



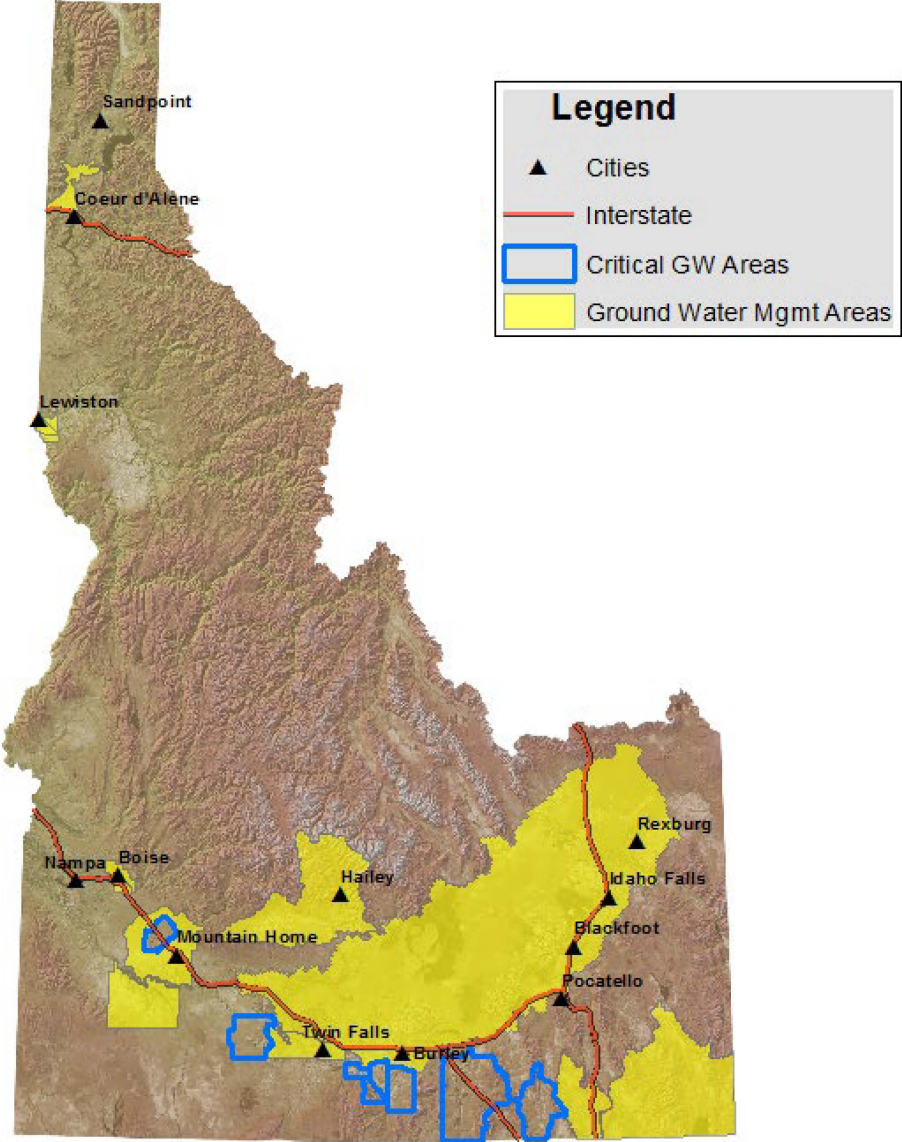
ESPA GWMA Advisory Committee Meeting

Groundwater Management Plans in Select GWMA/CGWAs

Presented by: T Luke, S Keen, J Cefalo, IDWR

Date: 10/23/2023

Idaho Critical Ground Water Areas & Ground Water Management Areas

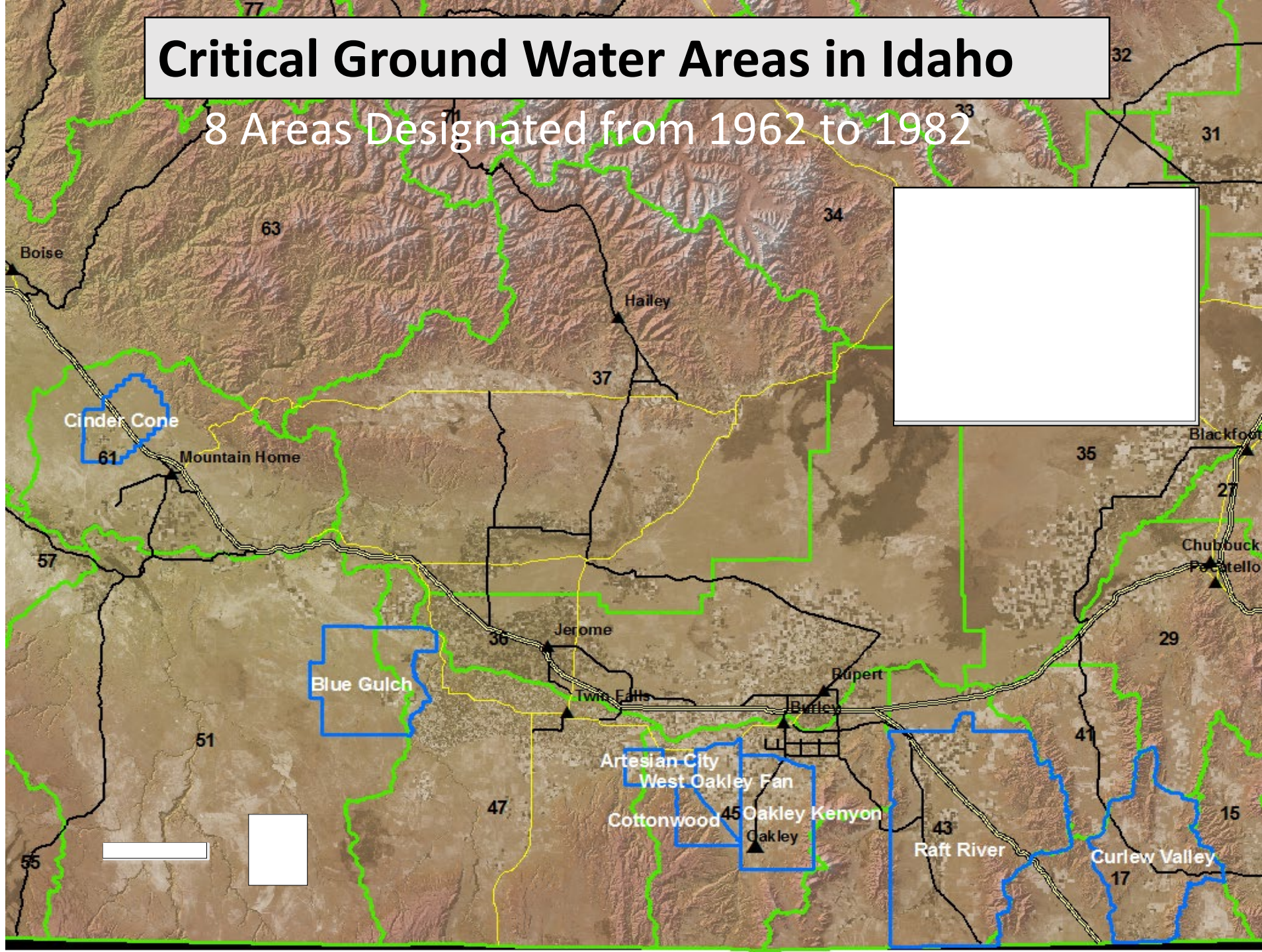


1 in = 72 miles



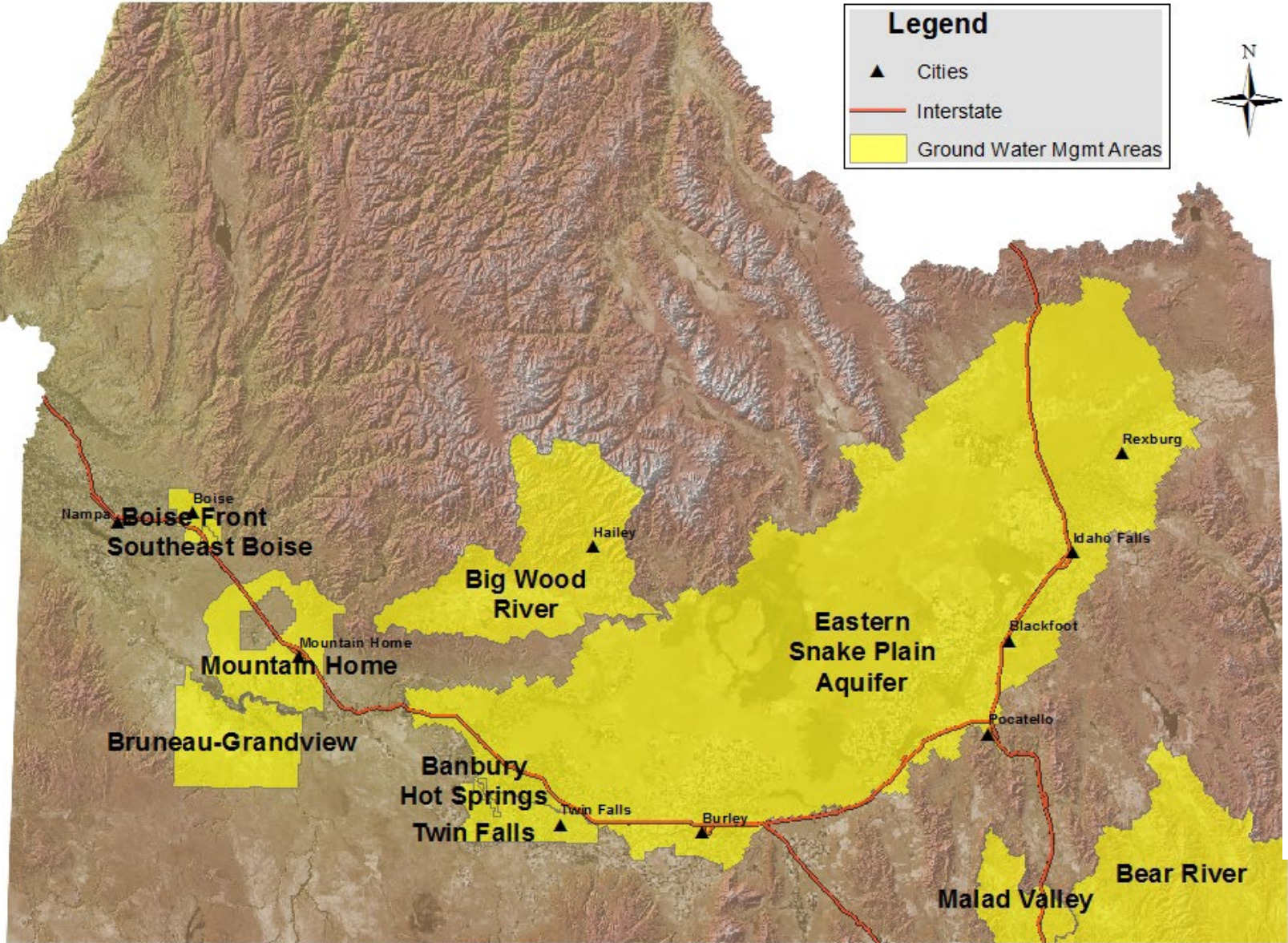
Critical Ground Water Areas in Idaho

8 Areas Designated from 1962 to 1982



Idaho Ground Water Management Areas

12 Areas Designated from 1982 to 2016



CGWA Creation Dates

Area	Date Designated
<input checked="" type="checkbox"/> Blue Gulch	December 9, 1970
<input checked="" type="checkbox"/> Cinder Cone Butte	May 7, 1981
<input checked="" type="checkbox"/> Curlew Valley	March 15, 1976
<input checked="" type="checkbox"/> Oakley Fan: Artesian City	January 16, 1962
<input checked="" type="checkbox"/> Oakley Fan: Cottonwood	January 16, 1962
<input checked="" type="checkbox"/> Oakley Fan: Oakley-Kenyon	January 16, 1962
<input checked="" type="checkbox"/> Oakley Fan: West Oakley Fan	January 19, 1982
<input checked="" type="checkbox"/> Raft River	July 23, 1963

GWMA Creation Dates

Area	Date Designated
<input checked="" type="checkbox"/> Banbury Hot Springs Low Temp Geothermal	April 12, 1983
<input checked="" type="checkbox"/> Bear River	August 12, 2001
<input checked="" type="checkbox"/> Big Wood River	June 28, 1991
<input checked="" type="checkbox"/> Boise Front Low Temp Geothermal	June 15, 1987
<input checked="" type="checkbox"/> Eastern Snake Plain Aquifer (ESPA)	November 2, 2016
<input checked="" type="checkbox"/> Grand View - Bruneau	October 29, 1982
<input checked="" type="checkbox"/> Lewiston Plateau	May 20, 2013
<input checked="" type="checkbox"/> Malad Valley	November 4, 2015
<input checked="" type="checkbox"/> Mountain Home	November 9, 1982
<input checked="" type="checkbox"/> Rathdrum Prairie	December 11, 2002
<input checked="" type="checkbox"/> Southeast Boise	October 14, 1994
<input checked="" type="checkbox"/> Twin Falls Low Temp Geothermal	January 11, 1984

