RENEWABLE WATER RESOURCES (RWR) PROJECT

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RWR Proposed Project

- Aquifer is recharged around the rim of the basin
- Develop renewable groundwater supplies from confined aquifer near edge of basin
- Approximate 2,000-ft deep wells
- Wellfield of approximately 25 wells
- Augment production in accordance with Division 3 Rules

Confined Aquifer Rules

Rule 5.C.

The Confined Aquifer is a multi-layered aquifer. Different formations, group of formations, or parts of a formation in the aquifer have different hydraulic properties that affect the rate and direction of movement of water in the Confined Aquifer System and the artesian pressures at various depths in the Confined Aquifer.

Confined Aquifer Rules

Rule 6.D.

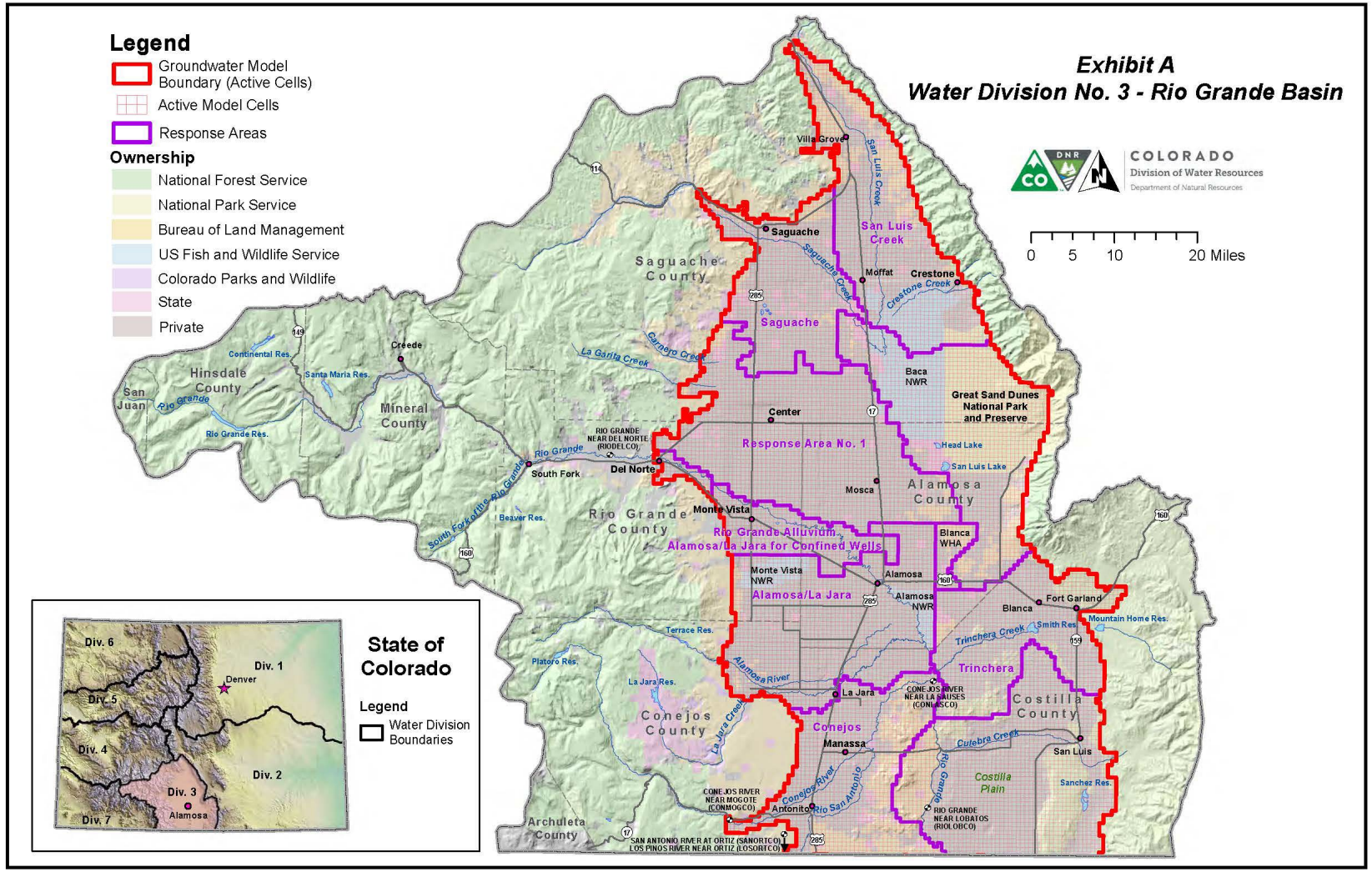
A ground water model is necessary to consider all the particular qualities and conditions of the Confined Aquifer System and to determine whether new withdrawals of ground water from the Confined Aquifer System will affect the rate or direction of movement of water in the Confined Aquifer System, as well as the effects of such withdrawals on the unconfined aquifer, fluctuations in artesian pressures in the Confined Aquifer, and the flows of natural streams.

