

DRAFT

Grand View-Bruneau Ground Water Management Plan

September 23, 2022

I. INTRODUCTION

This document is the Ground Water Management Plan (“Management Plan”) for the Grand View-Bruneau Ground Water Management Area (“GBGWMA” or “GWMA”). The GWMA is in north-central Owyhee County, south of the Snake River. The GBGWMA was Idaho’s first designated ground water management area. A map of the GWMA is included in this Management Plan as Appendix A.

II. BACKGROUND

The Idaho Department of Water Resources (“Department” or “IDWR”) issued an order designating the GBGWMA (“GWMA Order”) on October 29, 1982, in response to increased and projected increases in ground water withdrawals along with declines in ground water levels and spring flows. A copy of the GWMA Order is included as Appendix B.

On July 27, 2000, the Department created the Bruneau Ground Water Management District (“BGWMD”) in response to a petition signed by 14 water users owning water rights to use ground water from low-temperature geothermal (“LTG”) wells located near Bruneau. The petitioners sought formation of the district to promote local control over LTG aquifers in the area and to secure funding and technical assistance to repair leakage and waste of water from LTG wells. The BGWMD has had limited activity since its inception.

In February 2021, IDWR Director Gary Spackman (“Director”) formed a local ground water user Advisory Committee to evaluate ground water management issues and consider development of a GWMA Management Plan. Involvement and collaboration from local ground water users to develop the Management Plan is essential to ensure sustainability of the area’s ground water resources. The Advisory Committee met eight times between February 2021 and June 2022 to learn about the hydrogeology within the GWMA, identify and prioritize potential management objectives, explore options for financial assistance to repair or abandon leaking wells, and initiate development of this Management Plan.

III. AREA HYDROGEOLOGY

The regional LTG aquifer system comprises two aquifers: 1) a volcanic-rock aquifer which is composed of Tertiary silicic volcanic rocks and Banbury Basalt, and 2) a sedimentary-rock aquifer that is composed of primarily Glens Ferry Formation sediments. These confined aquifers are warm to hot, ranging from 80 to 176 °F. Wells extending in to the deep volcanic LTG aquifer commonly flow at land surface, while wells developed in the shallower sedimentary LTG aquifer do not. Recharge to the LTG system begins as precipitation on the Owyhee and Jarbidge Mountains that percolates through faults and fractures in the silicic volcanic rocks that are exposed along the mountain front. Recharge to the Banbury Basalt and overlying sedimentary-rock LTG aquifer occurs as upward ground water movement from the deeper silicic volcanics along with limited infiltration of surface water and precipitation. Ground water flow in the LTG aquifer system is generally south to north; however, the direction of water movement has been modified by ground water pumping.

A shallow, unconfined, cold-water aquifer exists primarily in the alluvium along streams within the GWMA, but it is limited in areal extent. Recharge to the cold-water aquifer occurs primarily as infiltration of precipitation, streamflow, and irrigation water.

IDWR has been monitoring water levels in 17 wells within the GWMA for at least 10 years; some wells have been monitored since the 1950s. Water levels in all wells monitored by IDWR have declined over

the monitoring period for each well, and all wells exhibit statistically significant declining water-level trends during the 1998-2017 and 2008-2017 periods. Regionally, water levels in the Grand View-Bruneau GWMA are declining at a median rate of 0.78 feet/year and 0.88 feet/year for the 1998-2017 and 2008-2017 periods, respectively.

IV. RELEVANT LEGAL PROVISIONS

Idaho Code § 42-226 declares all ground water within the state to be the property of the state and confirms the state's authority to supervise the appropriation and allotment to those diverting ground water for beneficial use.

Idaho Code § 42-231 states:

[I]t shall be the duty of the [Director] to conduct investigations, surveys and studies relative to the extent, nature and location of the ground water resources of this state ... It shall likewise be the duty of the [Director] to control the appropriation and use of the ground water of this state . . . and to do all things reasonably necessary or appropriate to protect the people of the state from depletion of ground water resources contrary to the public policy expressed in this act.

Idaho Code § 42-233b states:

When a ground water management area is designated by the director of the department of water resources, or at any time thereafter during the existence of the designation, the director may approve a ground water management plan for the area. The ground water management plan shall provide for managing the effects of ground water withdrawals on the aquifer from which withdrawals are made and on any other hydraulically connected sources of water.