Approved Ground Water Management Plans

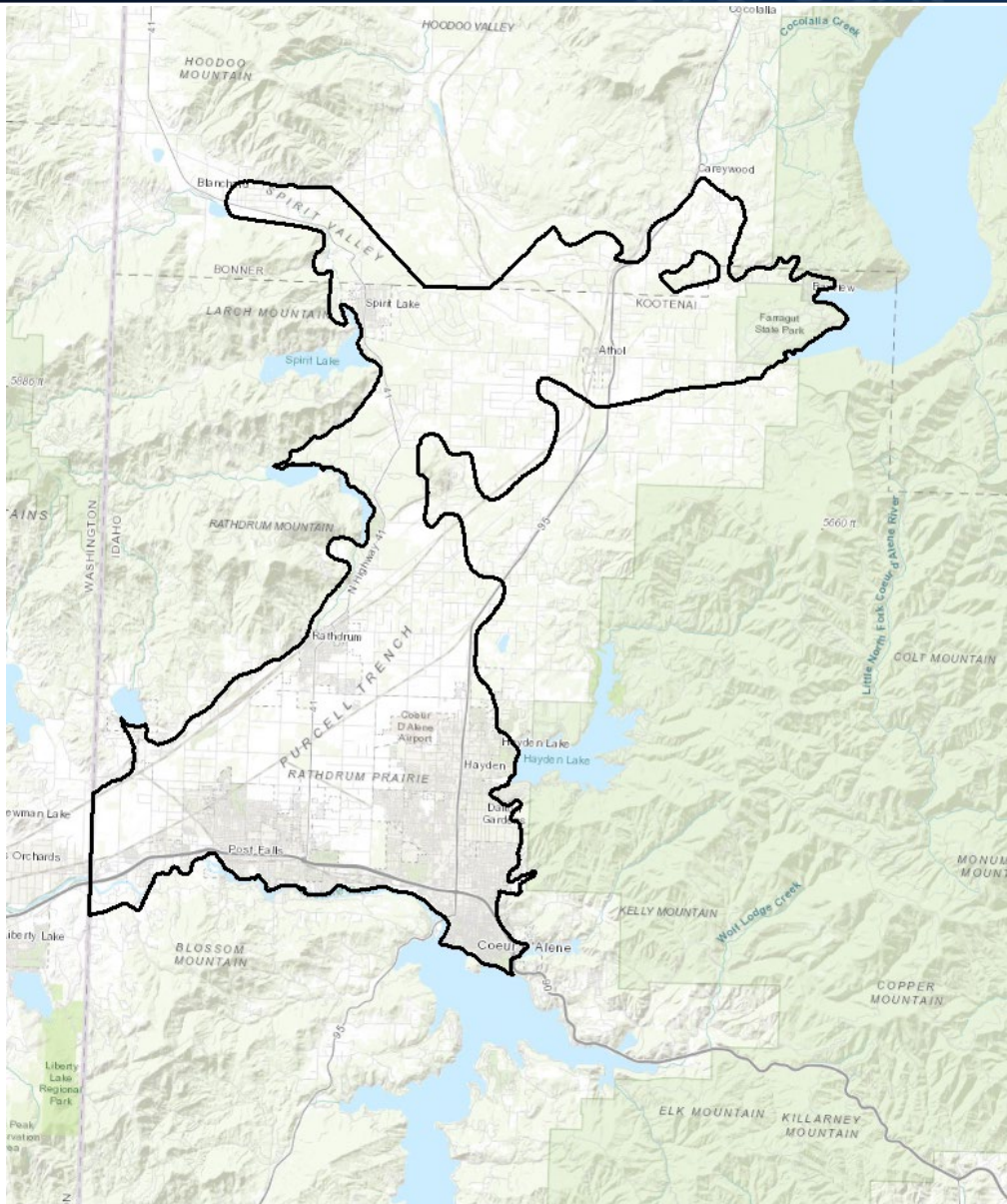
GWMAs:

- Bear River
- Big Wood River
- Boise Front (Geothermal; Mgmt. Policy only)
- Lewiston Plateau
- Malad
- Rathdrum Prairie
- Southeast Boise

CGWAs:

- Oakley Fan (Artesian, Cottonwood*, Oakley Kenyon & West Oakley)
 - Management Program for Expansion Rights pursuant to IC § 42-1416B

* Cottonwood: past court orders constitute adequate management program



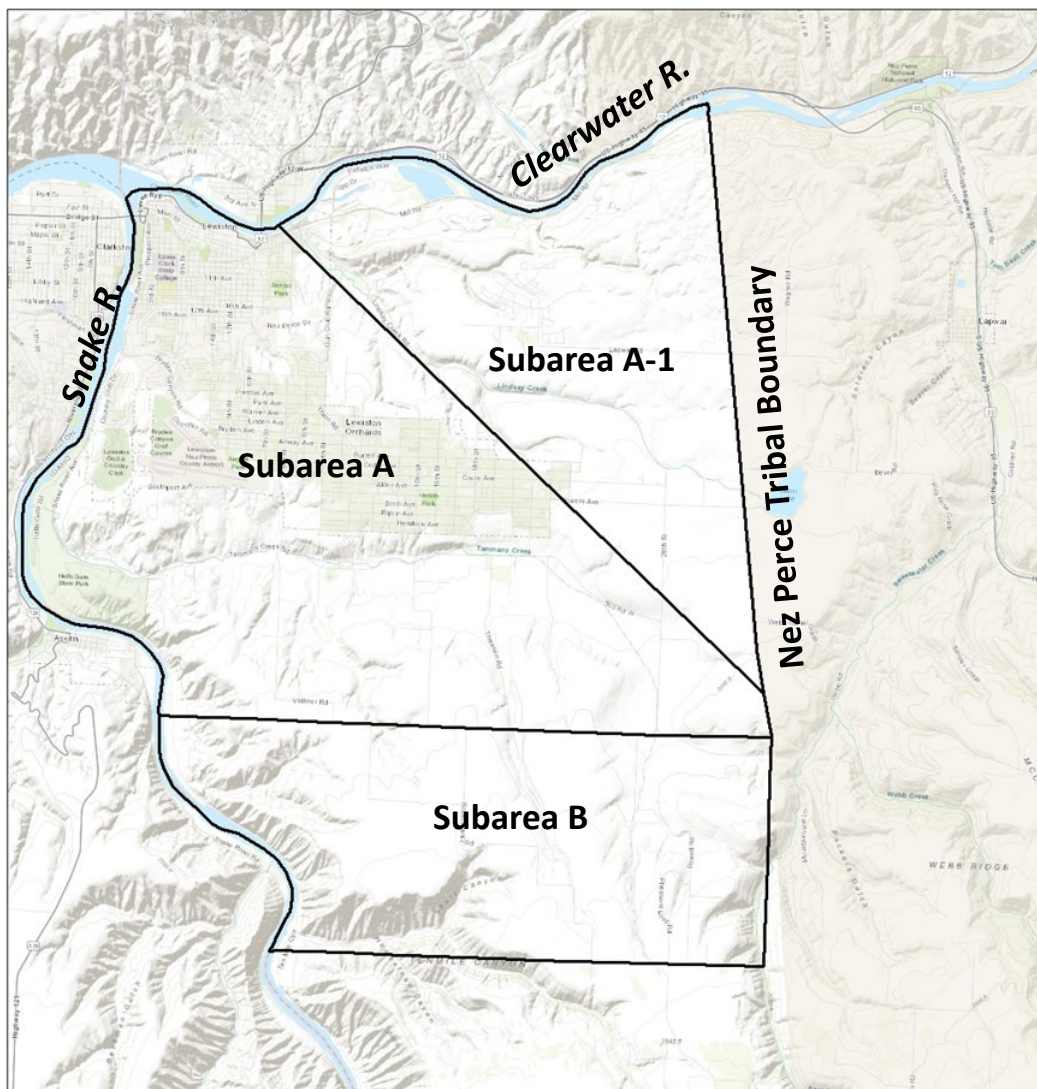
Rathdrum Prairie GWMA

Facts

- GWMA established in 2002
- Plan adopted in 2005
- Management area and plan were developed to recognize the importance of the bi-state aquifer to the region and increase IDWR oversight. No water quantity issues have been observed.