Confined Aquifer Rules

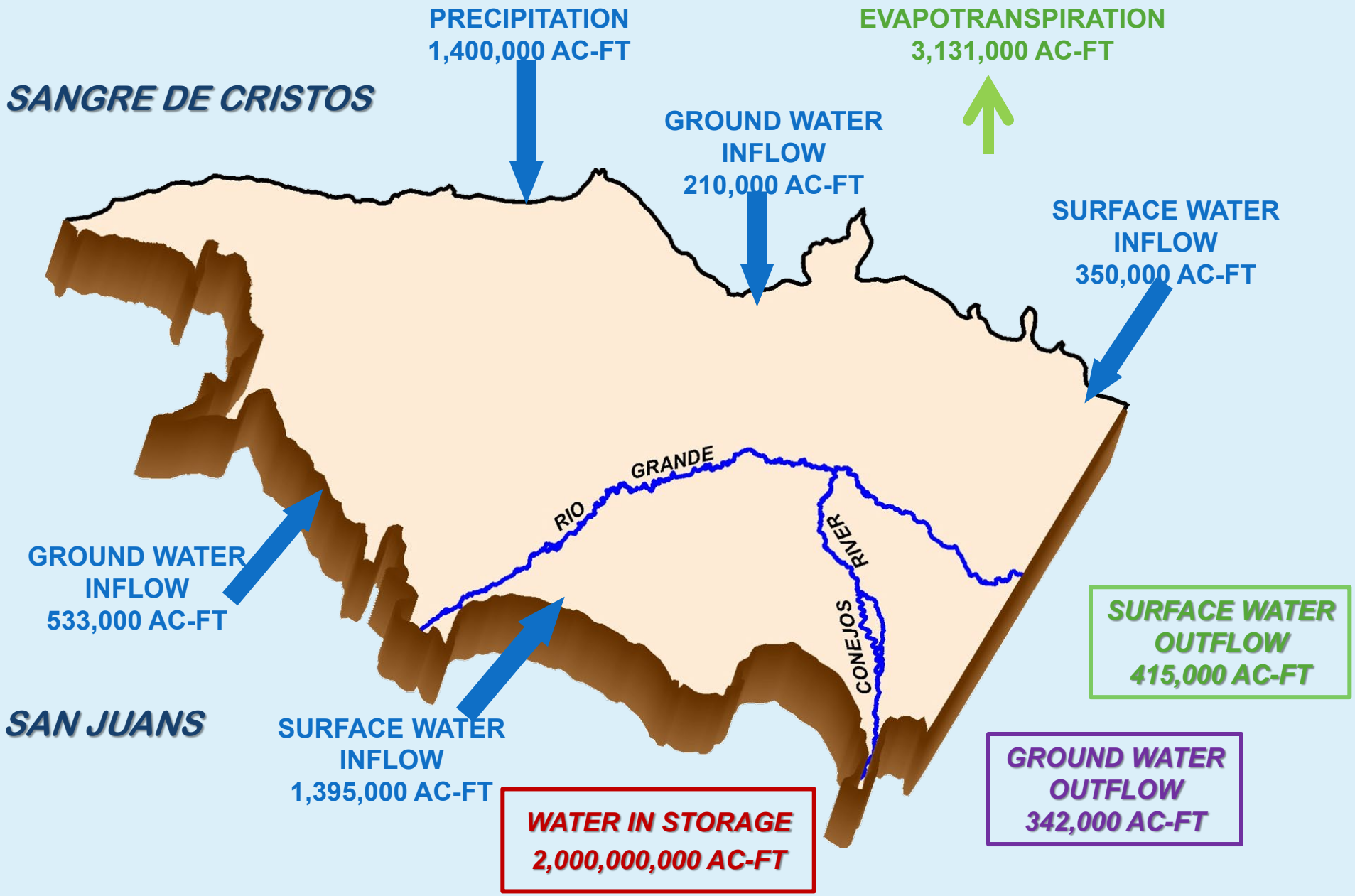
Rule 6.G.

the State Engineer has recognized that new withdrawals of ground water from the Confined Aquifer System shall not be allowed to cause fluctuations in the artesian pressures in the Confined Aquifer to fall outside of the ranges that occurred during the period of 1978 through 2000, while maintaining average artesian pressure levels similar to those that occurred in 1978 through 2000.

