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Attorneys for Boise Project Board of Control

RECEIVED

DEC 04 2014

DEPARTMENT OF
WATER RESOURCES

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT
OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA

Case No. 39576

Subcase Nos. 01-10614, 01-10615, 01-10616, 01-10617, 01-10618, 01-10620, 01-10621, 01-10622, 01-10623, 21-13161, 37-22806, 63-33732, 63-33733, 63-33734, 63-33737, 63-33738, 65-23531 and 65-23532

**AFFIDAVIT OF SHELLEY M. DAVIS IN
SUPPORT OF BOISE PROJECT BOARD OF
CONTROL'S MEMORANDUM IN
OPPOSITION TO STATE OF IDAHO'S
MOTION FOR SUMMARY JUDGMENT**

STATE OF IDAHO)
) ss.
County of Ada)

SHELLEY M. DAVIS, being first duly sworn upon oath, deposes and says:

1. I am an attorney in the firm Barker Rosholt & Simpson LLP providing legal representation to Boise Project Board of Control in the above captioned matter. I am over the age of 18 and have knowledge of the documents and legal proceedings pertinent to this matter, and I make this affidavit based upon personal knowledge.

**AFFIDAVIT OF SHELLEY M. DAVIS IN SUPPORT OF BOISE PROJECT BOARD OF
CONTROL'S MEMORANDUM IN OPPOSITION TO STATE OF IDAHO'S MOTION
FOR SUMMARY JUDGMENT**

COPY

2. In the OPENING BRIEF OF THE BOISE PROJECT BOARD OF CONTROL, AND NEW YORK IRRIGATION DISTRICT filed concurrently herewith, these parties requested in writing at footnote 3, page 5, that pursuant to Idaho Rule of Evidence 201, this Court take judicial notice of the documents identified in this Affidavit, and as cited in the Opening Brief. All of the documents contained herein are “from the court file in the same or a separate case,” or are “either (1) generally known within the territorial jurisdiction of the trial court or (2) capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.” Id. R. Ev. 201. In this affidavit I “identify the specific documents or items for which judicial notice is requested ...[and] ...proffer to the court and serve on all parties copies of such documents or items” in conformance with Rule 201.

3. Attached hereto as Exhibit 1 is a true and correct copy of The United States Department of the Interior Bureau of Reclamation Boise Project – Idaho Supplemental Contract with Wilder Irrigation District dated July 7, 1954. This document was supplied to the Court as Exhibit No. 11 to the Affidavit of Albert P. Barker, dated April 30, 2004, in sub-case No. 91-63, later re-numbered sub-case no. 00-91063.

4. Attached hereto as Exhibit 2 is a true and correct copy of excerpts of the presentation given by Brian Sauer, of the Bureau of Reclamation, to the Idaho Water Supply Committee on April 12, 2012, and located at the Idaho Department of Water Resources website at <http://www.idwr.idaho.gov/Browse/WaterInfo/WaterSupply/Presentations/2012/April/>. This document is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

5. Attached hereto as Exhibit 3 is a true and correct copy of the Affidavit of Mary Mellema submitted Feb. 5, 2008, in SRBA sub-case No. 63-3618.

6. Attached hereto as Exhibit 4 is a true and correct copy of excerpts of the 1985 Boise River Water Control Manual, as amended. This document is generally known within Basin 63 water users, within the territorial jurisdiction of this Court, and is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

7. Attached hereto as Exhibit 5 is a true and correct copy of excerpts of the November 1974 Review of Boise River Flood Control Management, which is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

8. Attached hereto as Exhibit 6 is a true and correct copy of excerpts of the 1990 Comprehensive State Water Plan, South Fork Boise River Sub-Basin, 1990, Re-adopted 1996. This document is generally known within the territorial jurisdiction of this Court, and is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

9. Attached hereto as Exhibit 7 is a true and correct copy of excerpts of the Comprehensive State Water Plan, Upper Boise River Basin, December 1992. This document is generally known within the territorial jurisdiction of this Court, and is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

10. Attached hereto as Exhibit 8 is a true and correct copy of a list of junior natural flow water rights provided by the Idaho Department of Water Resources to Basin 63 interested parties in this sub-case at a meeting held on November 5, 2012. A review of the water rights compiled on the list makes it capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

11. Attached hereto as Exhibit 9 is a true and correct copy of water right summaries for a number of the junior water rights listed on Exhibit 8, which contain exemplars of various water

right remarks limiting the time when those junior rights can be exercised to the flood control season, and subordinating those rights to storage rights in the Boise River reservoirs. A review of the water rights makes it capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

12. Attached hereto as Exhibit 10 is a true and correct copy of the Affidavit of Robert J. Sutter, submitted in SRBA sub-case no. 63-3618, and dated Feb. 12, 2008.

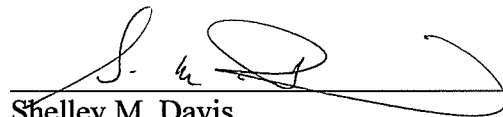
13. Attached hereto as Exhibit 11 is a true and correct copy of the July 11, 1977 Boise River Moratorium Order issued by Director S. Allred.

14. Attached hereto as Exhibit 12 is a true and correct copy of the Feb. 2, 1987 Water Delivery Accounting Boise River WD-63 Memorandum authored by R. Sutter.

FURTHER this Affiant sayeth naught.

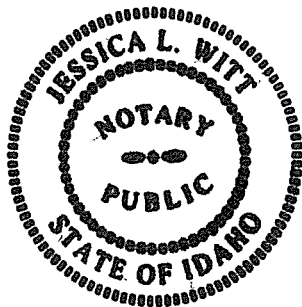
Dated this 3rd day of December, 2014.

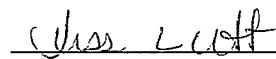
BARKER ROSHOLT & SIMPSON LLP



Shelley M. Davis
Attorneys for the Boise Project Board of Control

SUBSCRIBED AND SWORN to before me this 3rd day of December, 2014.





Notary Public for Idaho
Residing at: Boise, ID
Commission Expires: 2/20/2015

AFFIDAVIT OF SHELLEY M. DAVIS IN SUPPORT OF BOISE PROJECT BOARD OF CONTROL'S MEMORANDUM IN OPPOSITION TO STATE OF IDAHO'S MOTION FOR SUMMARY JUDGMENT

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 3rd day of December, 2014, I caused to be served a true and correct copy of the foregoing **AFFIDAVIT OF SHELLEY M. DAVIS IN SUPPORT OF BOISE PROJECT BOARD OF CONTROL'S MEMORANDUM IN OPPOSITION TO STATE OF IDAHO'S MOTION FOR SUMMARY JUDGMENT** by the method indicated below, and addressed to each of the following:

Original to:

Clerk of the District Court
Snake River Basin Adjudication
253 Third Avenue North
P. O. Box 2707
Twin Falls, ID 83303-2707

☒ Hand Delivery
☐ U.S. Mail, postage prepaid
☐ Facsimile
☐ Overnight Mail

Copies to the following:

LAWRENCE G. WASDEN
Attorney General, State of Idaho
CLIVE J. STRONG
Deputy Attorney General
Chief, Natural Resources Division
MICHAEL C. ORR
Deputy Attorney General
P. O. Box 83720
Boise, ID 83720-0010

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DANIEL STEENSON
S. BRYCE FARRIS
Sawtooth Law Offices PLLC
1101 W. River Street, Suite 110
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JERRY R. RIGBY
Rigby Andrus Rigby
25 N. 2nd East
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Rexburg, ID 83440-0250

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Givens Pursley
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Boise, ID 83701-2720

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Denver, CO 80202

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W. KENT FLETCHER
Fletcher Law Office
1200 Overland Road
P.O. Box 248
Burley, ID 83318-0248

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☒ Email

ROGER LING
P.O. Box 623
Rupert, ID 83350-0623

☐ Hand Delivery
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☐ Facsimile
☐ Overnight Mail
☒ Email

USDI Bureau of Reclamation
U.S. Department of Justice
Environment & Nat'l Resources
550 W. Fort Street, MSC 033
Boise, ID 83724

☐ Hand Delivery
☒ U.S. Mail, postage prepaid
☐ Facsimile
☐ Overnight Mail
☒ Email

U.S. Bureau of Reclamation
Regional Director, PN Region
1150 N. Curtis Road, Suite 100
Boise, ID 83706-1234

☐ Hand Delivery
☒ U.S. Mail, postage prepaid
☐ Facsimile
☐ Overnight Mail
☒ Email

Director of IDWR
P.O. Box 83720
Boise, ID 83720-0098

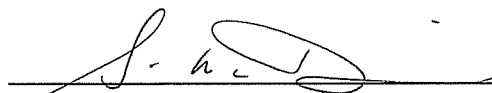
☐ Hand Delivery
☒ U.S. Mail, postage prepaid
☐ Facsimile
☐ Overnight Mail
☒ Email