Idaho Code § 42-233b further states:

The director, upon determination that the ground water supply is insufficient to meet the demands of water rights within all or portions of a water management area, shall order those water right holders on a time priority basis, within the area determined by the director, to cease or reduce withdrawal of water until such time as the director determines there is sufficient ground water. Water right holders participating in an approved ground water management plan shall not be subject to administration on a time priority basis so long as they are in compliance with the ground water management plan.

Idaho Code § 42-604 states in relevant parts:

The director of the department of water resources shall divide the state into water districts in such manner that each public stream and tributaries, or independent source of water supply, shall constitute a water district.

The director may create, revise the boundaries of, or abolish a water district or combine two (2) or more water districts by entry of an order if such action is required in order to properly administer uses of the water resource.

Each water district created hereunder shall be considered an instrumentality of the state of Idaho for the purpose of performing the essential governmental function of distribution of water among appropriators under the laws of the state of Idaho.

Idaho Code § 42-701(1) states:

The appropriators or users of any public waters of the state of Idaho shall maintain to the satisfaction of the director of the department of water resources suitable headgates and controlling works at the point where the water is diverted. . . Each such appropriator shall construct and maintain, when required by the director of the department of water resources, a rating flume or other measuring device at such point as is most practical in such canal, ditch, wellhead or pipeline for the purpose of assisting the watermaster or department in determining the amount of water that may be diverted into said canal, ditch, wellhead or pipeline from the stream, well or other source of public water.

Idaho Code § 42-701(7) states:

All domestic uses, as defined in section 42-111, Idaho Code, and all stock watering uses, as defined in section 42-1401A, Idaho Code, shall be exempt from the measuring device installation and maintenance, measuring and reporting requirements of this section.

Idaho Code § 42-1602(2) states:

Any person owning or controlling an artesian well shall maintain the well to prevent waste or contamination of ground waters through leaky casings, pipes, fittings, valves, pumps, seals or through leakage around the outside of the casings, whether the leakage is above or below the land surface.

Idaho Code § 42-1607 states in relevant parts:

(1) The director of the department of water resources shall initiate a program to inventory and locate artesian wells throughout the state.

(3) For artesian wells which are not in compliance with Idaho minimum well construction standards, the owner shall be required to have the well repaired in compliance with Idaho minimum well construction standards promulgated pursuant to section 42-238, Idaho Code, so as to preclude the wasting or commingling of water. The repairs shall be paid for by the owner of the well. . .

(4) The director of the department of water resources may implement a cost-sharing program to assist owners of wells which have been ordered repaired or plugged pursuant to subsection (3) of this section. Any cost-share provided by the department shall be limited to fifty percent (50%) of the total cost to repair or plug the well to bring it into compliance with Idaho minimum well construction standards.

Idaho Code § 42-1805(7) authorizes the Director to suspend the issuance or further action on applications to appropriate water as necessary to protect existing water rights. Further, Rule 55 of the Department's Water Appropriation Rules (IDAPA 37.03.08) states that the Director may establish moratoriums, as necessary, to protect existing water rights.

Idaho Code § 42-5101 states:

The legislature hereby declares that the welfare of the people of Idaho is dependent upon the effective management of the ground water resources of this state. The legislature further declares that a need exists for the creation of special districts to provide for financing of repair or abandonment of wells in aquifers which have experienced or are experiencing declines in water level or water pressures because of flow, leakage, and waste from improper construction, maintenance and operation of wells drilled into the aquifer. Creation of these special districts may be initiated upon petition submitted by those owning the rights to use the ground water from any aquifers or parts of an aquifer that has been designated as a critical ground water area pursuant to section 42-233a, Idaho Code, or as a ground water management area pursuant to section 42-233b, Idaho Code.