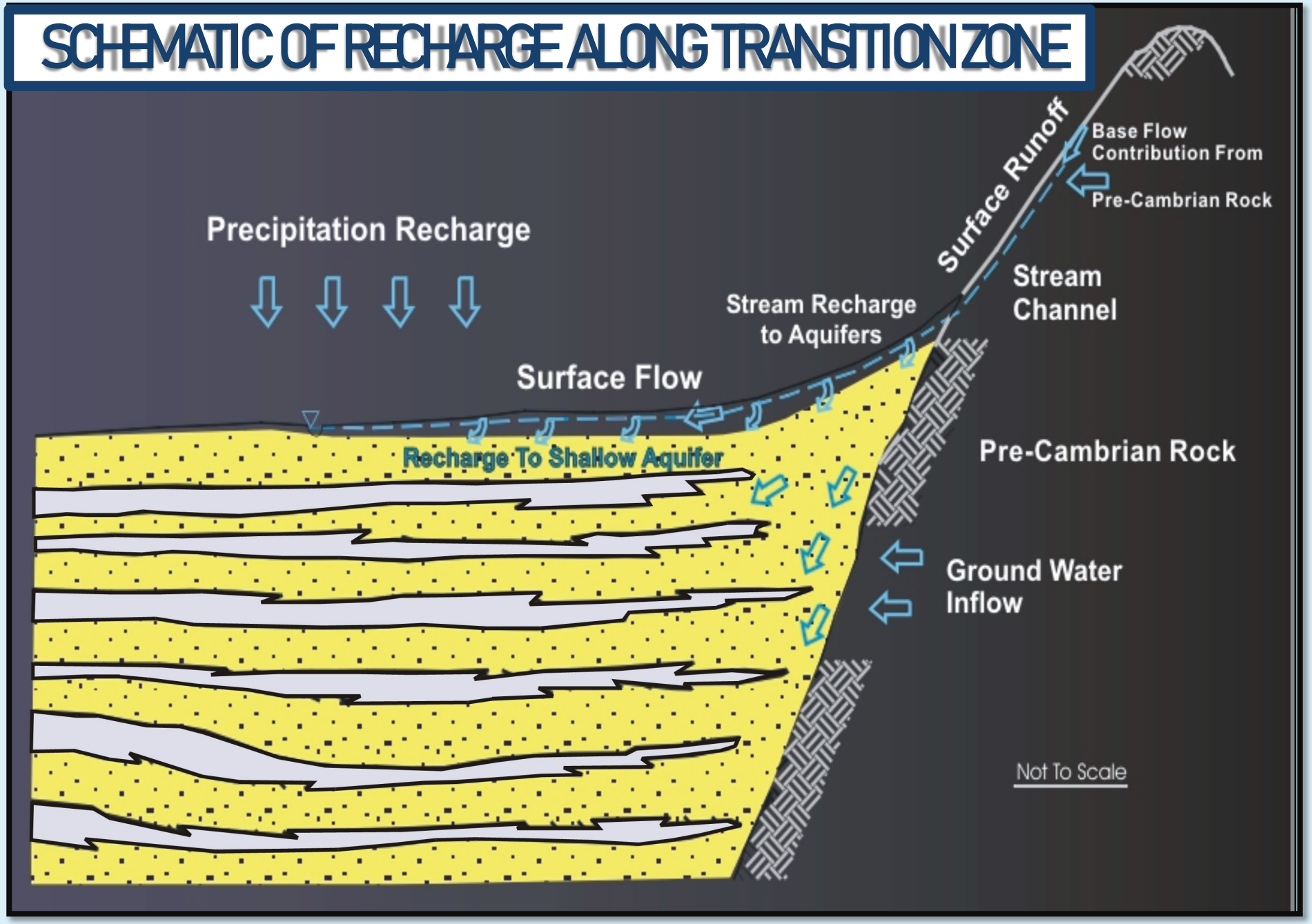
San Luis Valley Subdistricts

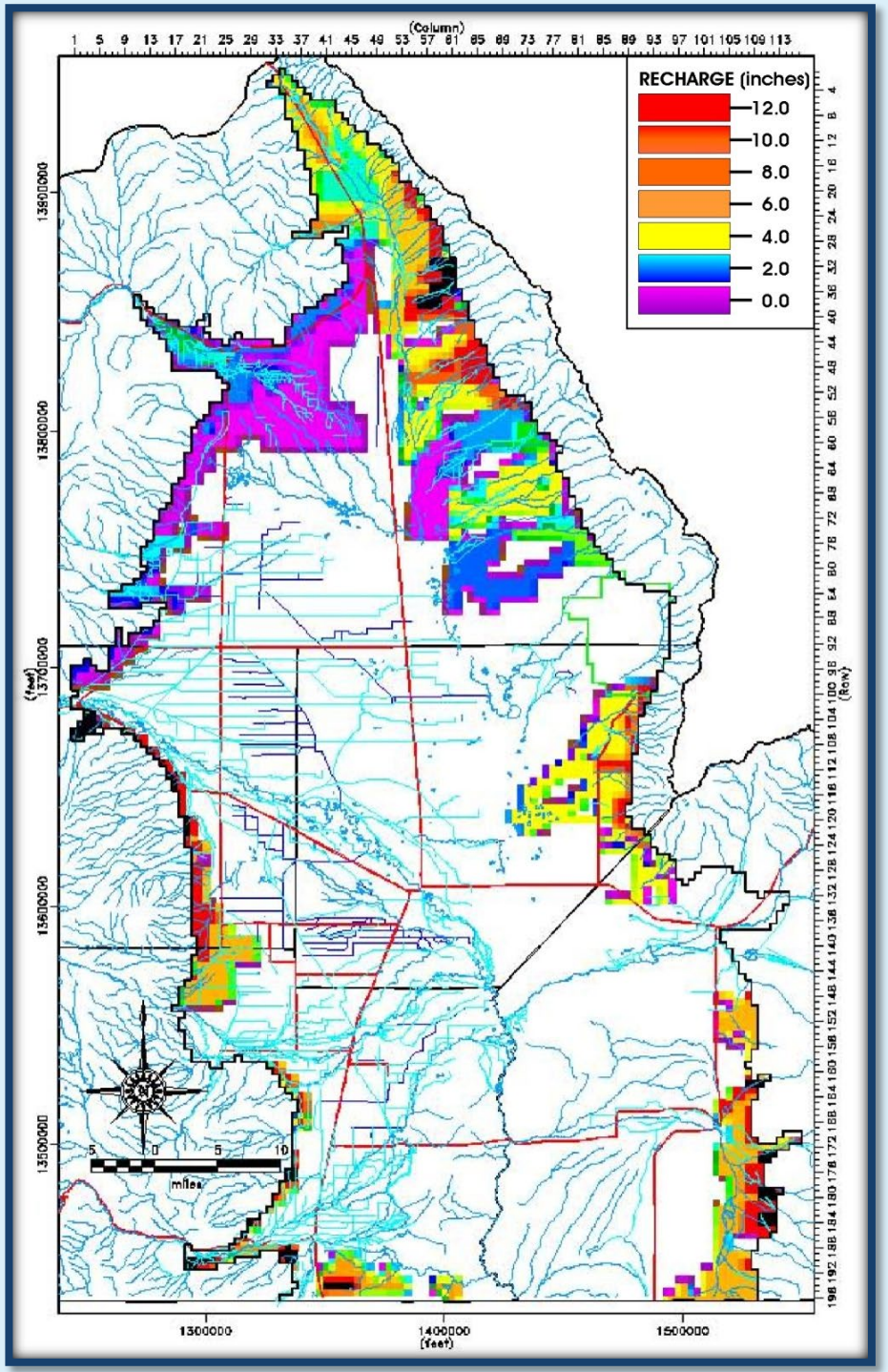