C. TOM ARKOOSH
Arkoosh Law Offices
802 W. Bannock St., Ste. 900
P.O. Box 2900
Boise, ID 83701

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IDWR Document Depository
P.O. Box 83720
Boise, ID 83720-0098

☐ Hand Delivery
☒ U.S. Mail, postage prepaid
☐ Facsimile
☐ Overnight Mail
☐ Email



Shelley M. Davis

EXHIBIT 1

Contract No. 14-06-W-82

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation

Boise Project - Idaho

SUPPLEMENTAL CONTRACT
With

WILDER IRRIGATION DISTRICT

THIS CONTRACT, made this 7th day of July 1954,
pursuant to the Federal Reclamation Laws and the Act of July 20, 1946 (60
Stat. 650), between THE UNITED STATES OF AMERICA (hereinafter called the
United States), acting through ~~W. A. Danheiser, Commissioner of Reclamation,~~
~~for the~~ Secretary of the Interior,
and the Wilder Irrigation District, (hereinafter called the
District), the corporation organized and existing under the laws of the
State of Idaho, and having its place of business at Caldwell,
Idaho,

WITNESSETH, That:

2. WHEREAS, the United States, under the Federal Reclamation Laws,
has heretofore constructed and is now operating Anderson Ranch and Arrow-
rock dams and reservoirs, Lake Lowell, and the related works of the Boise
Federal Reclamation Project, and under the Act of July 20, 1946, is now
constructing Lucky Peak Dam and Reservoir;

3. WHEREAS, the United States and the District have heretofore
entered into the following contracts with respect to storage rights in

Anderson Ranch and Arrowrock dams and reservoirs and Lake Lowell of the
Boise Project:

Iir-417 dated April 6, 1926
Iir-1361 dated August 1, 1941
I74r-1966 dated April 3, 1951
14-06-100-99 dated April 7, 1953

being collectively referred to hereinafter as the Government-District contracts; and

4. WHEREAS, the District, recognizing the benefits to accrue from a system-wide operation of Anderson Ranch, Arrowrock, and Lucky Peak dams in the interest, jointly, of flood control and irrigation and from the integrated operation of the Boise Project powerplants, including an attendant reduction in the amount of construction costs of Anderson Ranch Dam otherwise allocable to irrigation and the assignment of irrigation costs for return from power revenues, desires to cooperate with the United States and the various other water users organizations to permit such system-wide and integrated operations,

NOW, THEREFORE, in consideration of the mutual and dependent covenants hereinafter stated, it is hereby agreed between the parties hereto as follows:

Definitions

5. The following terms, wherever used in this contract, shall have the following respective meanings:

"Federal Reclamation Laws" shall mean the Act of June 17, 1902 (32 Stat. 388) and acts amendatory thereof or supplemental thereto.

"Storage season" shall mean, as to the reservoir system and Lake Lowell, the period beginning October 1 of one year and ending during the next year when no more water is available for storage therein.

"Flood control period" shall mean the period from January 1 through July 31 of each year beginning with the first full calendar year after this contract becomes effective.

"Reservoir system" shall mean Anderson Ranch, Arrowrock, and Lucky Peak dams and reservoirs.

Flood Control Operating Plans Assent Thereto

6. (a) The United States shall operate the net total active capacity of the reservoir system, exclusive of the initial 5,000 acre-feet thereof heretofore reserved in Anderson Ranch Reservoir for power production, during the flood control period of each year jointly for irrigation and flood control storage in accordance with the operating plan as set forth in the agreement of November 20, 1953, between the departments of the Army and Interior, a copy of which is attached hereto as Exhibit A, as that plan may be implemented by rules and regulations issued under authority of law; and the District, so far as its storage rights as defined in

^{1/} The net space so to be used under current (1954) estimates of total active capacity is 983,000 acre-feet.

the existing Government-District contracts are concerned, hereby assents to such plan in substitution for the flood control plan reflected in the contract of August 1, 1941 between the United States and the Wilder Irrigation District.

(b) The various provisions of article 18 of the contract of August 1, 1941 (Symbol and No. IR-1361) relating to the use of capacity of Anderson Ranch Reservoir for flood control benefits, including in particular the provision that 45,000 acre-feet of Anderson Ranch and Arrowrock capacity be kept available for the control of flash floods, shall be inoperative while this contract remains in effect.

Guarantee

7. Beginning with the first full flood control period after the agreement set forth in Exhibit A has become operative, there shall be a determination for each storage season as of the end of that season

- (a) of the amount of water to which the District would have been entitled under its storage rights in the reservoir system and Lake Lowell under its Government-District contracts had Anderson Ranch, Arrowrock, and Lake Lowell reservoirs been operated in accordance with those contracts except for the provisions thereof relating to the use of capacity for flood control benefits and without regard to the flood control plan referred to in article 6, and

(b) of the amount of water which is creditable to the storage rights of the District under its Government-District contracts taking account of actual operations under the flood control operating plan in accordance with this supplemental contract.

If the amount under (a) exceeds that under (b), there shall be credited and made available to the District, out of the water accrued to storage rights in Lucky Peak Reservoir, an amount of stored water equal to that difference. Determinations under this article shall be by a committee of three comprising the State Watermaster of District No. 12-A, a representative of the water users to be selected by the Boise Project Board of Control, and the officer of the United States in charge of the Boise Project; and, so far as practicable, shall be made within thirty (30) days of the end of the storage season involved.

Effective Date of Contract

8. (a) This supplemental contract shall become effective only when an allocation report for the Boise Project, supplemental to the report and finding of June 25, 1940 covering Anderson Ranch Dam (H. Doc. No. 916, 71st Cong.) reflecting the flood control benefits based on the operating plan set forth in Exhibit A has been presented to the Congress and become operative and shall remain effective while the provisions of article 7 are operative and water accruing to Lucky Peak storage rights required to meet deficiencies in fill by reason of the flood control operating plan is made available as therein provided.

(b) The District may, at its option, terminate this contract within five (5) years from December 31 of the year in which the Army-Interior agreement set out in Exhibit A first becomes effective. Such termination shall be effected by the giving of written notice by the District's board of directors to the secretaries of the Army and Interior and the State Reclamation Engineer not less than six (6) months in advance of the termination date. Upon termination, the rights of the District under its Government-District contracts shall be determined without regard to the provisions of this supplemental contract, but such termination shall not preclude the continued functioning of the operating plan set forth in Exhibit A pursuant to contractual arrangements with other entities having storage rights in the reservoir system.

Status of Existing Contracts

9. This contract is amendatory of and supplementary to the existing Government-District contracts and, except to the extent that the provisions of such contracts are specifically suspended by this contract, the existing contracts shall remain unaffected by this contract.

Contingent on Appropriations or Allotment of Funds

10. The expenditure of any money or the performance of any work by the United States herein provided for, which may require appropriations of money by the Congress or the allotment of Federal funds, shall be contingent on such appropriations or allotments being made. The failure of the Congress to appropriate funds, or the failure of any allotment of funds shall not, however, relieve the District from any obligation heretofore

accrued under this contract, nor give the District the right to terminate this contract as to any of its executory features. No liability shall accrue against the United States in case such funds are not so appropriated or allotted.

Successors and Assigns Obligated;
Assignments Prohibited

11. The provisions of this contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this contract, or any part thereof, or interest therein, shall be valid until approved by the Secretary.

Officials Not to Benefit

12. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made with a corporation or company for its general benefit.

IN WITNESS WHEREOF, the parties hereto have signed their names the day and year first above written.

THE UNITED STATES OF AMERICA Dec. 7, 1954

By W. A. Darchauer
For the Secretary of the Interior

(SEAL)

Attest:

Dorothy F. Benton
Secretary

WILDER IRRIGATION DISTRICT

By Chas. A. Howland

DISTRICT OF COLUMBIA. : ss.

I, Harold L. Byrd, a notary public in and
for the District of Columbia, do hereby certify that W. A. Dexheimer,
Commissioner, Bureau of Reclamation, who executed
the foregoing contract with the Wilder Irrigation District
dated July 7, 1954, personally appeared
before me, the said W. A. Dexheimer being personally
known to me as the person who executed the said contract on behalf
of the United States of America, and acknowledged the same to be his
act and deed.

Given under my hand and seal this 7th day of
December, 1954.

/s/ Harold L. Byrd

Notary Public in and for the
District of Columbia

(SEAL)

My commission expires May 14, 1957

STATE OF IDAHO)

: ss.

County of Canyon)

On this 7th day of July 1954

before me personally appeared Chas. A. Howland

and Dorothy F. Dunton to me

known to be, respectively, the President and the Secretary of

the Board of Directors of the Wilder Irrigation

District, the corporation that executed the within and fore-

going instrument. They acknowledged said instrument to be the

free and voluntary act and deed of said corporation, for the

uses and purposes therein mentioned; and on oath stated that

they were authorized to execute said instrument and that the

seal affixed is the seal of said corporation.

IN WITNESS WHEREOF, I set my hand and affix my official seal the day and year first above written.

