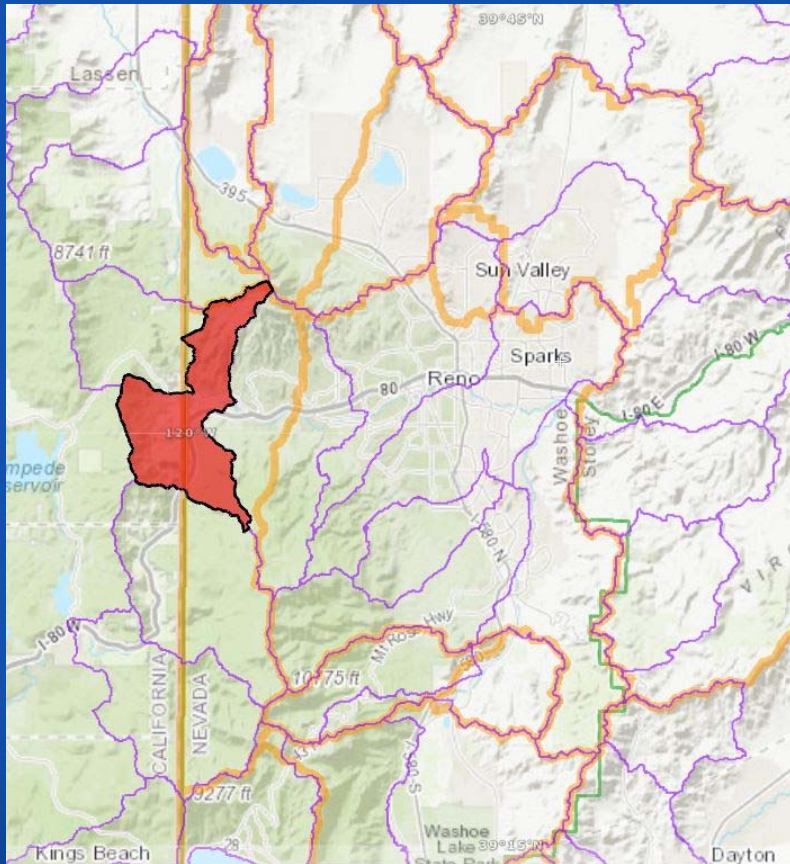
Hydrologic
Divisions

Geographic
Divisions

Jurisdictional
Divisions



1.0 Introduction



Watershed (HUC 12): Bull Ranch Crk.
GW Basin (091): Truckee Canyon Seg.
Area: 16,988 acres

Jurisdiction (% of area in NV):

Washoe Co. 82% Reno 18%

USDA FS 42% Non Fed 58%

Towns: Verdi, Mogul

Public Water Systems: 10

Surface: Truckee River, 2 Springs

PWS Wells: 13

Special Consideration: 2 States

California 38% Nevada 62%

Example: Verdi Area

2.0 Watershed & Source Water Description

General Comment:

Both sides of the Truckee R.
I-80 and Railroad corridor

Elevation: 8820 to 4760

Tributaries:

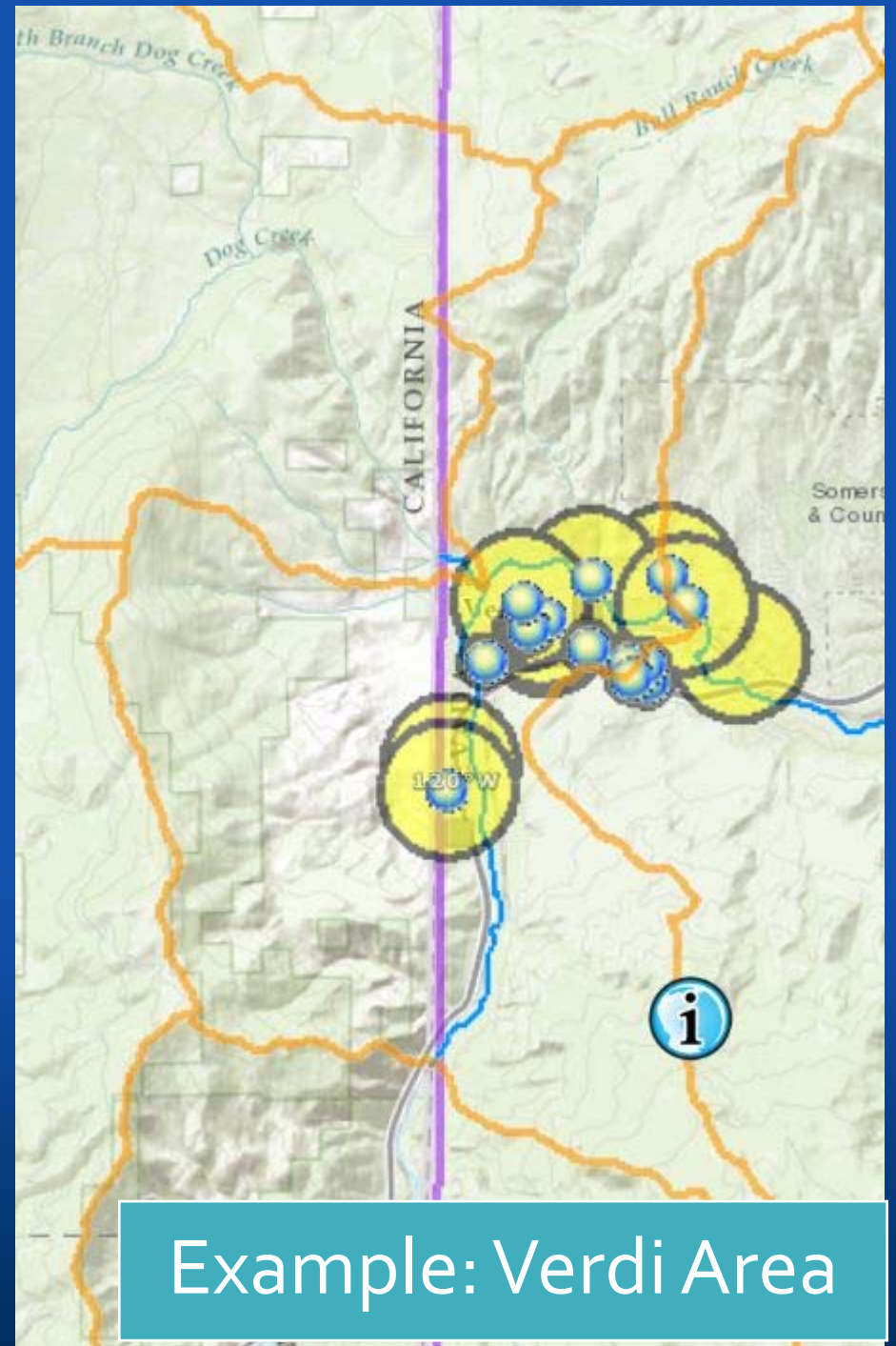
Bull Ranch Crk, Sunrise Crk
Coldron, Steamboat, Hill
Lane, Powerhouse ditches

Source Water Protection Areas:

1200 & 3000 foot Well Buffers

Aquifers:

Deeper fractured rock
Shallow alluvial



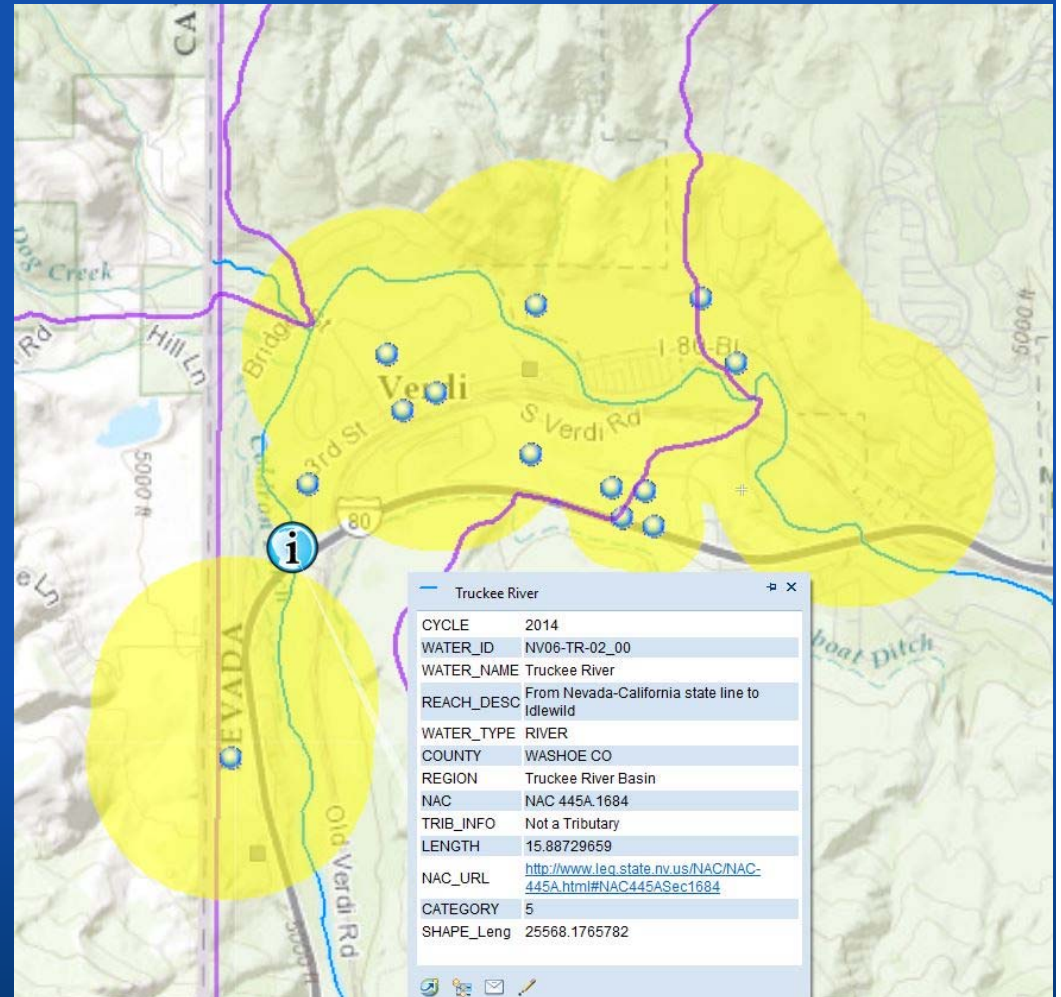
2.0 Watershed & Source Water Description

Water Use:

- Drinking Water
- GW Recharge
- Irrigation Diversions
- Wildlife, Recreation, Etc.

Water Quality Standards:

- In Stream WQ Standards
- TM and NDOT MS₄ Storm Water Requirements
- TMWA Treatment
- PWS Drinking Water MCLs