SAN LUIS VALLEY WATER BALANCE



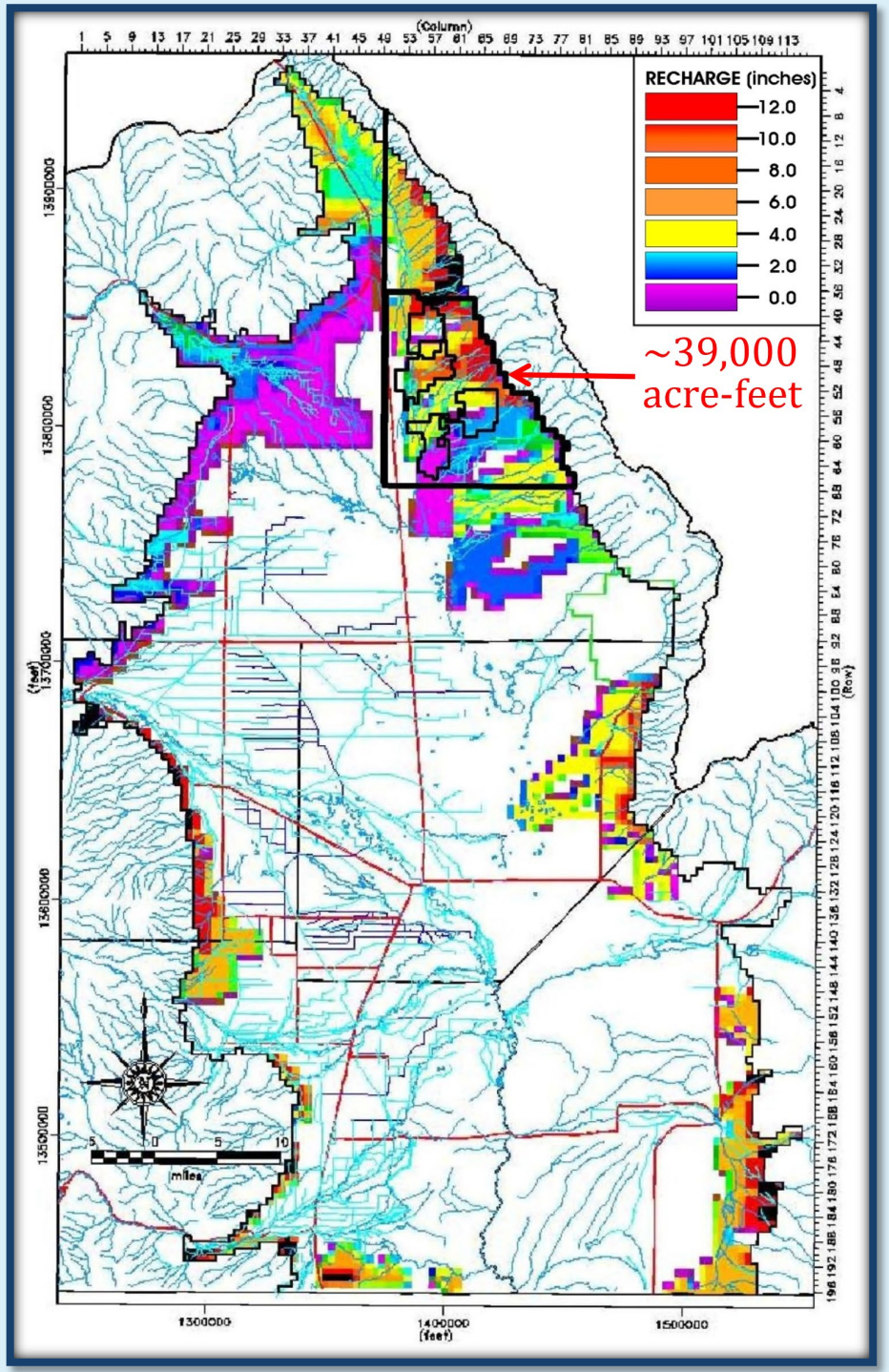
SCHEMATIC OF RECHARGE ALONG TRANSITION ZONE