/s/ H. A. Diven

Notary Public in and for the
State of Idaho

Residing at Caldwell, Idaho

(SEAL)

My commission expires 11-18-56

EXHIBIT A

For copy of Exhibit A, see contract with the Nampa and Meridian
Irrigation District, No. 14-06-W-87, dated June 17, 1954.

EXHIBIT 2

RECLAMATION

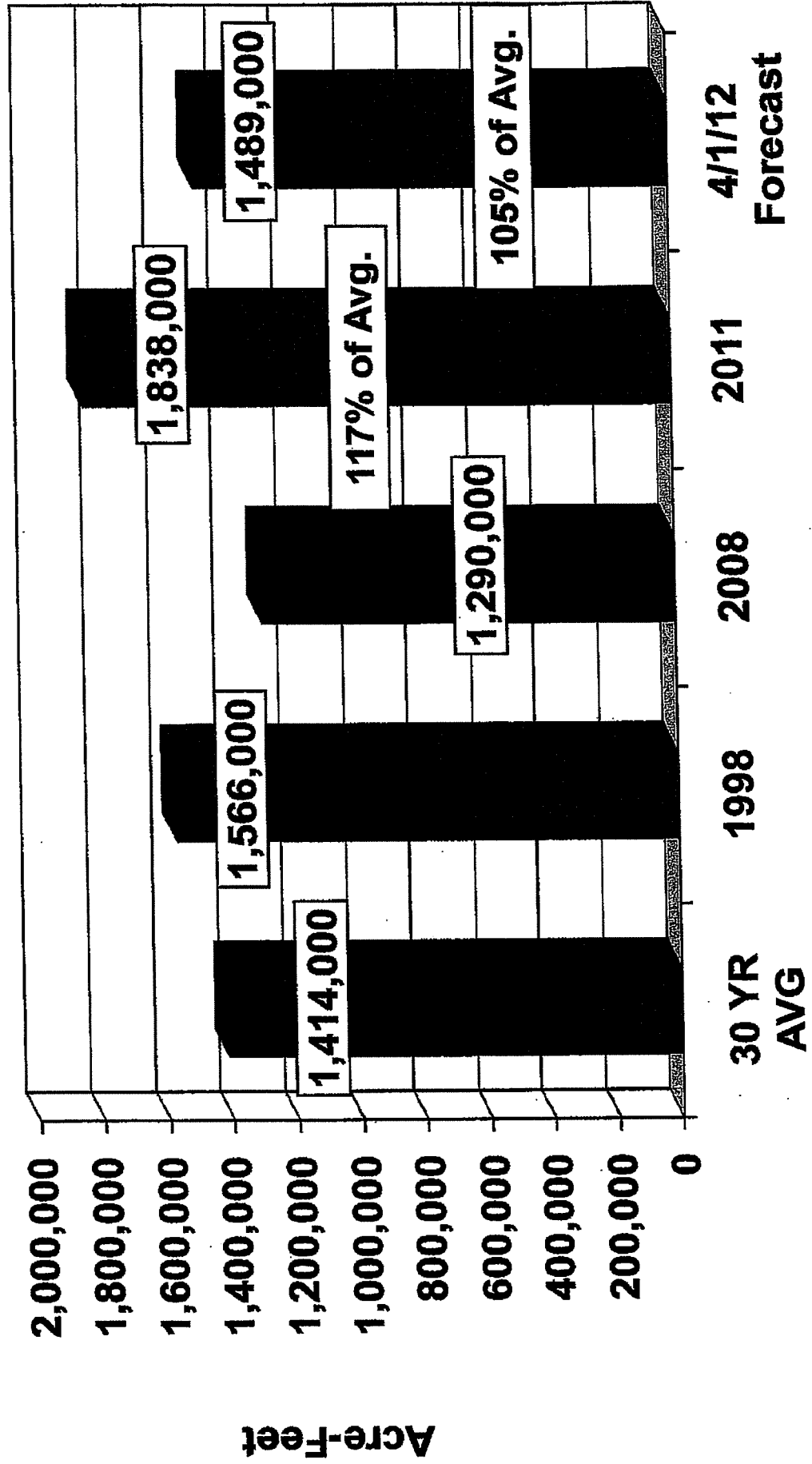
Managing Water in the West



U.S. Department of the Interior
Bureau of Reclamation

Boise Basin Runoff

April 1 – July 31



Boise Reservoir System Storage (capacity = 949,700 ac-ft)

2012 2011 2008 1998

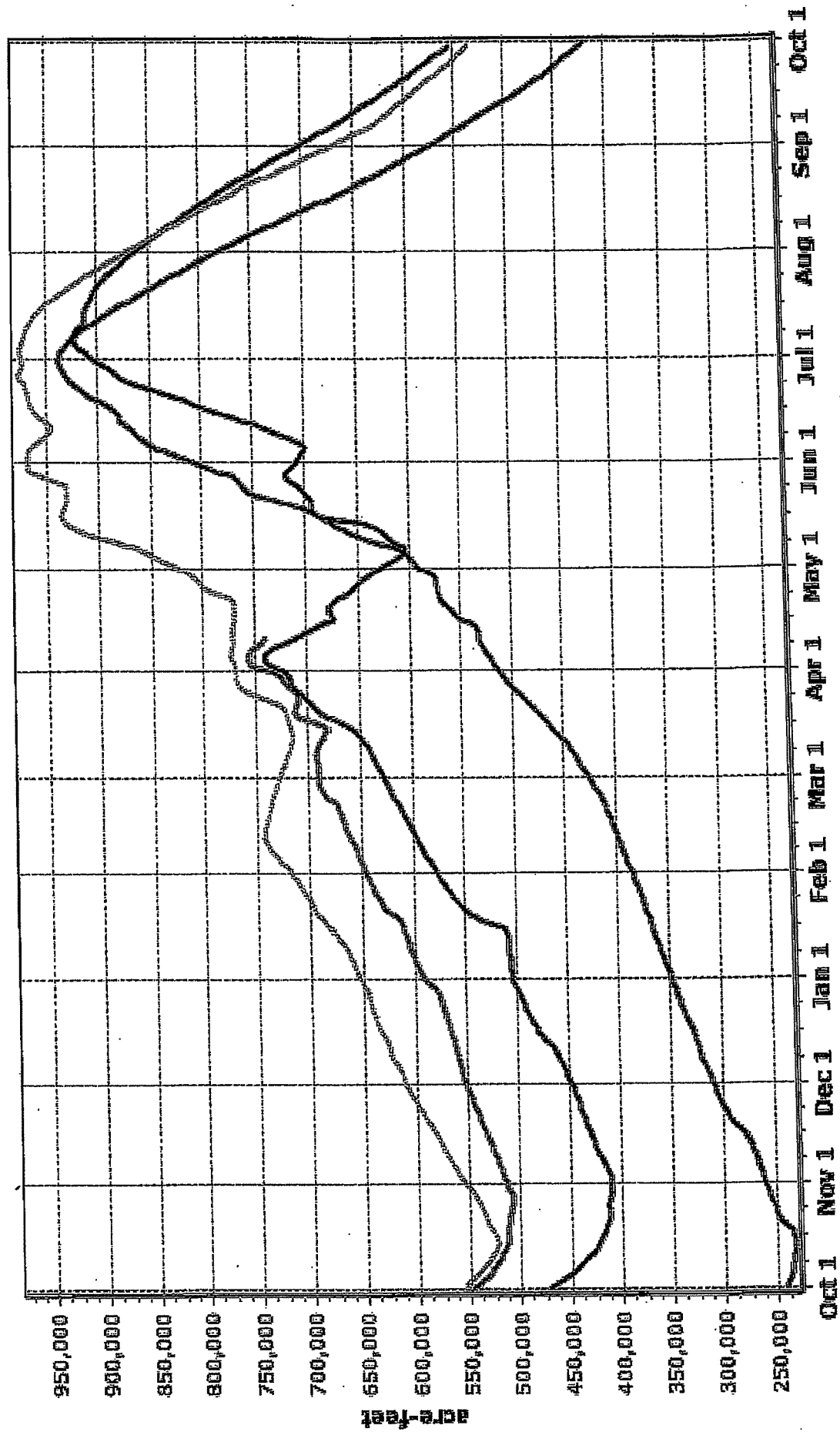


EXHIBIT 3

RONALD J. TENPAS

Acting Assistant Attorney General
Environment and Natural Resources Division

DAVID W. GEHLERT

Natural Resources Section
Environment and Natural Resources Division

U.S. Department of Justice

1961 Stout Street, 8th Floor

Denver, Colorado 80294

Phone: (303) 844-1386

Fax: (303) 844-1350

Counsel for the United States

**IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS**

In Re SRBA)

Case No. 39576)

Subcase Nos. 63-3618

) **AMMENDED AFFIDAVIT OF MARY
MELLEMA**

_____) **STATE OF IDAHO**)

County of Cassia)

) ss.