GWMA Plan Goals

- Obtain adequate technical data to quantify groundwater use and availability to make appropriate management decisions.
- Manage groundwater resources efficiently and fairly for all users.
- Encourage water purveyors and government agencies to plan for future water needs and incorporate into policies and ordinances.
- Encourage water conservation by all users.
- Create water meas. district/water district for measurement & admin.



Lewiston Plateau GWMA

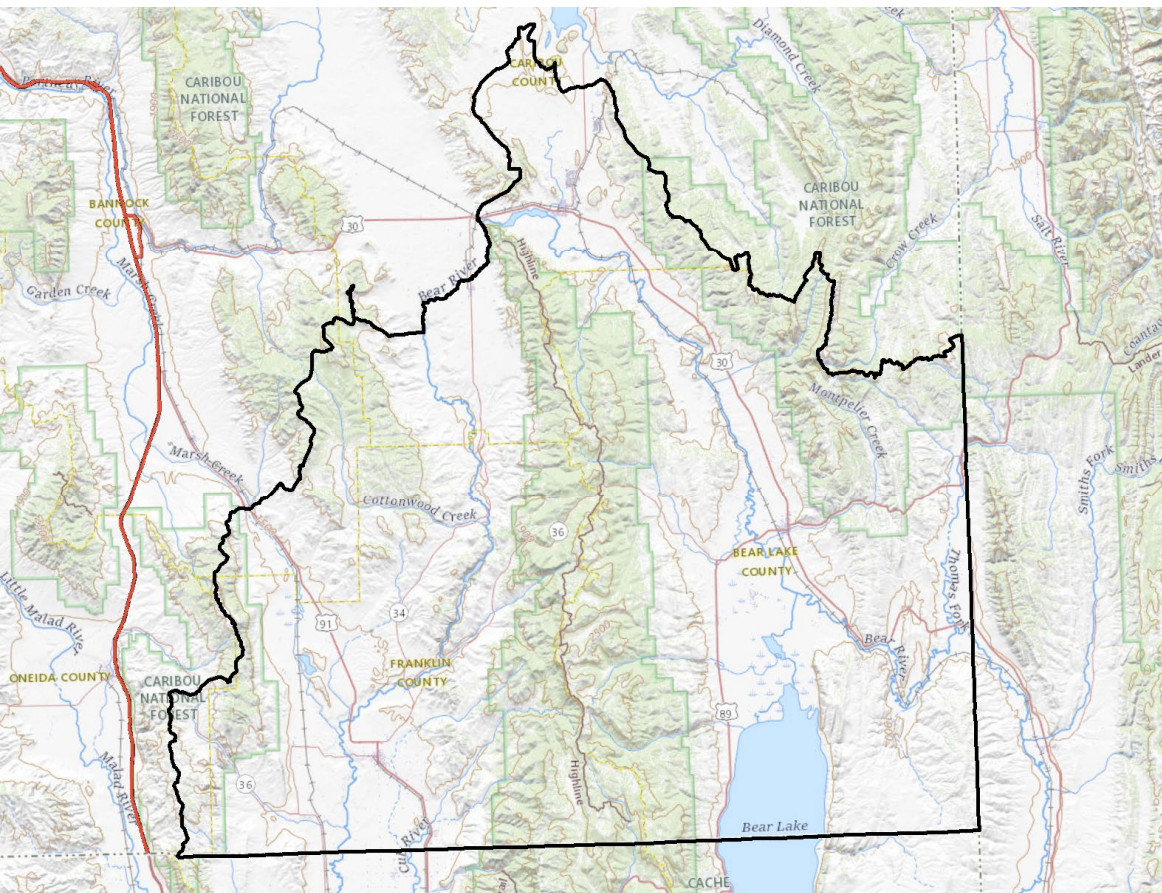
Facts

- GWMA established in 2013.
- Plan adopted in 2015.
- Plan developed to address water level declines in upper aquifers
- Subareas have different concerns and management policies.

GWMA Plan Goals

- Protect shallow aquifers from further decline.
- Protect existing/future groundwater rights and quality.
- Improve understanding of both regional and shallow aquifers.
- Provide reasonable growth opportunities from available water supplies.
- Encourage education and outreach for water conservation.

Bear River GWMA



Facts

- GWMA established in 2001
- Plan adopted in 2003
- Management area and plan developed due to hydraulic connection of ground and surface water, full appropriation of surface water, backlog of protested groundwater right applications, and difficulty in evaluating effect of new groundwater users on existing surface water rights/sources

GWMA Plan Goals

- Accommodate growth & water demand while protecting senior rights
- Simplify/expedite acquisition of water rights for new uses
- Encourage innovative/flexible strategies to make water available for new development
- Prevent unauthorized use of groundwater
- Encourage conservation of available water supplies