Chapter 52, title 42 of Idaho Code, known as the "Ground Water District Act," authorizes ground water users in a particular geographic area to organize a ground water district and elect a board of directors who, pursuant to Idaho Code § 42-5224, have powers and duties that include the following:

- (3) To enter into contracts and agreements, cooperative and otherwise, including contracts with the United States of America and any of its agencies or instrumentalities, and contracts with corporations, public or private, municipalities, or governmental subdivisions necessary or convenient to fully exercise its powers.
- (5) To levy assessments for the operation of the district and its programs.
- (11) To develop, maintain, operate and implement mitigation plans designed to mitigate any material injury caused by ground water use within the district upon senior water uses within and/or without the district.
- (12) To finance the repair or abandonment of wells in the ground water district which have experienced or are experiencing declines in water level or water pressures because of reasons including, but not limited to, flow, leakage, and waste from improper construction, maintenance, and operation of wells.
- (16) To develop and acquire water rights for, and operate, aquifer storage or recharge projects.
- (17) To monitor, measure, study, and implement programs in the interests of the district's members regarding the protection of ground water diversions, depth of water in wells, aquifer water levels and characteristics.

V. MANAGEMENT PLAN GOALS

The primary goal of this Management Plan is to identify and implement management practices and strategies that will promote aquifer stabilization.

Additional goals of this Management Plan include measures to:

- A. Protect existing ground water rights and minimize potential need to cease or reduce ground water withdrawals on a time priority basis in accordance with Idaho Code § 42-233b.
- B. Improve the understanding of area aquifer systems over time through increased measurement and monitoring of ground water including:

- Expanding the ground water-level monitoring network to include measurement of more wells in the Grand View area within the GWMA and additional wells outside the GWMA in the Catherine and Castle Creek drainages, Oreana area.
 - Measuring and reporting ground water withdrawals from wells that are not used exclusively for domestic and stockwater purposes as defined by Idaho Code § 42-111.
- C. Evaluate potential recharge opportunities and sites.
 - D. Inventory wells to identify and prioritize wells in need of control, repair, or abandonment due to water leakage, waste, or both, and pursue funding opportunities to assist with needed control, repairs, or abandonment.
 - E. Organize the ground water users in the GWMA in a way that they can address ground water management issues locally.
 - F. Encourage education and outreach efforts that promote efficient use and conservation of ground water resources.
 - G. Develop a ground water model of the GWMA aquifer system, including surrounding hydraulically connected areas, to assist in evaluating the impact of ground water management strategies on the aquifer stabilization goal.

VI. MANAGEMENT PLAN TERM

The term of this Management Plan is considered perpetual and will be reviewed annually, and modified as needed, by the Advisory Committee. Meeting minutes from each annual meeting shall be submitted to the Director for review. The Advisory Committee will prepare and submit to the Director a summary report documenting the progress and effectiveness of the Management Plan along with any recommended changes at the end of every five (5) year period following the date the Management Plan was approved. Modifications of the Management Plan will be subject to the Director's approval.

VII. GROUND WATER MANAGEMENT AND IMPLEMENTATION STRATEGIES

To achieve the goals of this Management Plan, the following ground water use management strategies will be implemented and phased in over the five (5) year period following the Director's approval.

A. Ground Water District Formation

The BGWMD has had limited activity since its inception due to the limited areal extent and number of ground water users participating in the district, the high costs for repair and abandonment of LTG wells, and lack of anticipated financial assistance from state and federal agencies. Some wells within the GWMA that need repair or abandonment are not located within the BGWMD.

The authorities of the existing BGWMD are limited by statute. Most of those same authorities, plus broader authorities, or functions are available under a ground water district established pursuant to title 42, chapter 52, Idaho Code. Accordingly, the ground water users within the GBGWMA should form a ground water district (GWD). A GWD can include all ground water irrigation rights within the existing GWMA and replace the limited authority and areal extent of the BGWMD. The holders of non-irrigation rights may join a GWD in accordance with relevant provisions of Chapter 52, Title 42, Idaho Code. A GWD that encompasses the entire GBGWMA may represent all participating ground water users and offers the following benefits:

- Ability to finance the repair or abandonment of LTG artesian or other wells that leak, wastewater, or comingle water between subsurface aquifer units, or are otherwise not in compliance with Idaho law and well construction standards.
- Ability to obtain grants and enter into agreements with federal and state agencies, or other public and private entities to share costs for water management projects, including but not limited to the repair or abandonment of wells, acquisition, and installation of measuring devices for wells, and investigation and implementation of ground water recharge projects.
- Ability to collect and report annual ground water use data to IDWR or a local water district created by IDWR.
- Ability to implement programs or studies that help protect ground water rights and resources.