I, MARY MELLEMA, being duly sworn upon oath, deposes and states as follows:

1. I am a hydrologist with River and Reservoir Operations Group (RROG), Pacific Northwest Regional Office of the Bureau of Reclamation. I have served as a hydrologist for RROG since 2001. Prior to that I was a service hydrologist with the National Weather Service (NWS) in Boise, Idaho for 10 years. In my current capacity I conduct various studies of reservoir

operations and also make real time decisions of reservoir operations of Federal reservoirs in the Pacific-northwest region.

2. I am knowledgeable about reservoir operations of Arrowrock, Anderson Ranch, and Lucky Peak reservoirs. This knowledge is based on my experience. I have been the Regional Boise River operations contact since 2004. In that capacity I have analyzed historic water supply conditions in the Boise basin and have developed operational tools to plan real-time operations of each of the reservoirs. I have operated the Boise reservoirs during a variety of water supply conditions and have examined the runoff patterns of the basin and how the reservoirs react.

3. One of my primary responsibilities is to provide analyses regarding flood control operations for the three reservoir system consisting of Arrowrock, Anderson Ranch, and Lucky Peak reservoirs. These analyses included forecasting and routing of runoff in the Boise basin and planning reservoir releases. Flood control operations are necessary in many years to avoid potentially damaging floods from impacting the City of Boise and other downstream communities. Flood control operations are carried out jointly by Reclamation and the Army Corps of Engineers pursuant to the criteria set forth in the 1985 Water Control Manual, a true and correct copy of which is attached hereto as Exhibit A. Pursuant to the Water Control Manual, space in all three reservoirs—Arrowrock, Anderson Ranch, and Lucky Peak—is allocated for flood control. The space allocations for flood control are as follows: Arrowrock (272,000 acre feet), Anderson Ranch (413,000 acre feet), and Lucky Peak (264,000 acre feet).

4. I am familiar with the water right accounting system of the flow for the Boise Project. The "Boise Water Rights Accounting Computer Program" is maintained and operated by the

Idaho Department of Water Resources and is used to account for water that fills the Boise Project storage water rights. After flood control operations have occurred and the reservoirs fill to the maximum reservoir level expected to occur during that irrigation season, IDWR uses the Boise River Storage Program to allocate storage to the various contractors and purposes. At this time any shortages that need to be made up to the various Reclamation contractors in Anderson and Arrowrock, due to flood operations in the Boise Project, pursuant to the 1985 Water Control Manual and contracts, occurs. The storage allocation for each Reclamation contractor is then input into the Accounting model, which is used to account for water used for the rest of the water year.

5. For purposes of this case, I reviewed the flood control releases for the Boise Project reservoirs since the time when Lucky Peak was first brought into operation to the present. I looked specifically for years in which Arrowrock and Anderson Ranch reservoirs did not physically fill due to flood control releases. I conducted my research by looking at the bound books, published by IDWR, entitled "Report on Canal Deliveries from Boise River and Different Features Affecting These Deliveries for the Irrigation Season." This research revealed that Arrowrock and Anderson Ranch reservoirs did not physically fill in the following years due to flood releases:

Year	Amount of Space Not Filled In Anderson and Arrowrock	Amount of Space in the accounting that filled for Anderson and Arrowrock
1972	22,393 acre-ft	100%
1974	30,367 acre-ft	100%
1975	71,448 acre -ft	100%
1976	33,363 acre-ft	100%
1978	96,857 acre ft	100%

1989	126,473 acre-ft	100%
1993	15,372 acre-ft	100%
1999	6,968 acre-ft	100%

6. For each of those years described in Paragraph 5, above, I was asked to determine how storage water between the three reservoirs—Arrowrock, Anderson Ranch, and Lucky Peak—was accounted for by the watermaster for Water District 63 for purposes of water rights administration. To answer this question, I reviewed the watermaster reports for each of the years identified in Paragraph 5. For each year examined, the watermaster reports show that the storage rights for Arrowrock and Anderson Ranch received their full allocation of storage water under the respective water rights for those reservoirs. This shows that the fact Arrowrock and Anderson Ranch reservoirs did not fill physically in those years because of releases required by flood control operations did not effect the water right storage allocations for those two reservoirs. As a matter of state water rights administration, the watermaster for Water District 63 allocated full supplies to the Arrowrock and Anderson Ranch storage rights. Attached as Exhibit B are copies of relevant pages of the watermaster reports showing the allocations to Arrowrock and Anderson Ranch for the years indicated above.

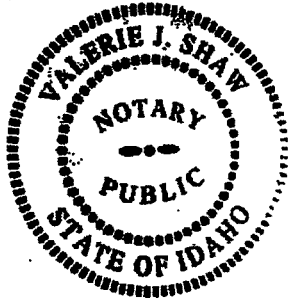
7. The reduction in storage allocation for those years described in Paragraph 5, above, came solely from Lucky Peak.

Further your affiant sayeth naught.

DATED this 5th Day of Feb 2008.

Mary Mellema
Mary Mellema
Hydrologist

SUBSCRIBED AND SWORN to before me this 5th Day of Feb, 2008.



Notary Public for Idaho Valerie J. Shaw
Residing at: Meridian
My Commission Expires: 6/2/2012

EXHIBIT 4



**US Army Corps
of Engineers**
Walla Walla District

Water Control Manual for Boise River Reservoirs

Boise River, Idaho

I - INTRODUCTION

1-01. Authorization. This Water Control Manual has been prepared pursuant to authority contained in Section 7 of ER 1110-2-240, "Engineering and Design - Reservoir Regulation," dated 22 April 1970. The format and content of this Manual are in accordance with criteria set forth in EM 1110-2-3600, dated 25 May 1959, and ETL 1110-2-251, "Engineering and Design - Preparation of Water Control Manuals," dated 14 March 1980.

In addition to OCE directives to maintain up-to-date manuals, the revision of the Boise River Regulation Manual was requested by the State of Idaho in 1974. In May 1974, the Governor of Idaho requested the Department of Water Resources to make a review of Boise River flood control management, identify problems, examine the potential of various alternatives, and present recommendations which would lead to improved operation. A report to the Governor entitled "Review of Boise River Flood Control Management" was completed in November 1974 by the Department of Water Resources. This report contained several major recommendations, with the primary one being that a new Reservoir Regulation Manual should be prepared with an appropriate supporting agreement.

1-02. Purpose and Scope. The purpose of this Manual is to present information pertinent to the regulation of the Boise River reservoir system. Criteria and information within this Manual replace the contents of the "Reservoir Regulation Manual for Boise River Reservoirs," U.S. Army Engineer District, Walla Walla, August 1956. Items discussed within this Manual are as listed below:

- a. Description of Projects.
- b. History of Projects.
- c. Basin Characteristics.
- d. Data Collection and Communication Networks.
- e. Hydrologic Forecasts.
- f. Water Control Plan.

g. Effect of Water Control Plan.

h. Water Control Management.

1-03. Related Manuals and Reports. The following list outlines some of the key manuals and reports which contain information and data which are or have been pertinent to the regulation and operation of the Boise River reservoirs.

a. Standing Operating Procedures - Anderson Ranch Dam and Reservoir - Boise Project, Idaho; U.S. Bureau of Reclamation, 18 April 1978.

b. Standing Operating Procedures - Arrowrock Dam and Reservoir - Boise Project, Idaho; U.S. Bureau of Reclamation, 20 April 1978.

c. Operation and Maintenance Manual - Lucky Peak Project; U.S. Army Engineer District, Walla Walla, 1959.

d. Standing Operating Procedures - Boise River Diversion Dam - Boise Project, Idaho; U.S. Bureau of Reclamation, 20 April 1978.

e. Standing Operating Procedures - Deer Flat Embankments and Lake Lowell Reservoir - Boise Project, Arrowrock Division, Idaho; U.S. Bureau of Reclamation, 12 July 1979.

f. Reservoir Regulation Manual for Boise River Reservoirs; U.S. Army Engineer District, Walla Walla, August 1956.

g. Review of Boise River Flood Control Management; Idaho Department of Water Resources, November 1974.

h. Final Environmental Impact Statement - Lucky Peak Dam and Lake - Boise River, Idaho; U.S. Army Engineer District, Walla Walla, August 1976.

i. Master Plan for Lucky Peak Lake; U.S. Army Engineer District, Walla Walla. Expected date of approval: 1985.

j. Flood Emergency Subplans - Identification, Operation, Repair, Notification, and Inundation Maps - Lucky Peak Lake - Boise River, Idaho; U.S. Army Engineer District, Walla Walla, August 1982.

k. Final Environmental Statement and Feasibility Report - Anderson Ranch Powerplant Third Unit - Boise Project, Idaho; U.S. Bureau of Reclamation, 2 June 1982.

l. Memorandum of Agreement and Reservoir Management Plan between the Forest Service - U.S. Department of Agriculture and the Bureau of Reclamation - U.S. Department of the Interior, 1976.

