



Parowan Valley Public Meeting

January 11, 2022

Agenda

1. Welcome
2. History, Background & Process
3. Safe Yield from Hydrologic Studies
4. Framework of a Plan
5. Report from Committee
6. Next Steps

Groundwater Management Plans

Legislation enacted in 2006

Established Section 73-5-15 of Utah Code

Tool to Distribute Groundwater

- Objectives:
 - Limit withdrawals to safe yield;
 - Protect physical integrity of the aquifer
 - Protect water quality
- Based on the Principles of Prior Appropriation
- Voluntary Arrangements

Timeline

2013, April - Public Meeting
Initiation of a USGS Study
Policy Discussion

2017, August - USGS Study Published
Water Resources of Parowan Valley, Iron County, Utah
Scientific Investigations Report 2017-5033

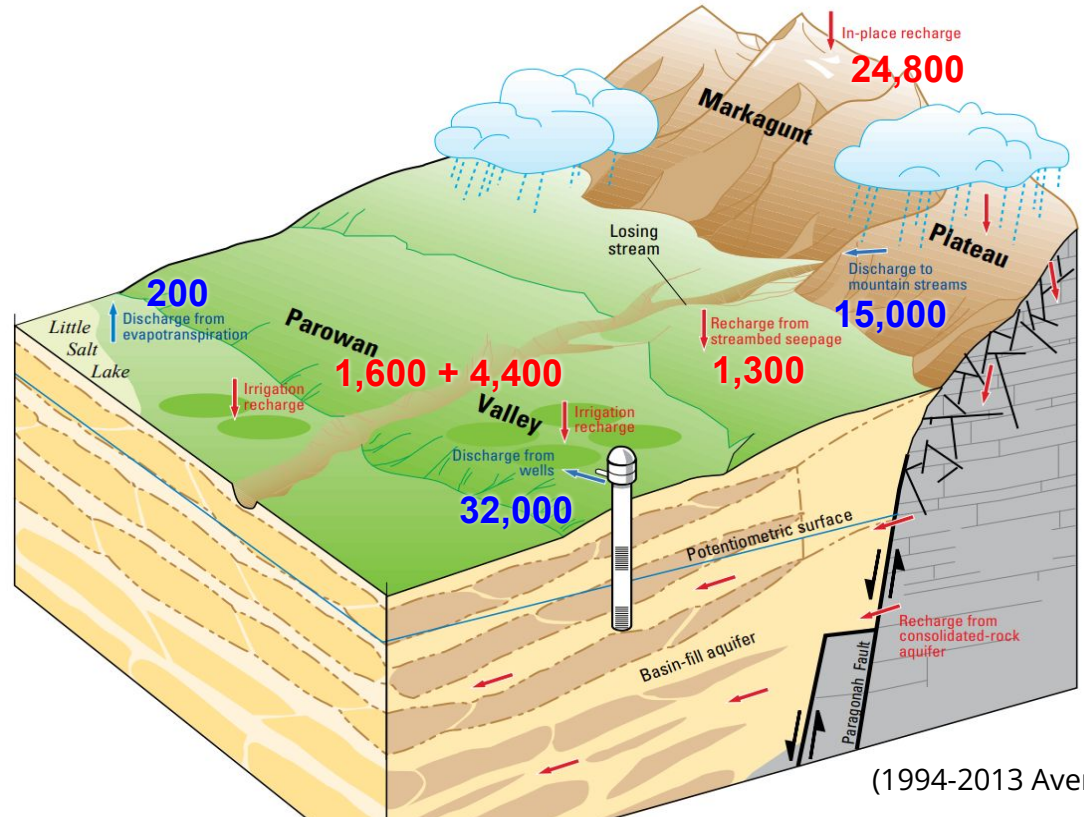
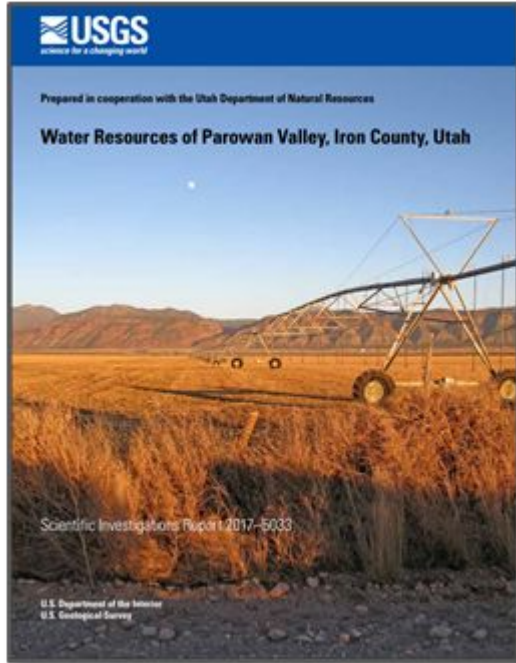
2018, December - Public Meeting
Policy History
Hydrologic Data
Groundwater Management Plans