Rim Recharge

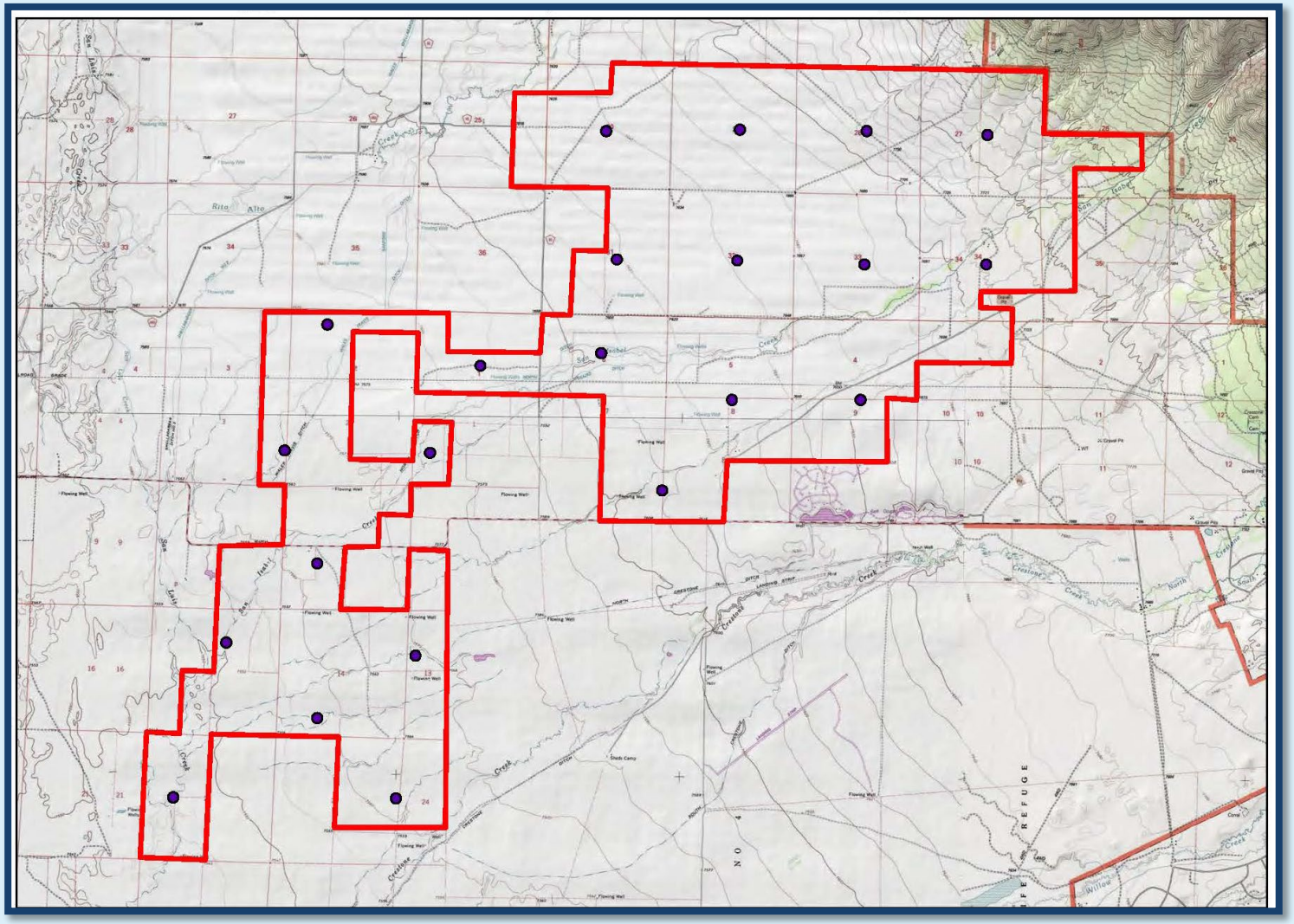
RGDSS Groundwater Model



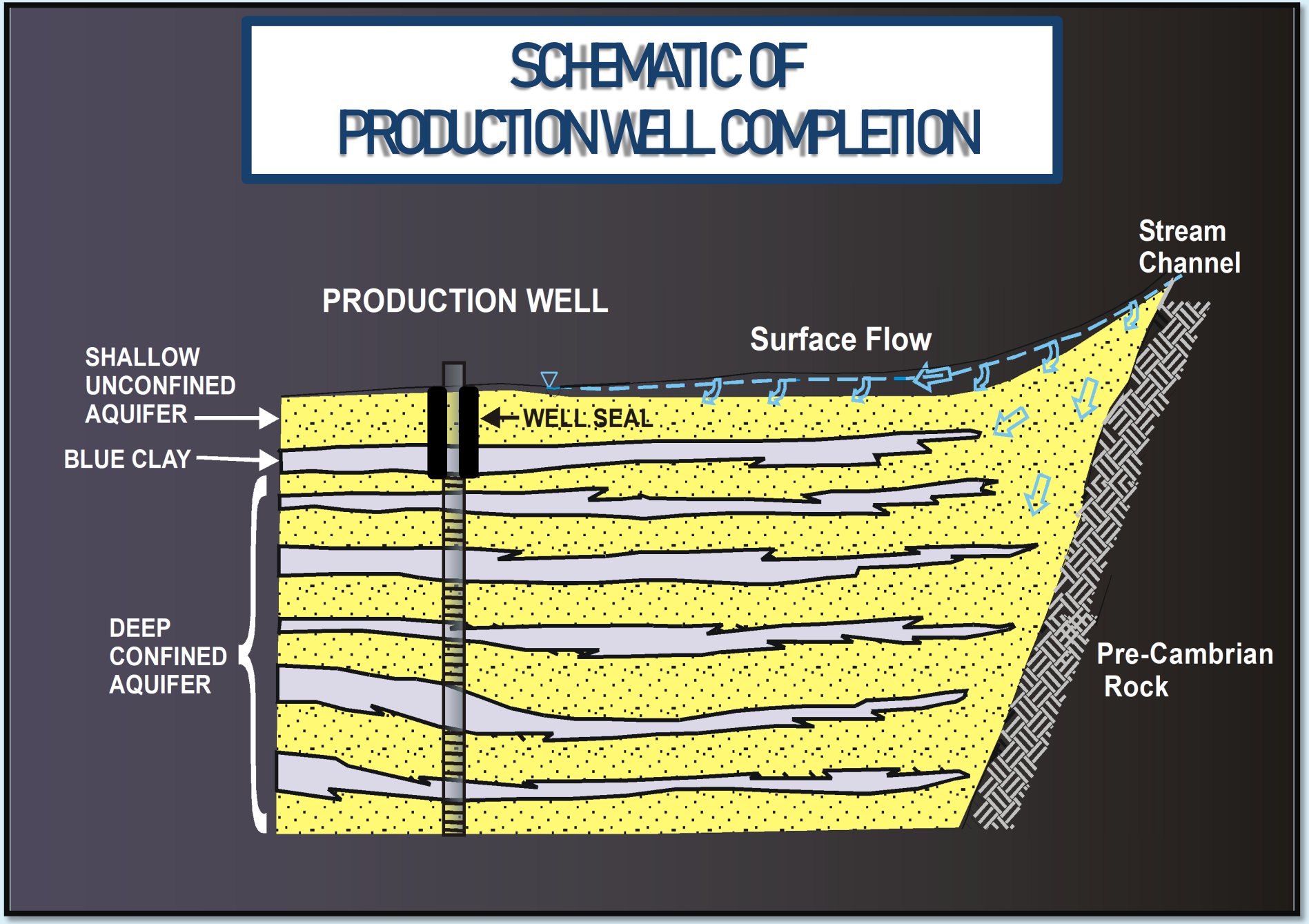
Rim Recharge

RGDSS Groundwater Model

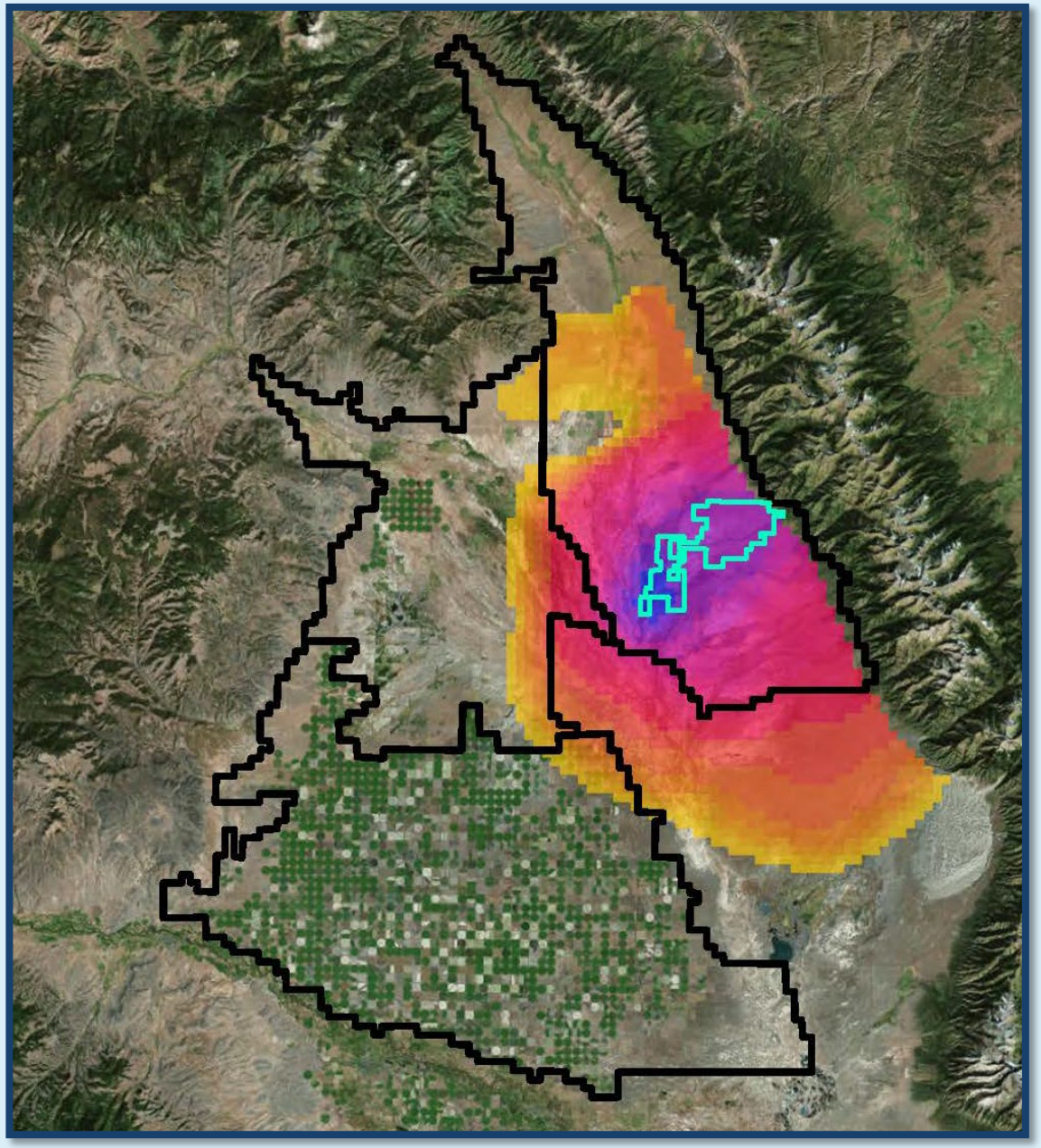