1-04. Project Owners and Operators. The Bureau of Reclamation (Pacific Northwest Regional Office and Central Snake Projects Office) owns and operates the Anderson, Arrowrock, and Diversion Dam projects and facilities. The Bureau also owns the New York Canal and Lake Lowell projects and facilities, but the Boise Project Board of Control operates them under an operation and maintenance contract with the Bureau. The Walla Walla District Corps of Engineers owns and operates the Lucky Peak project and its facilities.

1-05. Regulating Agencies. Regulation of the Anderson, Arrowrock, and Lucky Peak projects is a joint effort between the Bureau of Reclamation, Corps of Engineers, and the Boise River Watermaster. The Boise Project Board of Control regulates the New York Canal and Lake Lowell.

1-06. Revisions to This Manual. The Boise River reservoirs (Anderson Ranch, Arrowrock, and Lucky Peak) are regulated jointly by the Bureau of Reclamation and the Corps of Engineers through a "Memorandum of Agreement Between the Department of the Army and the Department of the Interior for Flood Control Operation of Boise River Reservoirs," dated 20 November 1953. Within Article 7 of the 20 November 1953 Agreement, there are provisions to change or modify the operating plan and procedures if operating experience indicates revisions are needed. Salient features of the Agreement are summarized in paragraph 3-07. of this Manual on pages 3-4 and 3-5.

Since the operating criteria and procedures in the Agreement did not reflect current conditions, needs, and technology, the Bureau, Corps, and State of Idaho jointly agreed to revision of operating criteria and procedures in the Agreement through the Memorandum of Understanding shown in Exhibit C of this Manual. The Memorandum of Understanding is a supplement to the Agreement, which does not change its terms, but rather incorporates a new operating agreement under Article 7 of the 20 November 1953 agreement. The primary features of the Memorandum of Understanding

are: (1) the Boise River reservoirs will be regulated according to criteria and procedures in the Water Control Manual dated April 1985, and (2) revisions to the regulation criteria or procedures shall become effective after a Letter of Agreement for Revisions (which shall specify the nature of the revisions) is signed by authorized Bureau and Corps representatives. No formal document will be necessary for revisions to other portions of this Manual. Revisions to this Manual will be made in accordance with Article 7 of the 20 November 1953 Agreement and paragraph e. of the Memorandum of Understanding (Exhibit C).

As a continuing program, it will be necessary to review this Manual annually in order to keep it up to date.

3-06. Project Water Rights. The water and storage rights discussed within each project history have evolved with the projects and are as important as the physical project facilities. Authorization for and building of the irrigation projects depended upon having the water available to fully utilize the projects and realize the benefits. The following tabulation summarizes water and storage rights within the Boise River reservoir system granted to the Bureau of Reclamation.

<u>Date of Priority</u>	<u>Point of Diversion</u>	<u>Amount</u>
14 December 1903	Diversion Dam	1,354.58 cfs
01 April 1909	Diversion Dam	292.5 cfs
16 June 1909	Diversion Dam	634 cfs
13 January 1911	Arrowrock Reservoir	8,000 cfs
18 August 1924	Diversion Dam	300 cfs
25 June 1938	Arrowrock Reservoir	15,000 AF
09 December 1940	Anderson Ranch Reservoir	493,161 AF
12 April 1963	Lucky Peak Reservoir ^{1/}	307,000 AF

^{1/} License pending upon proof of beneficial use.

3-07. Memorandum of Agreement. From 1953 until the date of final approval of this Water Control Manual, the Boise River reservoirs were regulated under terms of a Memorandum of Agreement between the Department of the Army and the Department of the Interior. This agreement committed the existing irrigation reservoirs (Arrowrock and Anderson Ranch) to a flood control operation with Lucky Peak Reservoir. The agreement was made upon completion of Lucky Peak Reservoir to protect existing irrigation use of Anderson Ranch and Arrowrock reservoirs during flood control regulation and to commit the space in Lucky Peak Reservoir to irrigation as well as flood control use. Important features of the Memorandum of Agreement included:

a. Commitment of 983,000 acre-feet of space in the three reservoirs (Anderson Ranch, Arrowrock, and Lucky Peak) to use for flood control and irrigation. This was essentially all of the active space in the reservoirs.

b. Specification of flood space parameter curves to be used from 1 January to 31 July, with agreed-upon forecasts of runoff to determine evacuation requirements.

c. Protection of space allocations in Arrowrock, Anderson Ranch, and Lake Lowell against water loss as a result of flood control operations.

d. Provision for coordination and agreement on runoff forecasts.

e. Specification of a maximum regulated flow objective of 6,500 cfs below Diversion Dam at the Glenwood gage during the reservoir refill period. This flow could be made if diversion rates assumed in the derivation of the flood control space parameter curves were not made.

f. Provision of evacuation and refill sequence among the three reservoirs.

g. Provision for releases during the refill period greater than 6,500 cfs below Diversion Dam when forecasts of runoff required more than 983,000 acre-feet to be provided for flood control. Those increased releases would be specified by the Chief of Engineers (U.S. Army Corps of Engineers) after consultation with the Commissioner of Reclamation.

h. Provision for maintaining Lucky Peak Lake full as long as possible after the flood control season or until 15 September for recreation purposes. This would be done by releasing Arrowrock water first for downstream irrigation uses.

i. Provisions for modification of the regulating plan with respect to allowable releases and space requirements for flood control upon agreement of the Chief of Engineers and Commissioner of Reclamation or their authorized representatives. Such modification would take place only after consultation with the Idaho Reclamation Engineer, Boise River Watermaster, and Boise Board of Control Manager.

VII - WATER CONTROL PLAN

7-01. General Objectives. It is the objective of this Water Control Plan to define reservoir regulation procedures and practices for joint use of the storage spaces in Anderson Ranch, Arrowrock, and Lucky Peak Reservoirs. Storage in Lake Lowell is affected by this Water Control Plan through regulation of the upstream reservoir projects, but Lake Lowell is an off-stream irrigation project regulated by the Boise Project Board of Control through an operation and maintenance contract between the Board and the Bureau of Reclamation. Thus, this Water Control Plan contains no direct regulation criteria for Lake Lowell.

7-02. Authorized Reservoir Uses. Authorized reservoir uses were discussed in Section III - HISTORY OF PROJECTS, and the Memorandum of Agreement (paragraph 3-07) outlined reservoir uses since 1953. This Water Control Plan basically retains the same uses and priorities as defined in the 1953 Memorandum of Agreement. This Plan also recognizes 50,000 acre-feet of Lucky Peak storage space to provide flows for downstream fish and wildlife as required by the current Lucky Peak storage permit. The Bureau of Reclamation is in the process of amending and finalizing the Lucky Peak Lake storage permit by designating 102,300 acre-feet of noncontracted space for streamflow maintenance and municipal and industrial uses.

As a system, Anderson Ranch, Arrowrock, and Lucky Peak Reservoirs normally add water to storage from the end of the irrigation season (in October) each year until the annual flood control season is over (normally ranging between 15 April to 1 July).

From the end of the irrigation season until April, Idaho Department of Fish and Game and noncontracted space water is released from Lucky Peak Lake to maintain minimum flows in the downstream river.

The normal end of irrigation season storage of Lake Lowell is 120,000 to 140,000 acre-feet. If storage is below this amount, diversion from the Boise River is usually begun in February or March. Lake Lowell is then normally filled as soon after 1 April as possible and in most years is full by 1 May. Boise River natural flows have always been sufficient to credit Lake Lowell with having filled under its water right (see paragraph 7-06.e.). However, part of this water is usually temporarily stored in upstream reservoirs to avoid canal operation problems in winter, then transferred to Lake Lowell in the spring.

The amount of water stored in the system and precisely when it is stored is dependent on water rights, the amount of water available as runoff, the timing of the runoff, and the required flood control regulation. Flood control regulation during this period (1 November through the spring high water period) endeavors to maintain adequate flood control spaces within the reservoirs and yet refill the reservoirs without exceeding 6,500 cfs as measured at the Glenwood Bridge gaging station. In the low runoff years, flood control regulation during the spring snowmelt period is normally limited or not necessary, and water conservation and reservoir refill are the primary objectives. Runoff years near normal require delicate balances between flood control and refill regulation, with runoff timing and volume forecasts as the key factors for the balances. In large runoff years, maintaining adequate flood control space within the reservoirs and passing excess water through the system without unduly jeopardizing system refill, are the primary objectives.

After the annual spring flood season is over and until the end of the irrigation season, the reservoirs are drafted to maintain irrigation flows. Arrowrock Reservoir is drafted first to maintain the power head at Anderson Ranch Reservoir and also a desirable recreation level at Lucky Peak Reservoir. If the storage in Arrowrock has been used before the end of August, both Anderson Ranch and Lucky Peak Reservoirs are drafted without exceeding powerplant capacity at Anderson Ranch. After the end of August, irrigation demands are met primarily from storage in Lucky Peak Reservoir. Normal project inspections and maintenance then generally occur just after the irrigation season each year.