Metric: Local ground water users will initiate a petition for ground water district formation in 2022¹. During and after formation, the GWD will identify (and pursue where possible and appropriate) federal and state level cost sharing programs to assist water users with costs associated with purchase and installation of measuring devices, and costs to repair or abandon high priority wells.

B. Measurement of Ground Water Diversions

After formation of the GWD, the Director should issue an order requiring installation of flow measuring and controlling devices for ground water diversions within the GBGWMA and any surrounding areas, as appropriate, excluding diversions used solely for domestic and stockwater defined by Idaho Code § 42-111. The Director's Order should require measurement and control devices be installed by the start of the 2025 irrigation season.

In November 2021, IDWR staff inventoried 145 well sites within the GBGWMA. Staff identified seven artesian flowing wells. Two of the seven artesian wells were leaking at the surface and identified as wells that should be repaired to prevent wasting of water. The GWD, working in coordination with, and under the direction of the Director of IDWR, shall continue efforts initiated by IDWR to further inventory and locate LTG artesian wells and any other wells that may need repair or abandonment. The GWD and IDWR should prioritize wells that are not compliant with well construction standards, and which may be eligible for any potential well repair/abandonment cost share program.

The GWD, in coordination with IDWR, should determine the extent to which actual irrigated lands align with authorized water rights place of use boundaries, and work with water users to correct any discrepancies.

Metric: By July 1, 2023, after formation of the GWD, the Director will issue an order requiring installation of measuring and controlling devices on ground water diversions.

C. Creation of a Water District

Upon reviewing the first summary report, described in Section VI of this Management Plan and due at the end of the first five (5) year period, the Director will evaluate the progress and effectiveness of the GWD and whether it is appropriate and useful to create a Water District (WD) for the area, consistent with Chapter 6, Title 42, Idaho Code.

¹ All dates anticipated in this plan assume the plan is approved in fall of 2022.

Metric: By July 1, 2027, the director will review the first summary report submitted by the Advisory Committee, determine the effectiveness of the GWD with regards to this Management Plan, and if necessary, begin the process of creating a WD.

D. Expansion of Ground Water Monitoring Network

Expand the existing ground water level monitoring network to better characterize and monitor the state of the aquifer and better understand the aquifer system. The expanded network should include additional wells within the GBGWMA (for example, in the Grand View area), and potentially wells in nearby areas outside of the GBGWMA boundary such as the Catherine Creek, Castle Creek, and other Oreana area drainages. Identify data gaps in the current network and request participation from owners of favorably located wells on a voluntary basis. Data will be used to develop a ground water model of the GWMA to evaluate implementation of a recovery effort.

Metric: Starting 2022, the Advisory Committee shall coordinate with IDWR to:

- 1. Identify additional monitoring wells and add wells to the network. Complete full network build-out shall occur within five (5) years following approval of this Management Plan.*
- 2. Establish a set of criteria to ensure that the efforts implemented through the Management Plan are stabilizing ground water levels. Consider ground water level benchmarks or targets in select or mutually agreed upon wells pursuant to recommendations from the GWMA Advisory Committee. The targets may be incremental over time to achieve desired aquifer level stabilization goals.*

E. New Appropriations of Ground Water

Consistent with its authority stated in Idaho Code § 42-1805(7) and Rule 55 of the Department's Water Appropriation Rules (IDAPA 37.03.08), IDWR should consider whether a moratorium suspending action on applications to appropriate water and development of existing permits to appropriate water is necessary to protect existing water rights within the GBGWMA. Ground water users in the GWMA will petition the Director of IDWR to issue a formal moratorium order on new ground water appropriations within the GBGWMA. The Director should also consider a moratorium on ground water appropriations for areas surrounding the GWMA if they are determined to be hydraulically connected. The moratorium should exclude ground water rights used for non-consumptive purposes², and domestic and stockwater rights that meet the definition of "domestic purposes" set forth in Idaho Code § 42-111.

Metric: Ground water users shall submit a petition to IDWR by the end of 2022 requesting issuance of a water rights moratorium order.

F. Public Water Systems

Promote public or community water systems defined in IDAPA 58.01.08, and/or the expansion of existing municipal water systems in an effort to discourage drilling of individual domestic wells

² For purposes of this plan, a proposed use is for "nonconsumptive purposes" only if the use is nonconsumptive to the ground water source. For example, ground water uses that do not consume water, but discharge to the Snake River remain consumptive to the ground water aquifer.

within new residential developments. Encourage conservation plans for all new water rights or changes to existing water rights for all systems regulated as public water systems.