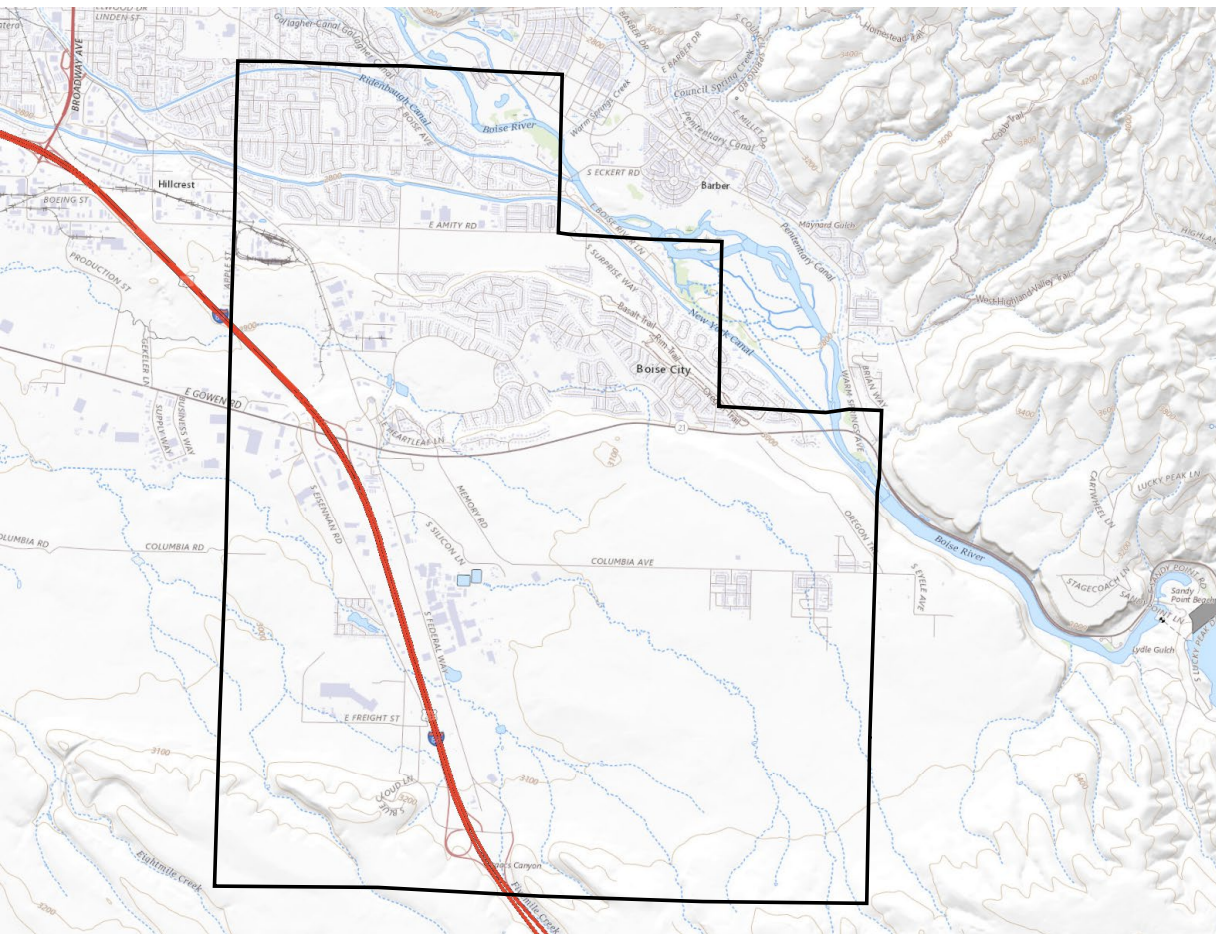
Bear River GWMA

Key Management Plan Provisions

- “Simplified method” to determine mitigation required for new groundwater uses
 - Augment Bear River flows by estimated annual depletion from new use
- Alternatives to new groundwater uses/rights
 - Transfers, municipal system connections, water conservation & re-use
- Management of water rights
 - Measure/report groundwater use, enforcement, administer Bear River tributaries, continue role of advisory committee



Southeast Boise GWMA



Facts

- GWMA established in 1994
- Plan adopted in 2002
- Management area/plan developed due to declining water levels

Goals GWMA Plan

- Protect water rights and water quality
- Augment water resource within area, including recharge & other management activities
- Determine aquifer balance and sustainable yield
- Evaluate adequacy/need for changes to area boundary

Southeast Boise GWMA

Key Management Plan Provisions

- Use surface water for irrigation and other uses
- Aquifer recharge, storage & recovery
- Groundwater use conservation
 - Reduce groundwater use
 - Develop/use alternate water sources
 - Improve management
- No new water rights without mitigation
- Encourage municipal sources for new domestic uses; well drilling prospectus required for new domestic wells
- Monitoring
 - Annual water use measurement & reporting
 - Groundwater level monitoring network – specific details in plan



Grand View-Bruneau GWMA

Facts

- GWMA established in 1982
- Plan adopted in 2023
- Area created due to declining water levels & spring flows; plan developed due to ongoing wl declines
- LTG aquifers (deep and shallow)

GWMA Plan Goals

- Promote/achieve aquifer stabilization
- Protect groundwater rights; minimize need to curtail diversions on time priority basis
- Organize users to address management issues locally
- Expand monitoring and understanding of aquifers, potential GWMA expansion
- Evaluate potential recharge sites
- Promote conservation of groundwater use
- Identify/prioritize LTG wells in need of repair or abandonment
- Develop groundwater model

Grand View-Bruneau GWMA

Key Management Plan Provisions

- Organize users through Ground Water District formation
 - seek cost share grants for LTG repair/abandonment, other management projects
- Expand groundwater monitoring network
- Create water district for enforcement, measurement/reporting
- Diversion/volume reductions
 - Fallowing – CREP, voluntary, lease/buy-out
 - shorten season of use
 - reduce/retire aquaculture use
 - improve system efficiency, change crop types, remove end guns
- Promote new or expanded community water systems for new domestic use
- Investigate groundwater recharge sites/opportunities

Grand View-Bruneau GWMA

Key Management Plan Provisions - Metrics

- Metrics and timelines listed for each management plan provision
- By 2033 – Director to review and evaluate effect of plan
 - If strategies have not been implemented or have not improved groundwater conditions, director may determine groundwater supply is insufficient to meet groundwater right demands and order administration of groundwater rights on time priority basis per Idaho Code § 42-233b.



Oakley Fan CGWAs

Facts

- CGWAs established in 1962, boundary modifications in 1967 & 1982
- Four CGWA's managed as single unit
- Areas created due to declining water levels
- CGWAs not within ESPA GWMA, but three CGWAs partially within ESPA Area of Common GW Supply & ESPA Groundwater Model area
- History of recharge and conversion projects by Southwest Irrigation District
- "Management Program" developed for three areas to address continued use of "Expansion Rights" & address ongoing groundwater declines
- Fourth area, Cottonwood CGWA, is administered on time priority basis per court orders

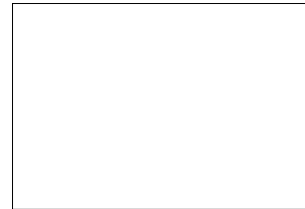
Management Program Goals

- Improve/increase past mgmt. practices (pre-2016) for long-term stability of aquifer
- Avoid curtailment of groundwater expansion rights
- Phased/adaptive management approach
 - Use local sentinel well network to monitor progress & trigger additional practices over

Oakley Fan CGWAs

Key Management Program Provisions

- 10-year Plan broken into three periods w/specific management practice benchmarks
 - 2017-2019
 - 10 KAF/yr average increased conversions
 - 10 KAF/yr average recharge
 - 2020-2022
 - Minimum 5 KAF/yr increased conversions
 - Minimum 5 KAF/yr increased recharge
 - 2023-2026
 - Implement tiered gw use reductions
 - Finalize recharge infrastructure
- Use local sentinel well network to monitor progress over each period
 - Additional period practices dependent on water level trends