7-03. Use Priorities. Flood control and irrigation are the primary uses for Anderson Ranch, Arrowrock, and Lucky Peak storage spaces. Idaho Fish and Game's 50,000 acre-feet for streamflow maintenance and the noncontracted space on 102,300 acre-feet for streamflow maintenance and municipal and industrial uses at Lucky Peak are also primary uses. Secondary uses for the storage spaces include power generation at Anderson Ranch and recreation at Lucky Peak. Incidental uses include recreation (at Anderson, Arrowrock, and Boise River below Lucky Peak Dam), downstream water quality, and sedimentation pools within the reservoirs.

7-04. Use Conflicts. Because the Boise River reservoirs are managed as a multiple-purpose system, it is not possible to optimize regulation for each of the separate uses. Thus, this Water Control Plan represents compromises between the various uses as established within the priorities listed. Flood control use directly conflicts with all of the other system

uses to some degree. Optimum flood control protection possible with the system would require that the reservoirs be maintained empty and available to control floodwaters. Even with this type of regulation, past studies have shown that the existing system (with the limited downstream channel capacity) would not be adequate to control large spring snowmelt flood volumes (events of approximately 50-year magnitude or larger) to desirable levels of downstream flooding.

Optimum irrigation use would require that the system be maintained as full as possible to provide carryover storage water for the drought years, and even this operation would not necessarily assure adequate water supplies for a series of drought years. Full refill of the system for irrigation does not conflict with recreation until the reservoirs have to be drawn down to meet irrigation requirements in the summer and fall. During the winter, refill for irrigation directly conflicts with the maintenance of minimum fish and wildlife and water quality flows.

Some of the use conflicts have just been outlined and more could be discussed, but the key conflict is that of flood control versus refill regardless of the intended use of the stored water.

7-05. Flood Control Plan. This element of the Water Control Plan defines specific reservoir regulation criteria which shall be strictly followed during the flood control season. The flood control plan consists of the following:

Paragraph	Page
a. Winter Requirements	7-3
b. Spring Evacuation Requirements	7-6
c. Refill Requirements	7-11
d. Constraints and Considerations	7-16
1. Regulation Objectives	7-16
2. Allocations	7-18
3. Reservoir Surcharges	7-19
4. Rule Curves	7-19
e. Regulation Procedures	7-20

a. Winter Requirements. Flood control regulation during the period 1 November through 1 March requires that specific minimum flood control spaces be maintained in the reservoir projects to protect against unpredictable winter floodflows resulting from rapid snowmelt and/or

heavy precipitation on frozen ground. Maintaining these space requirements ensures that the 100-year winter flood can be contained within the projects.

From 1 November through 31 December, the following tabulation defines required minimum winter flood control spaces for the projects:

Projects	Minimum Space Requirements (Acre-Feet)
Anderson + Arrowrock + Lucky Peak	300,000 ^{1/}
Arrowrock + Lucky Peak	165,000 ^{1/}
Lucky Peak	50,000 ^{2/}
^{1/} Maintain from 1 November through 31 December.	
^{2/} Maintain from 1 November through 31 March.	

These minimum requirements must be maintained each year without consideration to either existing climatic conditions or refill potential. If a violation of these criteria occurs, excess storage must be evacuated as rapidly as is practical without exceeding 6,500 cfs at the Glenwood gage. The following tabulation provides general information on refill assurances during the early winter period.

Space to be Refilled ^{1/}	Percent Chance of Refill	Beginning of Month Storage ^{1/} (Acre-Feet)		
		November	December	January
Total Active Capacity (974,149 AF)	98	745,000	775,000	805,000
	95	685,000	715,000	750,000
	90	615,000	630,000	690,000
Allocated Space (1982) (871,728 AF)	98	655,000	675,000	705,000
	95	585,000	615,000	650,000
	90	515,000	550,000	590,000
All Space Excluding Lucky Peak (709,778 AF)	98	485,000	515,000	545,000
	95	425,000	455,000	490,000
	90	355,000	390,000	430,000

^{1/} Does not include dead or inactive storage, but may include storage credited to Lake Lowell.

Since a minimum of 300,000 acre-feet of winter flood control space will be maintained in the Anderson Ranch, Arrowrock, and Lucky Peak system from 1 November through 31 December each year, refill assurances for the total active system capacity will be approximately 89 percent on 1 January for normal runoff volumes.

From 1 January through 1 March, the required winter space for the system is a function of the flood potential related to runoff volume forecasts determined from the procedure described in Section VI - HYDRO-LOGIC FORECASTS. The winter space line shown on Plate 7-1 defines the system winter requirements when runoff volume forecasts are near or above normal. If runoff volume forecasts are significantly above normal, system winter space requirements (in excess of the winter space line) are also shown on Plate 7-1. If runoff volume forecasts are below normal, system winter space requirements can be reduced below the winter space line on Plate 7-1 in accordance with the criteria shown on Plate 7-2. Using Plate 7-2 maintains a 100-year winter flood control assurance and also provides a 95-percent refill assurance for 871,728 acre-feet of system space within the limits of the runoff volume forecasts shown. Under no condition will the system space be less than 150,000 acre-feet from 1 January through the end of February. The following tabulation illustrates use of Plates 7-1 and 7-2 to define 1 January through 1 March winter space requirements.

1 February Forecasted Runoff Volume (Million Acre-Feet)	1 February Winter Space Requirement (Acre-Feet)
2.3	360,000 (Plate 7-1)
1.8	300,000 (Plate 7-1)
1.5	237,000 (Plate 7-2)
1.1	150,000 (Plate 7-2)

A minimum of 55 percent of the total winter flood control requirement (from Plates 7-1 or 7-2 as appropriate) during the 1 January through 1 March period must be held within the Arrowrock and Lucky Peak projects; and no less than 50,000 acre-feet of space will be in Lucky Peak. If a violation of the winter flood control criteria occurs, excess storage must be evacuated as rapidly as is practical without exceeding 6,500 cfs at the Glenwood gage.

b. Spring Evacuation Requirements. Flood control regulation during the spring snowmelt evacuation period (1 January through 31 March) normally requires some evacuation of stored water from the Boise River reservoirs by 1 April. This evacuation is necessary to provide adequate flood spaces within the reservoir projects to control forecasted flood-flows resulting from melting snowpacks within the upper Boise Basin. The normal active snowmelt season generally begins during the first 2 weeks in April; thus, evacuation should be completed by approximately 1 April to ensure adequate spaces are available. The amount of evacuation necessary and the required 1 April target flood control spaces are based on:

1. Operational runoff volume forecasts.
(Determined from procedure in Section VI -
HYDROLOGIC FORECASTS.)
2. Flood control rules curves.
(Plates 7-1 or 7-2 as appropriate)
3. Space distribution curves.
(Plate 7-3)
4. Inflow volume projections.

Years with small runoff volume forecasts may require no evacuation while years with large runoff volume forecasts may require large releases for evacuation.

During the evacuation period, it is necessary to maintain current day flood control spaces and distribution requirements and also schedule releases such that all 1 April requirements will be properly met. The following procedure outlines steps necessary to check the current date flood control requirements:

1. Compute current date through 31 July residual runoff volume forecast using the operational forecast and unregulated runoff volumes to date.
2. Determine current date required system flood control space from the flood control rule curves (Plates 7-1 or 7-2 as appropriate).

3. Determine current date space distribution requirements from the distribution curves (Plate 7-3).
4. Compare the current date flood control requirements to the observed current date data.

The following procedure outlines steps necessary to compute 1 April target flood control requirements (refer to Table 7-1 on page 7-8 as a worksheet).

1. Compute the expected residual 1 April through 31 July total Lucky Peak unregulated inflow volume using the current operational runoff forecast and the following projection equations for inflows prior to 1 April.

Inflow Projection Period	Projection Equation ^{1/} $Y = A_0 + A_1 X$ (KAF)	Standard Error ^{2/} (KAF)
1 Jan - 31 Mar	$Y = 68.792 + 0.129677 X$	72.473
16 Jan - 31 Mar	$Y = 59.698 + 0.119461 X$	69.986
1 Feb - 31 Mar	$Y = 43.598 + 0.107706 X$	73.436
15 Feb - 31 Mar	$Y = 46.446 + 0.085270 X$	59.385
1 Mar - 31 Mar	$Y = 19.088 + 0.080381 X$	69.108
16 Mar - 31 Mar	$Y = 14.256 + 0.055828 X$	49.807

^{1/} Y = Projected inflow volume (1,000 acre-feet) expected during inflow projection period.

X = Forecasted runoff volume (1,000 acre-feet) corresponding to volume forecast period (date through 31 July).

^{2/} Standard error for regression equation (1,000 acre-feet). Projection equations and standard errors developed from 1895 through 1980 period of record.

2. Determine 1 April expected system flood control requirements from the flood control rule curves (Plate 7-1).
3. Compute minimum required flood control release using the expected 1 April flood control space requirement, present available space, and the date through 31 March inflow projection volume.