2019, Local Volunteer Committee formed
Committee meetings

Implementing A Groundwater Management Plan

- Significant Scientific Research and Reporting
- Public Meetings and Notice
- Open to Comments and Suggestions
- Final Adoption
 - Hold Public meeting
 - Receive and consider Comments for at least 60 days.
 - Send notice 60 days prior to final Adoption
 - Send notice of Adoption
- Subject to Judicial Review 60 days after adoption

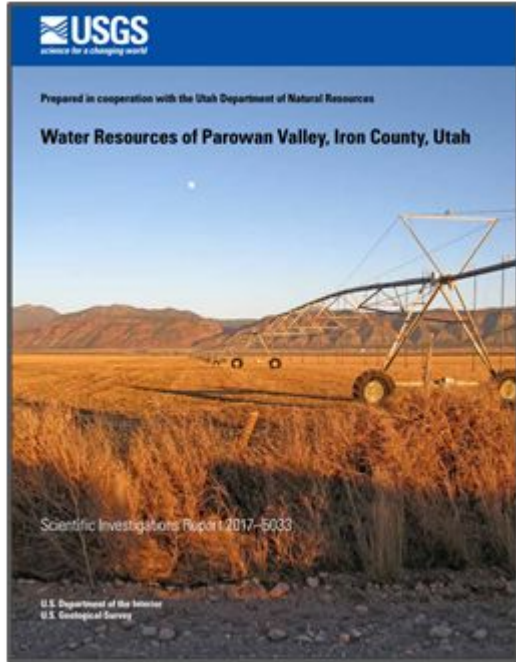
Safe Yield - USGS “Budget Report”



<https://doi.org/10.3133/sir20175033>

(1994-2013 Averages)

Safe Yield - USGS “Budget Report”



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Inflow to groundwater source

| | | |
|--|--------|---------------|
| from mountain precipitation | 24,800 | |
| from precipitation in Beaver mountains | 5,500 | (model study) |
| from streambed seepage | 1,300 | |
| from irrigation with surface water | 4,400 | |

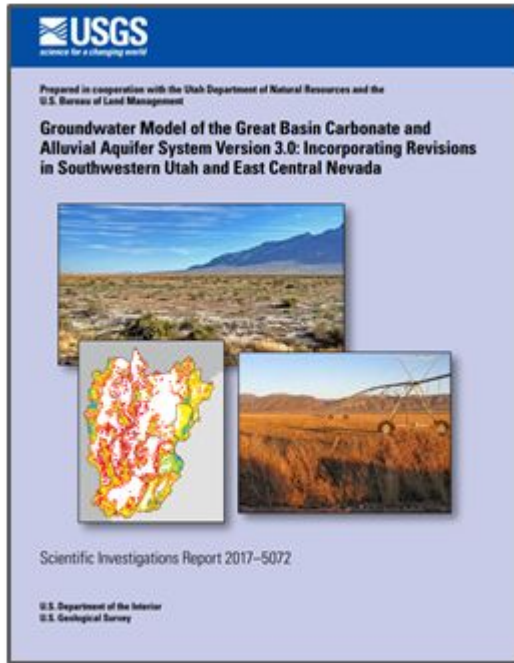
Outflow to other sources

| | | |
|---|--------|---------------|
| discharge to baseflow in mountain streams | 15,000 | |
| subsurface outflow to Cedar City Valley | 2,600 | (model study) |