Oakley Fan CGWAs

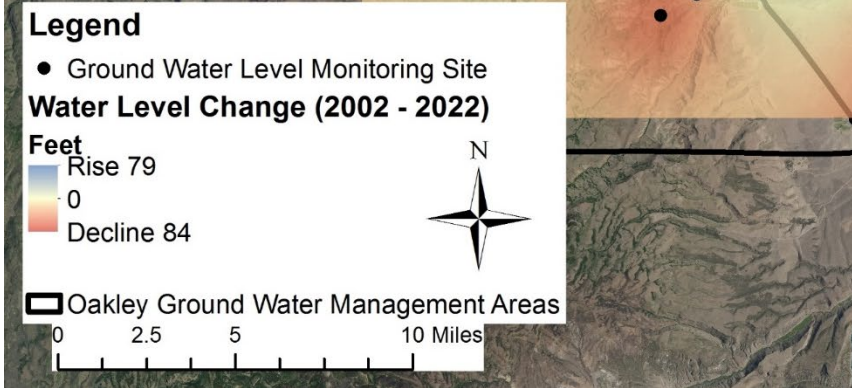
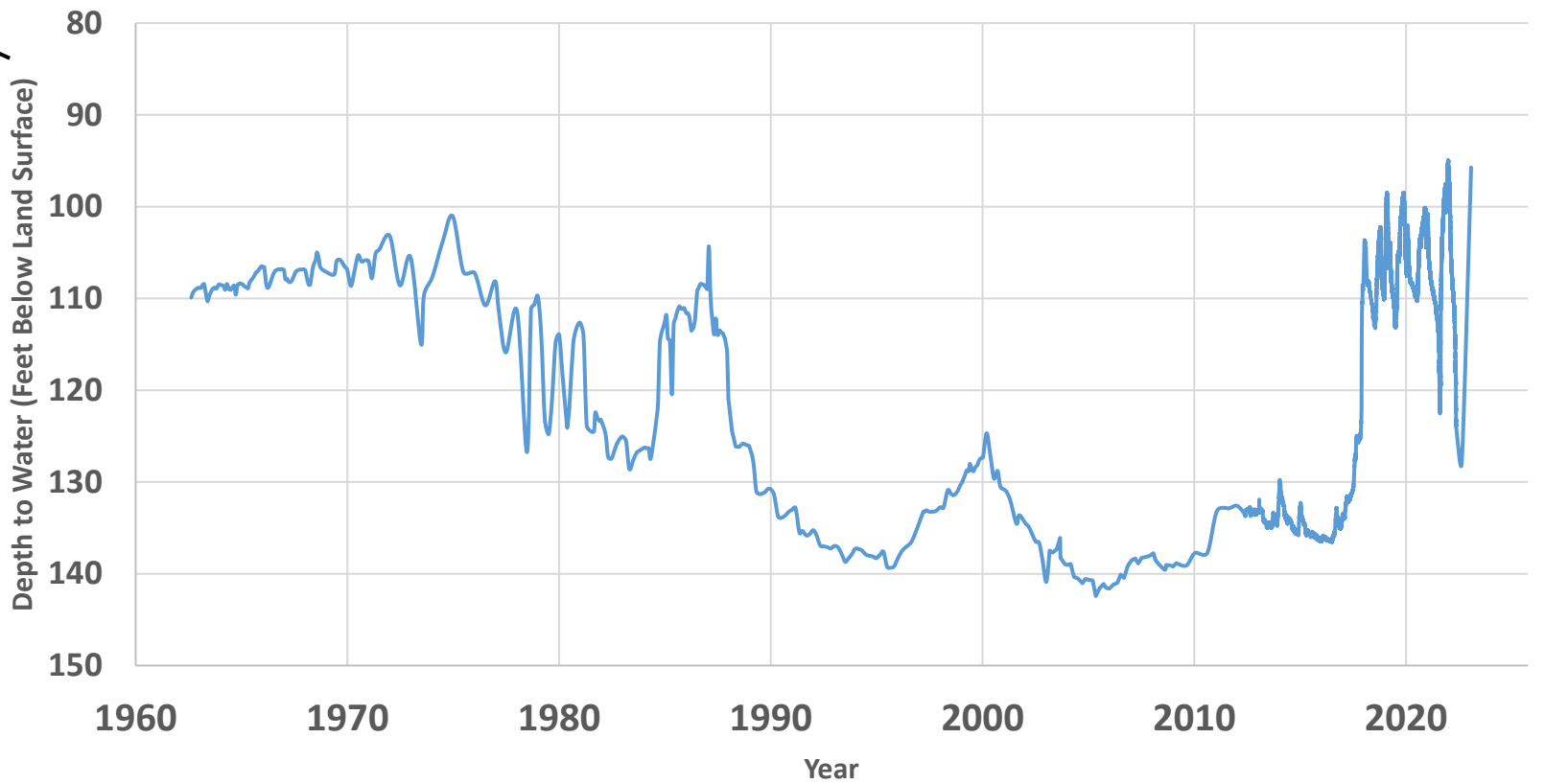
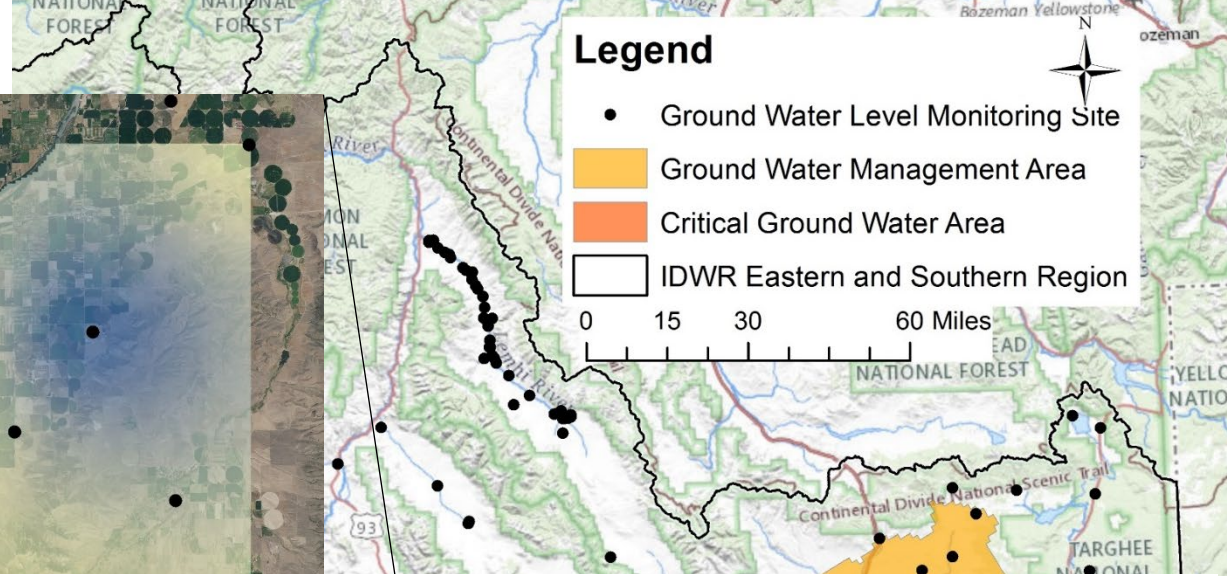
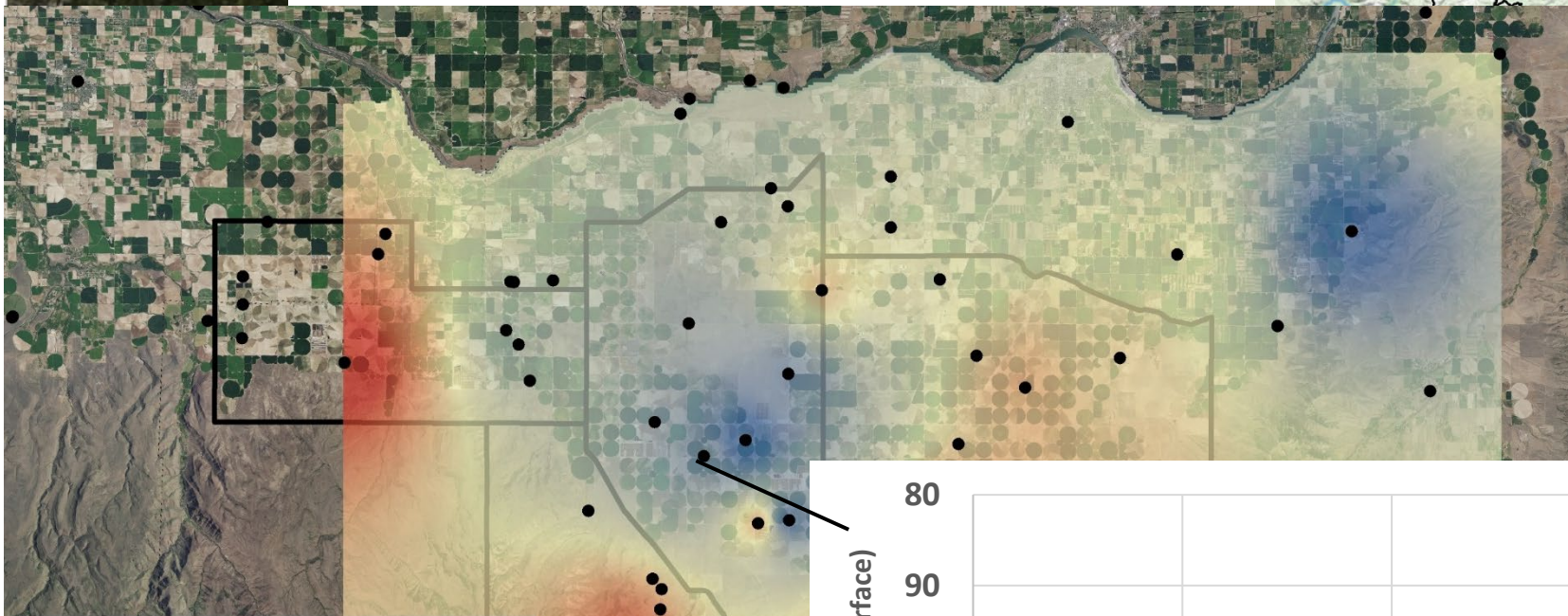
Management Program Progress