TABLE 7-1
LUCKY PEAK RELEASE SCHEDULING WORKSHEET
(BEFORE 1 APRIL)

Forecast Period (Date - 31 July): 1 February - 31 July DATE: Example
Volume Forecast (Date - 31 July): 2,000 KAF NAME: _____
Target Date: 1 April

1. Expected Residual 1 April through 31 July Unregulated Inflow Volume.

- a. Volume Forecast (Date - 31 July): 2,000 KAF
- b. Expected Inflow Volume (Date - 31 March) $(Y = 43,598 + 0.107706 X)$
(Projection Equations Page 7-12) 259 KAF
- c. Residual Forecast (1 April - 31 July) (a-b) 1,741 KAF

2. Expected 1 April System Flood Control Space Requirements
[Enter Flood Control Rule Curve (Plate 7-1) with
Residual Volume Forecast on 1 April]

- a. Required 1 April System Flood Control Space 435 KAF

3. Minimum Required Flood Control Release

- a. Required 1 April System Flood Control Space (From 2.a.) 435 KAF
- b. Present Available Space 320 KAF
- c. Minimum Required Evacuation (a-b) 115 KAF
- d. Expected Inflow Volume (Date - 31 March)
(From 1.b.) 259 KAF
- e. Minimum Required Release Volume
(Date - 31 March) (c+d) 374 KAF
- f. Minimum Required Daily Release =
(e) $(500/\text{Inflow Projection Period in Days}) = \frac{(374)(500)}{59} = \underline{3,169 \text{ CFS}}$

4. Minimum Space Distributions,
(Enter Plate 7-3 with Residual Forecast on 1 April)

- a. Minimum Percentage of 1 April Flood Control Space
Required in Arrowrock and Lucky Peak Projects 30 %
- b. Required 1 April System Flood Control Space (From 2.a.) 435 KAF
- c. Minimum 1 April Space Required in Arrowrock
and Lucky Peak Projects, $(a)(b)/100 = (30)(435)/100 = \underline{131 \text{ KAF}}$

4. Determine the minimum space distribution percentage which is expected to be required in Lucky Peak and Arrowrock on 1 April using the expected 1 April through 31 July residual runoff volume forecast and Plate 7-2. Compute the minimum expected 1 April flood control requirement for Lucky Peak and Arrowrock using the Lucky Peak and Arrowrock minimum space distribution percentage and the expected 1 April flood control requirement for the system.

After current date and expected 1 April flood control requirements have been determined, reservoir releases must be scheduled such that violations of these flood control requirements do not occur. Minimum flood control releases from Lucky Peak should not average less than the value computed under step 3 of the 1 April target requirement procedure. If the current date system space requirement is being violated, the required Lucky Peak release must be larger than the computed step 3 value; but it will not normally exceed 6,500 cfs at the Glenwood gage.

If the required minimum Lucky Peak release (as computed from step 3 of the 1 April target requirement procedure, Table 7-1 on page 7-8) exceeds 6,500 cfs at the Glenwood gage, it may be necessary to increase the regulation objective above 6,500 cfs at the Glenwood gage. Computed releases above 6,500 cfs usually occur as a result of exceptionally heavy snowpacks within the upper Boise Basin or very large increases in the runoff volume forecasts. Regulated flows at the Glenwood gage should not exceed 6,500 cfs before 1 April when there is more than a 50-percent chance that the expected flood can be controlled to 6,500 cfs. If the probability of controlling the expected flood to 6,500 cfs is 50 percent or less, the regulation objective must be increased as necessary (not to exceed 10,000 cfs at the Glenwood gage) to maintain at least a 50-percent control probability.

Computed releases above 6,500 cfs at the Glenwood gage usually occur as a result of exceptionally heavy snowpacks within the upper Boise Basin or very large increases in the runoff volume forecasts. If the required minimum Lucky Peak release (as computed from step 3 of the 1 April target requirement procedure, Table 7-1 on page 7-8) exceeds 6,500 cfs at the Glenwood gage, it may be necessary to increase the regulation objective above 6,500 cfs at the Glenwood gage. Criteria affecting increases above the regulation objective of 6,500 cfs at the Glenwood gage are listed as follows:

1. When the probability of controlling the expected flood to 6,500 cfs is more than 50 percent, regulated flows at the Glenwood gage should not exceed 6,500 cfs before 1 April.
2. If the probability of controlling the expected flood to 6,500 cfs is 50 percent or less, the regulation objective must be increased as necessary (not to exceed 10,000 cfs at the Glenwood gage).

The 50-percent control probability during the 1 January to 31 March evacuation period is defined as the system space required on the current date to control the following spring flood conditions to the regulation objective of 6,500 cfs at the Glenwood gage.

1. 50-percent exceedence (normal) runoff volume forecast.
2. 50-percent confidence level (normal) runoff timing sequence.

Methods which could be used to evaluate flood control space requirements for a 50-percent control probability are summarized as follows:

1. Summary Hydrograph Method. Using a normal or mean hydrograph from a summary hydrograph and adjusting the hydrograph to maintain the timing and match the operational runoff volume forecast. Then routing this hydrograph through the Boise River reservoir system.
2. Inflow Projection Method. Using inflow projection equations listed in Exhibit B to distribute the operational runoff volume forecast with time and then develop volume-time distribution data, a 50-percent flood hydrograph can be computed and routed through the Boise River reservoir system.

The procedures outlined in the preceding paragraphs should be repeated each time that a new operational runoff volume forecast is made (normally near the first of each month and mid-month during the 1 January through 31 March period). Plate 7-4 provides 95-percent refill assurance information which can be used to evaluate how the proposed flood control regulation will impact refill during this period.

c. Refill Requirements. Flood control regulation during the refill period (1 April through 31 July) requires the use of snowmelt runoff to refill flood control spaces within the Boise River reservoirs. Refill rates for these flood control spaces must be controlled such that the regulation objective of 6,500 cfs at the Glenwood gage is not exceeded and the required reservoir project spaces are refilled at the end of the snowmelt runoff period. Premature filling of these spaces (before natural floodflows had decreased to regulation objective levels) would result in extensive flood damages below Lucky Peak Dam. Reservoir regulation during the refill period is normally the most difficult and most critical of the three flood control periods. Therefore, it is absolutely essential that required minimum flood control spaces and space distributions be maintained while the reservoir projects are being refilled. Reservoir releases must be scheduled such that flood control requirements are not violated; and yet, release fluctuations at Lucky Peak must be limited as much as practical to avoid unnecessary interference with irrigation diversions during this period. Flood control requirements and rates of refill during the refill period are based on:

1. Operational runoff volume forecasts.
(Determined from the procedure in
Section VI - HYDROLOGIC FORECASTS.)
2. Flood control rule curves.
(Plates 7-1, 7-2, or 7-3A as appropriate)
3. Space distribution curves.
(Plate 7-3)
4. Projections of 15-day and 30-day
inflow volumes.

During the refill period, it is necessary to maintain current day flood control spaces and distribution requirements and also schedule releases such that 15-day and 30-day target requirements will be properly met. A procedure for checking the current date flood control requirements was outlined in paragraph 7-05.b. The following procedure outlines steps necessary to compute expected 15-day and 30-day target flood control spaces and release requirements (refer to Table 7-2 on page 7-13 as a worksheet).

1. Compute expected 15-day and 30-day residual runoff volume forecasts from the current date using the current operational runoff volume and the following projection equations.

Volume Forecast Date	Inflow Projection Period (Days)	Projection Equation 1/ $Y = A_0 + A_1 X$ (KAF)	Standard 2/ Error (KAF)
1 Apr	15	$Y = 19.726 + 0.084950 X$	56.041
1 Apr	30	$Y = 17.487 + 0.229886 X$	106.060
16 Apr	15	$Y = 11.296 + 0.150415 X$	75.344
16 Apr	30	$Y = 52.610 + 0.301187 X$	111.155
1 May	15	$Y = 60.102 + 0.163226 X$	63.217
1 May	30	$Y = 114.571 + 0.350973 X$	100.209
16 May	15	$Y = 81.481 + 0.208614 X$	65.625
16 May	30	$Y = 63.450 + 0.516790 X$	67.799
1 Jun	15	$Y = 15.702 + 0.394130 X$	42.760
1 Jun	30	$Y = -2.683 + 0.738186 X$	33.958
16 Jun	15	$Y = -6.034 + 0.557465 X$	22.875
16 Jun	30	$Y = -10.831 + 0.870625 X$	9.935
1 Jul	15	$Y = -8.343 + 0.702454 X$	5.670
1 Jul	30	- - - - -	- - - - -

1/ Y = Projected inflow volume (1,000 acre-feet) expected during the inflow projection period.

X = Operational runoff volume forecast (1,000 acre-feet) from the volume forecast date through 31 July.

2/ Standard error (1,000 acre-feet) for the projection equation. Equations and standard errors developed using the 1895 through 1980 period of record.