Potential Wellfield Design



SCHEMATIC OF PRODUCTION WELL COMPLETION

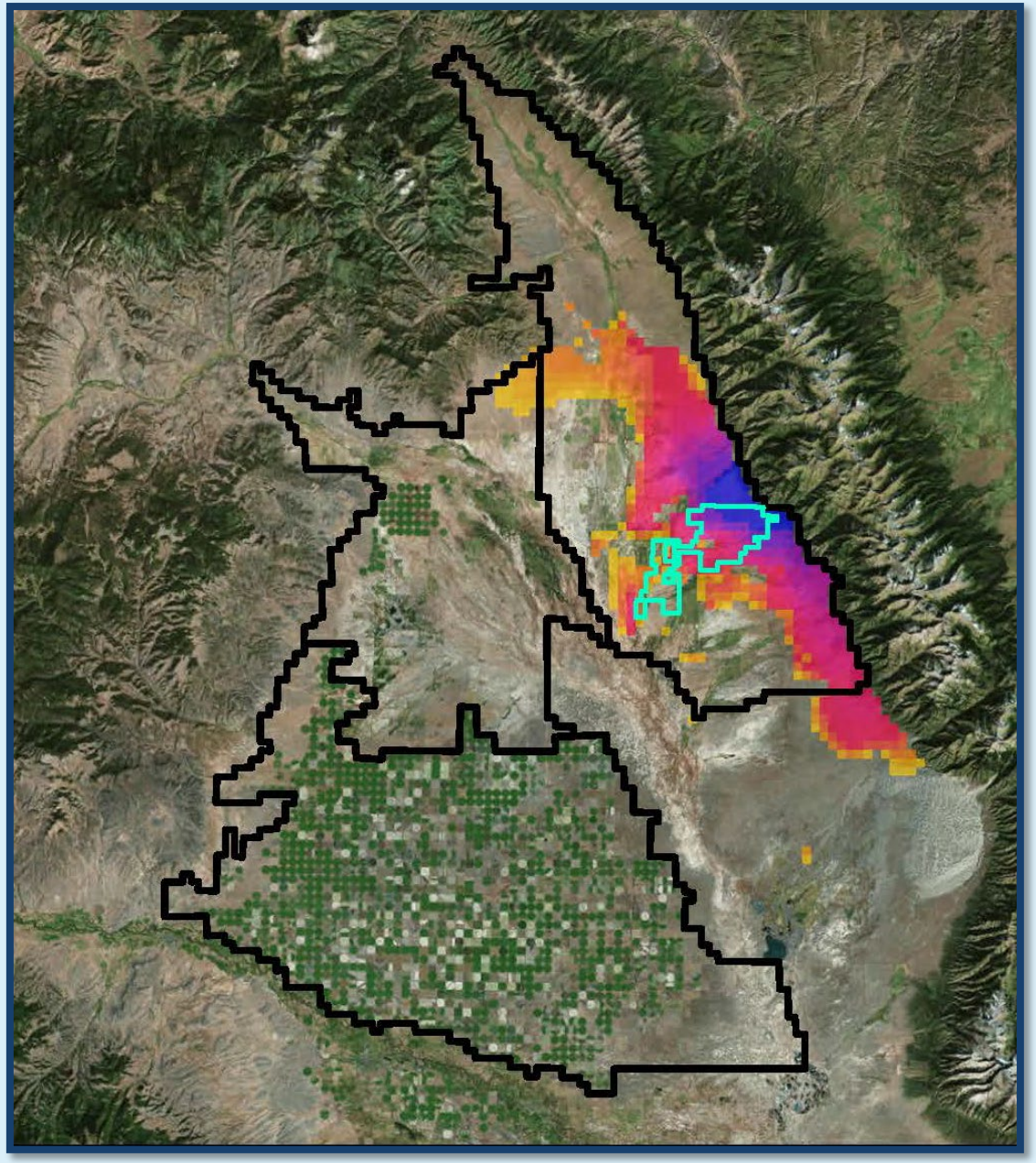


RGDSS MODEL USED TO MEET DIVISION 3 RULES CRITERIA



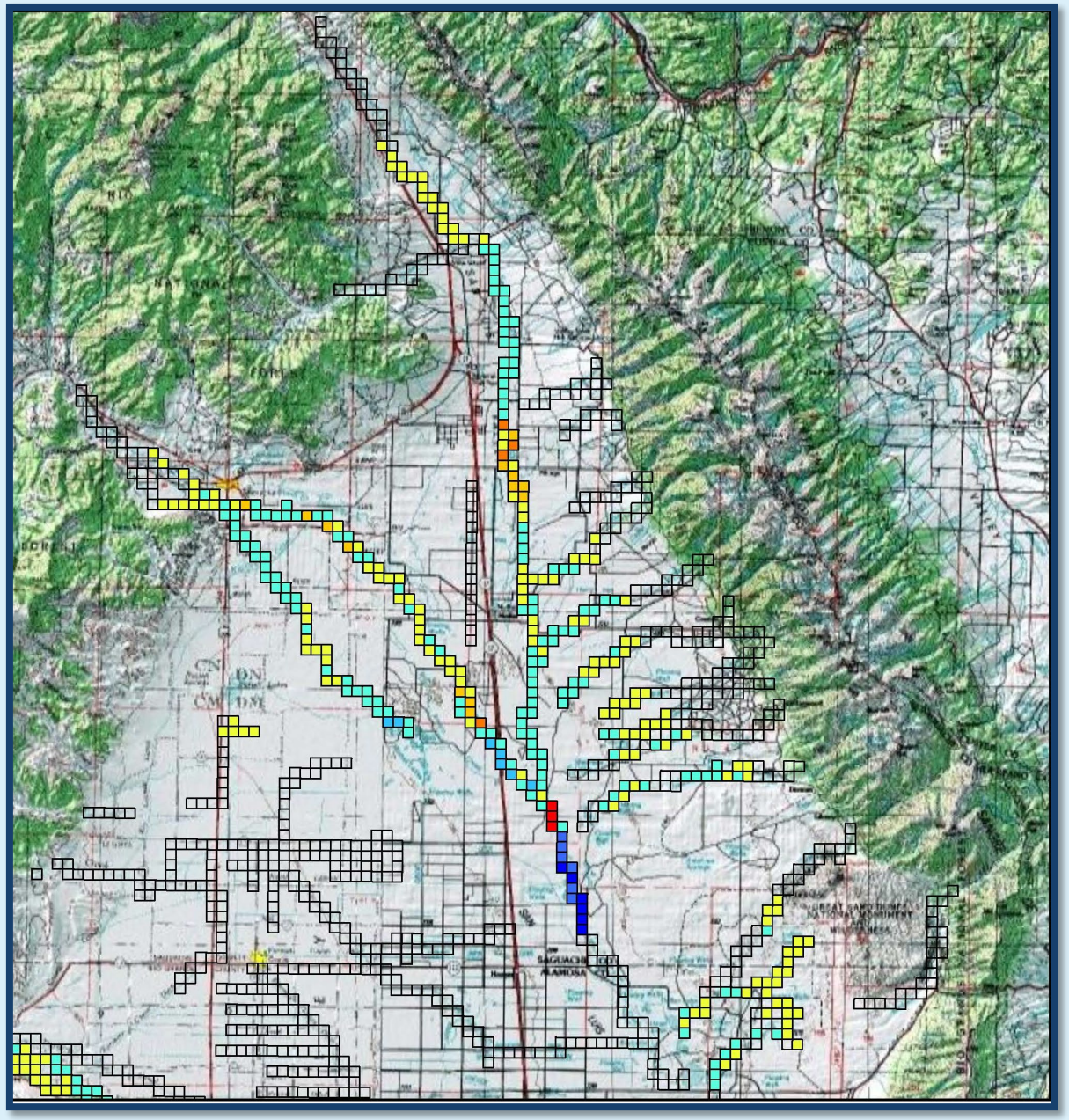
RGDSS Model Simulation

CONFINED



RGDSS Model Simulation

UNCONFINED



RGDSS Model Simulation

STREAMS

PROJECT PRINCIPLES

- ✓ Wells solely completed in confined aquifer
- ✓ 1:1 augmentation, plus augment stream depletions
- ✓ Use RGDSS to evaluate augmentation requirements
- ✓ No net depletion
- ✓ Fully reusable water

QUESTIONS?

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