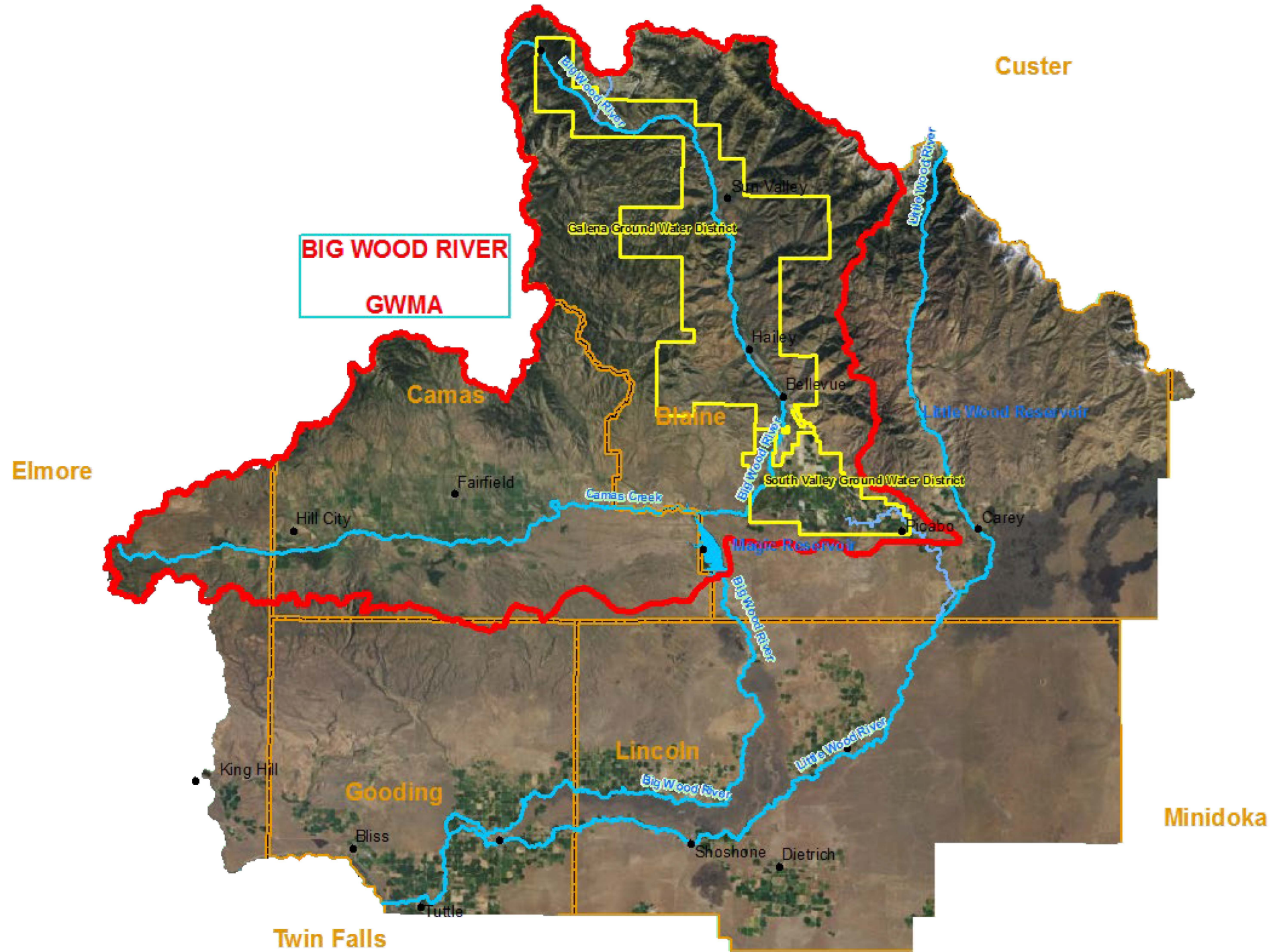
- 2017-2019
 - ✓ Nearly 24 KAF average increased conversions
 - ✓ 12,609 AF average recharge
- 2020-2022
 - 3,664 AF increased average recharge
 - No additional increase in average conversions