Metric: Starting 2023, the Advisory Committee shall coordinate with IDWR and local planning and zoning authorities to develop a “Best Practices” document to distribute to developers and the public to achieve this educational objective.

G. Diversion Volume Reductions

Reduction of ground water consumptive use may be achieved through, but is not limited to, the following practices:

1. Convert irrigated land to temporary or permanent non-irrigation use.
 - a. Seek technical assistance from the NRCS or the University of Idaho Extension
 - b. Incentivize conversion of cropland through CREP and matching contributions from GWDs or other ground water user entities
2. Center pivot end gun removal
 - a. Prioritize pivots using a primary or supplemental ground water source
 - b. Convert acres under end guns to non-irrigated use
 - c. Verification and monitoring is simple
3. Irrigation system/equipment improvements (change sprinkler packages, install low elevation spray application (LESA) or drip irrigation equipment, incorporate pivot and soil monitoring practices to reduce demand, or other similar practices)
4. Planting crops requiring less water
5. Irrigation season reduction
 - a. Ground water users will not irrigate sooner than [date] or later than [date]
 - b. Allow changes based on water supply conditions
6. Aquiculture efficiency
7. Voluntary abandonment, conversion, exchange, or sale of water rights for ground water volume reduction purposes.

Metric: Starting 2027, reduce irrigation and non-irrigation ground water pumping. Ground water diversion reductions are contingent upon establishing baseline average diversions and collecting sufficient water level data through 2027.

H. Ground Water Recharge

Inventory potential recharge sites for the shallow aquifer system. Prioritize sites based on a cost benefit ratio and anticipated time to implement.

Metric: Develop a recommended plan by November 1, 2024, that identifies potential recharge sites to facilitate recharge.