Remaining

18,400 acre-ft

Safe Yield - USGS “Model Report”



“The model was used to estimate that reducing withdrawals in Parowan Valley ... to about **22,000 acre-ft/yr** would likely stabilize groundwater levels in the valley...” (Page 1)

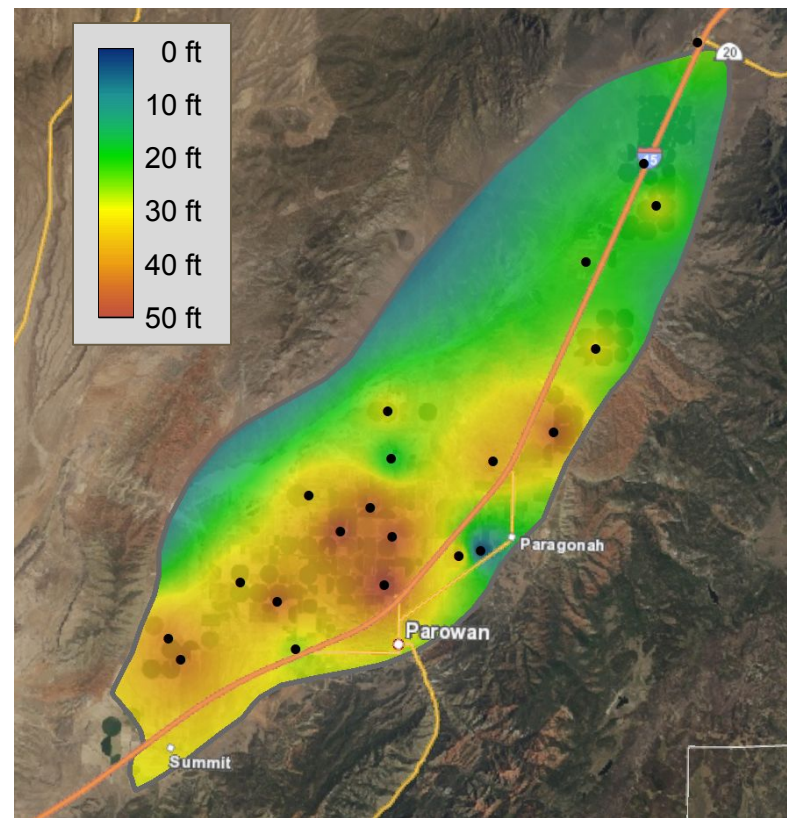
<https://doi.org/10.3133/sir20175072>

Safe Yield - Our Review & Analysis

| 2000-2017 Budget Amounts (acre-ft/yr) | |
|--|---------------|
| Well Depletion | 32,100 |
| Natural Discharge | 200 |
| Change in Storage | 10,900 |
| RECHARGE = D - ΔS | 21,400 |

This is close to the estimate of 22,000 from the model report

Change in Water Levels (March 2000 - March 2018)



Safe Yield Summary

Safe yield is
estimated to be
22,000 acre-ft

Safe Yield:

- 22,000 acre-ft

Average Well Depletions:

- 1994-2013 Average = 30,400 acre-ft
- 2000-2017 Average = 32,100 acre-ft
- 2008-2017 Average = 33,700 acre-ft

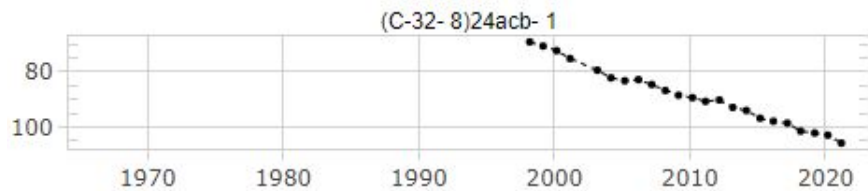
Average Annual Deficit:

- 8,000 to 12,000 acre-ft

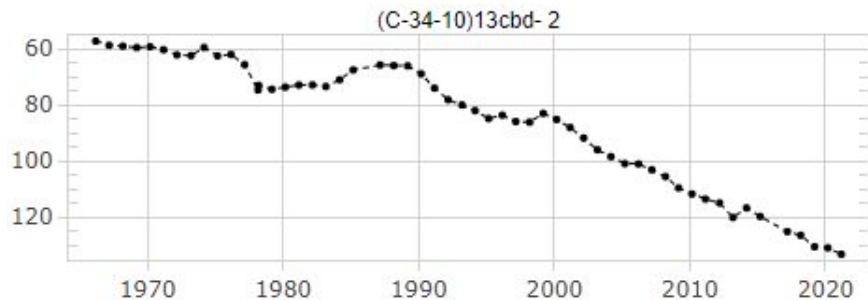
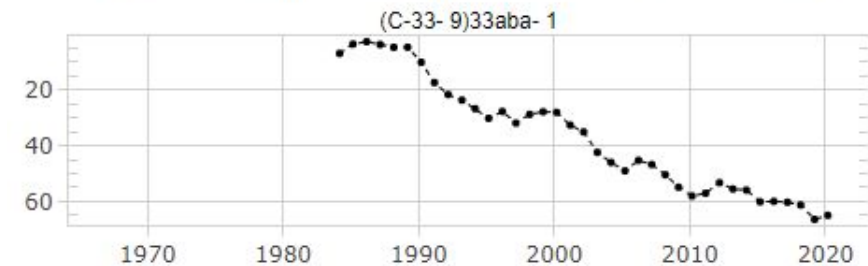
Approved & Perfected Water Rights:

- 32,100 acre-ft depletion

Safe Yield Summary



Water Level Depth (ft)



Safe Yield:

- 22,000 acre-ft

Average Well Depletions:

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Average Annual Deficit:

- 8,000 to 12,000 acre-ft

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- 32,100 acre-ft depletion

Framework of a Groundwater Management Plan

- Safe Yield
- Regulation Schedule
- Voluntary Arrangements
- Monitoring/Adaptive Management

Safe Yield

- Current estimate of safe yield
- Current estimate depletion
- Estimate of depletion attributable to all approved or perfected water rights
- Estimate of amount depletion needs to be reduced in order to reach safe yield
- Description of the affected area

Regulation Schedule

“If the state engineer determines that groundwater withdrawals in a groundwater basin exceed the safe yield, the state engineer shall regulate groundwater rights in that groundwater basin based on the priority date of the water rights under the groundwater management plan, unless a voluntary arrangement exists under Subsection (4)(c) that requires a different distribution.” - Utah Code 73-5-15 (4)(a)(iii)

- Statutory requirement to regulate groundwater rights based on priority date
 - Exception for voluntary arrangements
- Gradual implementation allowed
- List of water rights with priority dates and depletion estimates are posted on the Division of Water Rights website

Voluntary Arrangements

“In consultation with the state engineer, water users in a groundwater basin may agree to participate in a voluntary arrangement for managing withdrawals at any time, either before or after a determination that groundwater withdrawals exceed the groundwater basin's safe yield.” - Utah Code 73-5-15 (4)(c)(i)

- Must be consistent with other law
- Must not affect the rights of water users who do not agree with or do not participate in the voluntary arrangement

Local District

- May be created for the purpose of acquisition and assessment of a groundwater right for the development of a groundwater management plan
- Local district may manage acquired groundwater rights consistent with the provisions of a groundwater management plan
- A local district may hold or acquire surface rights that are naturally tributary to the groundwater basin
 - Artificial recharge of surface water rights constitutes beneficial use

Monitoring/Adaptive Management

Groundwater management plan objective is to reduce depletion to safe yield

- Plan can be amended at any time in the same manner it was adopted
- Continue to collect groundwater data:
 - Water level measurements
 - Well withdrawal and depletion estimates
 - New technologies
- Phased, gradual reduction in depletions allow for aquifer responses to be understood
- If safe yield reached, future reductions will not be implemented

Report from Committee

Questions/Comments

Send Questions / Comments To:

Utah Division of Water Rights

Attn: Parowan Valley GWMP

Email: waterrights@utah.gov

PO Box 146300

Salt Lake City UT 84114-6300

Web Site: <http://www.waterrights.utah.gov>