Photo Source: MV Times News

IDWR's Southern/Eastern Regions





1. Baseline Actions (annual activities)

- A. Fallow Irrigated Acres (GWDs)
 - SVGWD: 1,500 acres/yr.; GGWD: 200 acres yr. 1/500 acres yr. 3
- B. Irrigation Season Limits
 - May 1 – Sept 15; some exceptions
- C. Conservation, Infrastructure & Efficiency Fund (CIEF)
 - Contributions from Cities, non-irrigators & WD37B GWA
 - Matching State Funds (through IWRB)
- D. Snake River Storage Delivery
 - To BWLWWUA senior users on Little Wood & Big Wood Rivers
- E. Stream Flow Target
 - 32 cfs on Little Wood River near Richfield (Station 10)
- F. Cloud Seeding
 - Cities/SVC/SVWSD contribute \$3.60/AF of avg. withdrawals



2. Dry Year Mitigation Actions

Dry Year determination based on April-September forecast flow volume for Big Wood River at Hailey (use NRCS and NWRFC April 1 & June 1 forecasts)

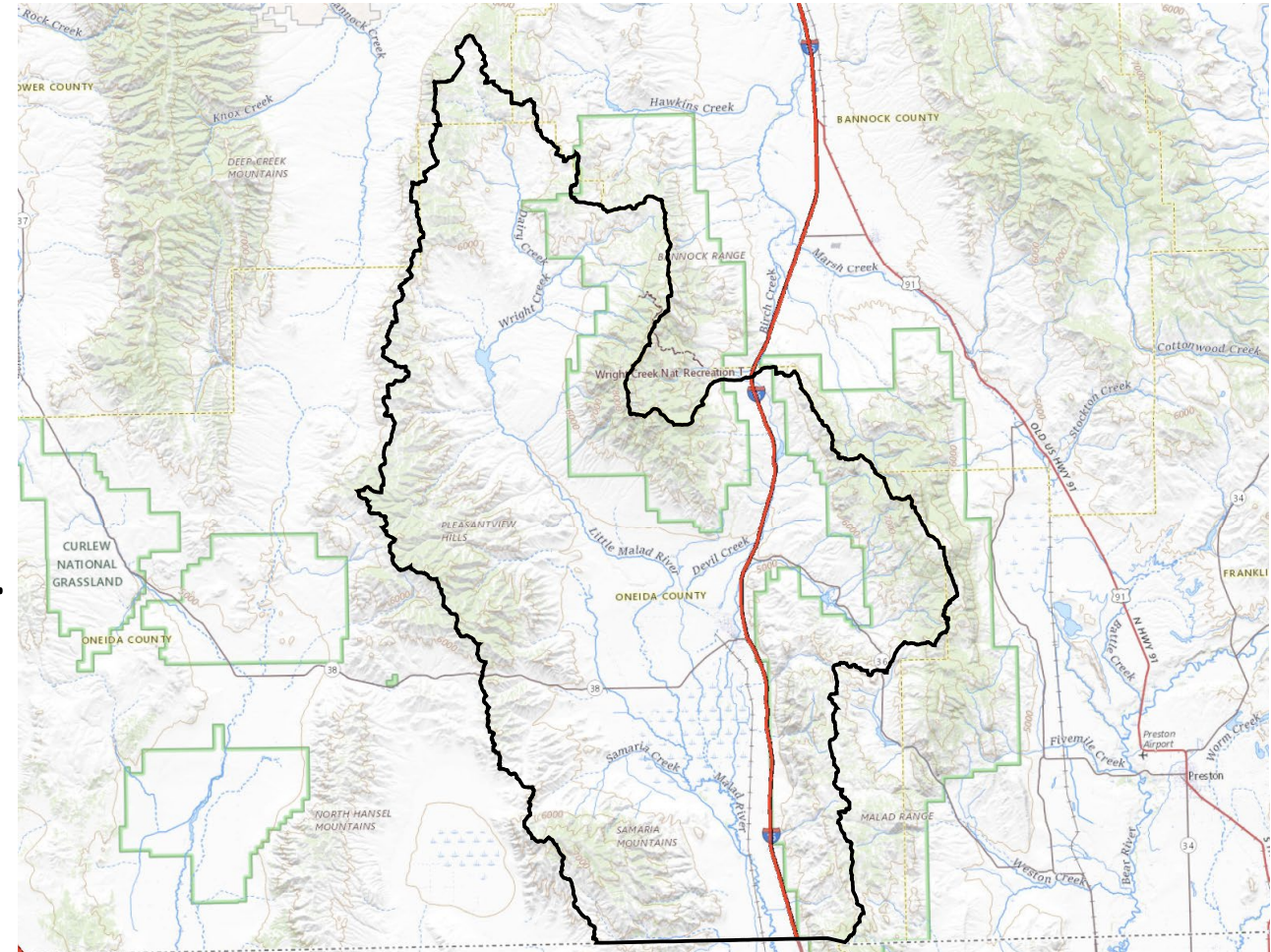
- Dry Year: ≤ 210 KAF
- Dry Year Tiers (incremental – see table)
- GW Consumptive Use (GWCU) Reductions based on April 1 forecast
- Additional storage water delivery based on June 1 forecast

Irrigation Season Water Supply	Avg. of Apr-Sep Volume Forecasts (KAF)	Recommended Additional GWCU Reduction (AF) Based on April 1 Forecast	Mandatory Additional Storage Water Delivery (AF) Based on June 1 Forecast
Adequate	> 210	-	-
Dry	155 – 210	1,275	650
Very Dry	100 – 155	11,260	1,300
Extremely Dry	< 100	17,016	1,300



Malad Valley GWMA

- Designated as GWMA in November 2015.
- Encompasses more than 500 square miles.
- 450 ground water irrigation rights.
- 300 cfs of recorded ground water rights.
- Management Plan approved November 2017.



Malad Valley GWMA Management Plan

- Goals
 - A. Increase the hydrologic data set for Malad Valley, through the monitoring of ground water levels, stream flows, and annual diversion volumes.
 - B. Protect existing water rights and water uses within Malad Valley.
 - C. Stabilize aquifer levels and restore artesian pressures in the regional aquifer.
 - D. Create a framework to identify and curtail unauthorized water uses.
 - E. Organize the water users in Malad Valley in a way that they are able to address water issues locally.

Malad Valley GWMA Management Plan

- Water Measurement
 - Create a Ground Water Measurement District
 - Elect a hydrographer to collect measurement data
 - Install IDWR-approved flow meters
- Aquifer Monitoring
 - Work with IDWR to create ground water level monitoring network
 - Declares who is responsible for cost of monitoring equipment
 - Measure springs in Malad Valley and stream flow at ID/UT state line
- Adjudication
 - Statement of support for Bear River Basin Adjudication

Malad Valley GWMA Management Plan

- Flowing Artesian Wells
 - Department and hydrographer will inventory all flowing artesian wells
 - Department will initiate enforcement actions for uncontrolled wells
- New Appropriations
 - Temporary Moratorium adopted in November 2015
 - Extend temporary moratorium until data set is sufficient to evaluate whether moratorium should be withdrawn or made permanent
- Priority Administration
 - Data about ground water diversions and aquifer balance is incomplete
 - Curtailment of junior rights to be evaluated in the future

Questions?