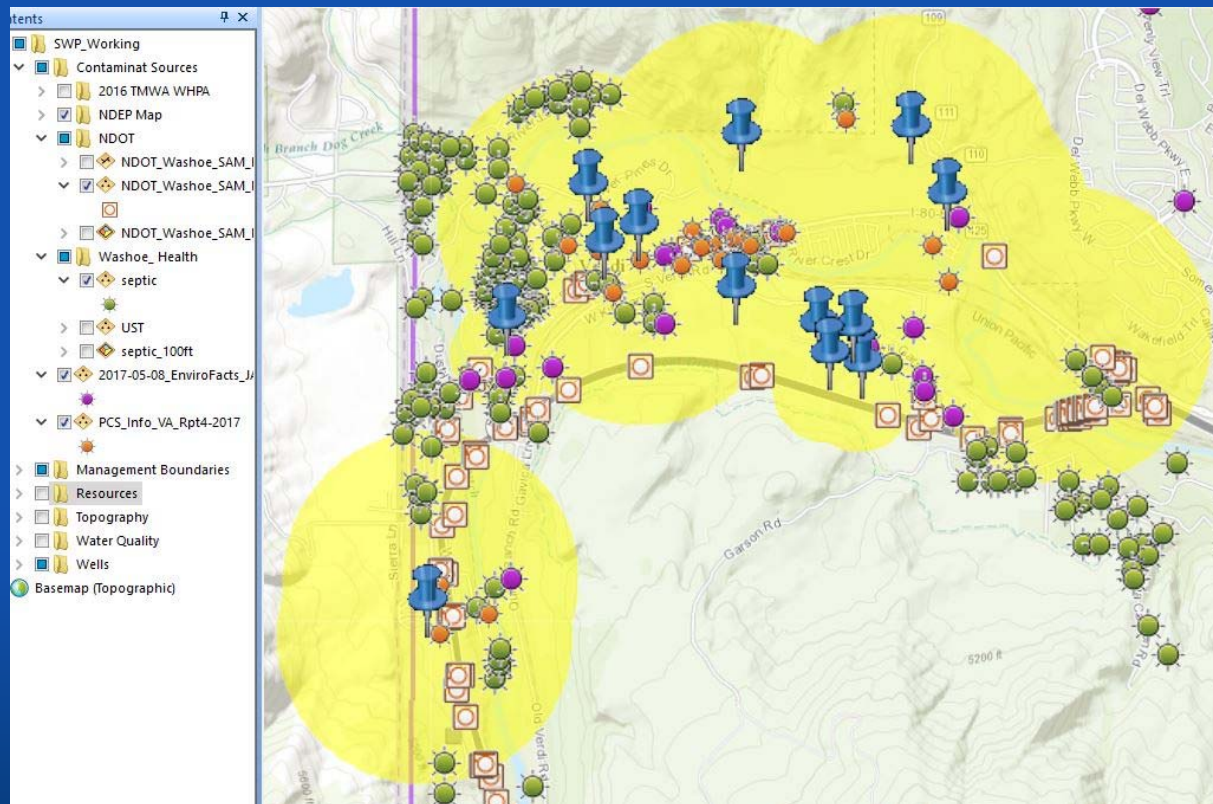


Example: Verdi Area

3.0 Water Quality Concerns

Existing and Potential Contaminant Sources:

- Septic Systems,
- Private Wells,
- USTs
- Highway
- Storm water
- Railroad
- EPA Database
- Other Facilities
- Spills



Example: Verdi Area

4.0 Ex. Plans Policy, Plans Programs

- Jurisdictions:

- MS₄, TMWA, TMWRF, other PWS
- Reno, Washoe County
- WCHD, WRWC, TMRPA
- NDOT, State Lands, California(?)
- US Forest Service

- Other Stakeholders:

Businesses

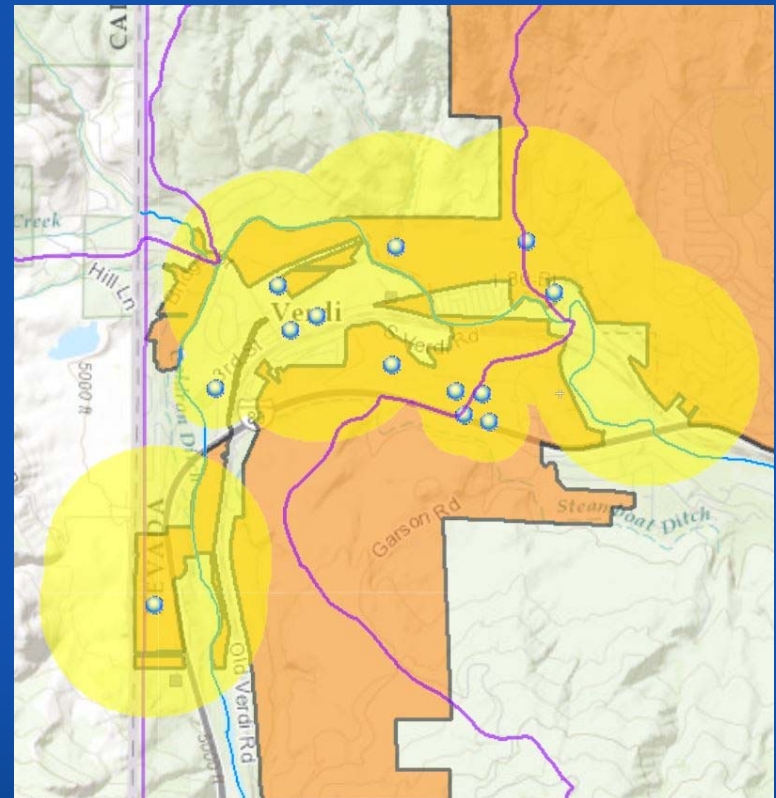
Community Organizations

KTMB, OTR, NLT

Truckee- Carson Conservation District

Truckee Watershed Council

NDOT, Railroad



Example: Verdi Area

5.0 Management Measures

TBD

6.0 Plan Implementation

TBD

7.0 Public Participation & Outreach

TBD

Example: Verdi Area

Discussion