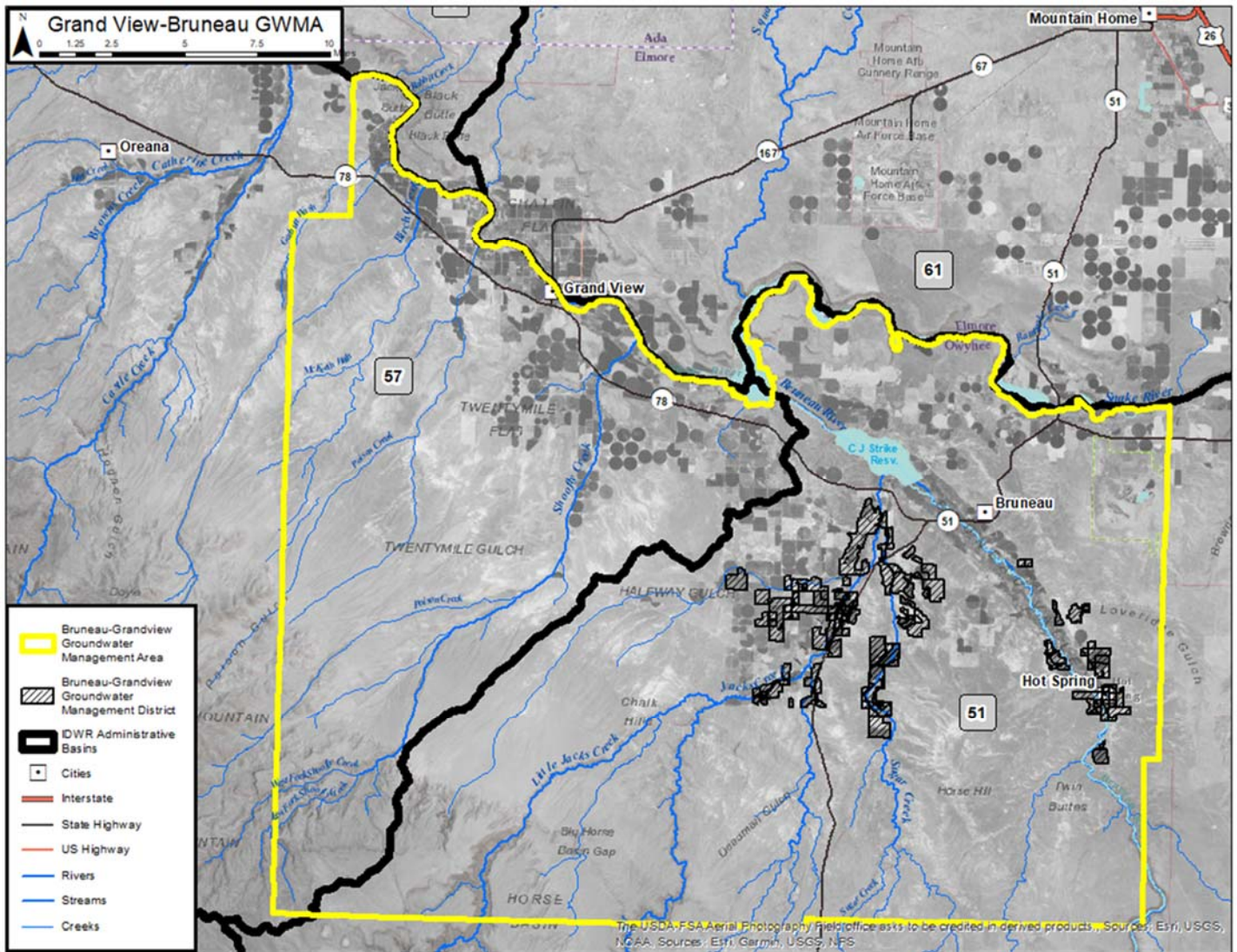
VIII. ADVISORY COMMITTEE

The Advisory Committee recommends that, prior to a decision to adopt the plan, the Director hold a public meeting in the local area to present this Management Plan and seek comment from the public.

The Advisory Committee recommends that the Director authorize continuation of the Advisory Committee to assist with implementation of Management Plan goals and strategies. The Advisory Committee shall meet annually to ensure that the provisions of the plan are properly implemented as described in Section VI of this Management Plan.

APPENDIX A

Map of the Grand View-Bruneau Ground Water Management Area



APPENDIX B

IDWR Order Designating Grand View-Bruneau Ground Water Management Area,
October 29, 1982

DRAFT

BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

IN THE MATTER OF THE)	
)	
GRAND VIEW - BRUNEAU)	ORDER ESTABLISHING
)	A GROUND WATER
GROUNDWATER MANAGEMENT)	MANAGEMENT AREA
)	
AREA)	
_____)	

WHEREAS, the Director of the Department of Water Resources has the responsibility to administer the ground water basins of the state to protect prior rights yet allow full economic development; and,

WHEREAS, information available to the Director of the Idaho Department of Water Resources indicates that the ground water resources in the Grand View - Bruneau area may be approaching the conditions of a critical ground water area as described in Section 42-233a, Idaho Code; and,

WHEREAS, the estimated withdrawal from the aquifer system at the present stage of development may exceed the present recharge to the system; and,

WHEREAS, the records of the department indicate the potential withdrawal would be doubled if all existing permits and pending applications to appropriate ground water are developed; and,

WHEREAS, Section 42-233b, Idaho Code, authorizes the Director of the Idaho Department of Water Resources to designate areas as "ground water management areas" to allow increased management of the ground water resources:

NOW THEREFORE, IT IS HEREBY ORDERED that the following described area be included within and designated as the "Grand View - Bruneau Ground Water Management Area" pursuant to Section 42-233b, Idaho Code:

From the point of beginning at a point located on the south side of Snake River in Owyhee County Idaho, on the rangeline common to Range 6E and Range 7E, Boise Meridian;

Thence south along said range line to the township line common to Township 8S and Township 9S;

Thence west along said township line to the rangeline common to Range 1E and Range 2E, Boise Meridian;

Thence north along said range line to the township line common to Township 4S and Township 5S;

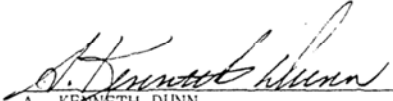
Thence east along said township line to the section line

common to Section 32 and 33, Township 4S, Range 2E, Boise Meridian;

Thence north along said section line to its intersection with the south bank of Snake River;

Thence upstream in a southeasterly direction along said south bank to the point of beginning.

Signed at Boise, Idaho this 29th day of October, 1982, at 4:50 P.M. o'clock.


A. KENNETH DUNN
Director