2. Determine the 15-day and 30-day target date expected system flood control requirements from the flood control rule curves (Plate 7-1).
3. Compute minimum required flood control releases from Lucky Peak using the 15-day and 30-day flood control space requirements and the 15-day and 30-day inflow volume projections.
4. Determine 15-day and 30-day space distribution requirements from the space distribution curves (Plate 7-3).

nonirrigation season for a specified beneficial use can be replaced in the same year within the constraints of the right(s) governing that * space.

At the end of the irrigation season, it is the responsibility of the Bureau, in conjunction with the Watermaster, to determine the amount of unused storage in each of the three main river reservoirs (Anderson Ranch, Arrowrock, and Lucky Peak) within 30 days of the time the Watermaster has determined the amount of stored water used. It is the duty of the Watermaster to determine on a daily basis the accumulation of stored water under the rights of each of the three reservoirs and to notify the Bureau each season when the maximum fill of each reservoir is known. The Bureau shall in turn inform the Watermaster of each user's stored water allocation in sufficient detail for proper delivery of that water.

f. Distribution of Irrigation Water. Water rights for direct diversion of flow for irrigation are potentially valid only during the 1 April through 31 October irrigation season. The Boise River Watermaster makes a daily calculation of natural (unregulated) flow at one or more locations near these points of diversion to sufficiently estimate the available natural flow supply. The Watermaster then credits the natural flow to appropriate users based on a list of water rights in force provided by the State of Idaho, Department of Water Resources. When the rate of diversion of a user is greater than the credited natural flow, the remainder is charged by the Watermaster to the user's stored water supply, or lacking storage, the rate of diversion must be reduced.

In many years flood control regulation extends several weeks into the irrigation season. When Lucky Peak flood control releases are equal to or greater than the demand for irrigation water (all users are receiving an adequate supply), the entire release is considered surplus to the Boise River and the above computation of natural flow diversion by user is not necessary. During this period, no charges are made against stored water supplies.

During the irrigation season, the Watermaster defines irrigation releases which are needed at Lucky Peak Dam. The Bureau in turn transfers water from Anderson Ranch and Arrowrock Reservoirs as necessary to provide water for irrigation release. Irrigation releases made from Lucky Peak are normally near 4,500 cfs.

EXHIBIT 5

Review of

Boise River Flood Control Management



November 1974

FOREWORD

In May 1974, Governor Andrus requested that the flood control operations on the Boise River be reviewed and the possibilities for improved operations examined.

This report is a study of the flood control operation of the Boise River. The river system of dams and reservoirs is operated mainly for irrigation, power, recreation and flood control; however, irrigation, power and recreation uses are not discussed except as they relate to flood control management.

Present management agreements, runoff forecast methods, and flood frequencies are presented. The procedures which established the water releases from Lucky Peak, Arrowrock and Anderson Ranch reservoirs are reviewed.

The report identifies problems, examines the potential of various alternatives, and presents recommendations which would lead to improved operation.

alternatives in reducing or preventing flood damages." New reservoirs, because of public attitudes, are not desirable at the present time. The social and economic feasibility of a combination of channel clearing and levee construction will be much better defined upon completion of the Corps of Engineers' "Boise Valley Levee Restudy."

The various sections of this report contain conclusions concerning present and future flood operations on Boise River. Many of these are technical in nature and are not repeated here. The report was prepared as a result of inquiries regarding the sequence of low fall flows followed by relatively high spring releases. That flow sequence occurs because it is impossible to forecast seasonal runoff until information on the accumulating snowpack becomes available in January. In years of large runoff the January forecast may indicate the need to begin reservoir evacuation for flood control. The allowable release which now occurs during the flood regulation season was apparently the principal cause of the complaints regarding the flood control operation. Recommendation number four, below, does not satisfy the desire of some landowners for a lower regulated release. The capability to evacuate required flood control space is marginal during some years because of the 6500 cfs allowable release. The allowable release is discussed on pages 56 and 57.

The report concludes (page 56) that increased releases in the fall months could be made only by accepting a greater risk of refilling the system. Various levels of risk associated with increased fall releases were presented in Tables 10 and 11. These early releases could shorten the period during which maximum allowable releases (6500 cfs) are required, but would not eliminate the need for such releases in most years.

The effect of taking a greater refill risk on irrigated agriculture and reservoir recreation has not been evaluated. The purpose of this report has been to examine the various potentials for improving the flood control operation but not to select a preferred operation. Several levels of refill risk have been discussed and each would have a different impact. In the detailed studies for manual revision, the trade-offs between flood control and other reservoir uses should be evaluated before a new operating plan is selected.

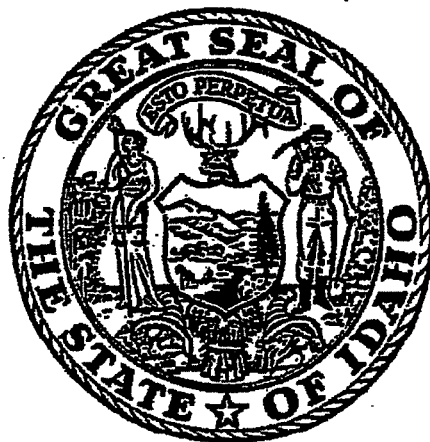
It is concluded that the flood control objective of 6500 cfs on the Boise River system has been successfully met since the present operating plan became effective in 1954. During that period, there would have been four springtime floods of greater than 20,000 cfs if there had been no reservoirs in the system.

Following are major recommendations concerning Boise River flood control.

- (1) A new Reservoir Regulation Manual should be prepared with appropriate supporting Agreement.
- (2) Beginning in 1975, releases during the evacuation period should be determined by averaging the computed release over the remainder of the period as defined in paragraph 6c of the present Agreement.
- (3) A procedure should be developed to use a portion of the space in Lucky Peak Reservoir to provide greater flood protection for the occurrence of a major flood. Decisions must be made regarding the degree of flood protection desired in relation to reservoir refill risk.

EXHIBIT 6

**COMPREHENSIVE STATE WATER PLAN:
SOUTH FORK BOISE RIVER SUB-BASIN**



**ADOPTED BY THE
IDAHO WATER RESOURCE BOARD**

JUNE 29, 1990

**READOPTED
JAN 1996**

and private use, as referred to in section 14 of article 1 of this Constitution."

Since January 1980, the Idaho Department of Water Resources has issued no water right permits for consumptive use of water during the period June 15 to November 1 on the Boise River and its tributaries above Lucky Peak Reservoir. Water in the affected area has been judged to be fully appropriated, and therefore no additional consumptive uses can be permitted.

Under Idaho Codes, Section 42-1734F, no provision of the statutes or regulations administering formulation and implementation of the Comprehensive State Water Plan shall in any way limit, restrict, or conflict with approved applications for the appropriation of water, or with other existing vested property rights. Other activities not to be limited through the provisions of the planning statutes and regulations include:

- (1) Cleaning, maintaining, or replacing a water diversion structure existing on or before the date a river is designated as protected.
- (2) Relicensing of existing hydropower projects that have been previously licensed by the FERC, and which have generated electricity.
- (3) Expansion of capacity of existing hydropower projects if the existing boundaries or project impoundments are not expanded, and the project was previously licensed by the FERC, and the project generated electricity on or before the date of designation.

Vested property rights are likely established whenever any structure or facility, such as a dam, bridge, road fill, pipeline crossing, dike, boat ramp, float or dock, has been constructed under approved authorities. Similarly, when permits, licenses, claims or leases are issued providing the necessary authorities to construct any of these facilities, or to conduct activities related to mining, or for diversion or storage of water, they may establish vested property rights.

Under these requirements, designations of waterways as protected rivers, cannot interfere with any of these rights or activities that were either approved or in existence prior to the date of designation (see also Appendix B). Within the Boise River, South Fork sub-basin, this could apply to:

- (1) Maintenance and replacement of existing water diversion structures.
- (2) Construction of new water diversion structures authorized under approved water right permits.
- (3) Development of active mine claims or leases, or approved sand and gravel operations.

2. Water Contracts

- a. November 20, 1953 Agreement - With the development of reservoirs in the Boise Basin (including Anderson Ranch in the South Fork sub-basin) by the Bureau of Reclamation and the Army Corps of Engineers, it was necessary that an agreement be entered into between these agencies to provide for and control the operation of these reservoirs to maximize the benefits for which they were constructed. This was done after consultation with the State of Idaho. The Agreement was entered into on November 20, 1953. In 1985 a Memorandum of Understanding was also written as a supplement to the Agreement. The primary purpose for the construction of the Anderson Ranch Reservoir is noted in the Bureau of Reclamation water right filing: 493,161

acre-feet for power and irrigation. It lists 275,766 acres of land to be served and a powerplant with a head of 324 feet and 20,000 KW capacity.

Arrowrock Dam, previously constructed, was also built to provide irrigation water to the Boise Valley. The Corps of Engineers then built Lucky Peak Dam as a multipurpose project, authorized primarily for flood control. The water and storage rights within each project have evolved with the projects. Under the agreement entered into, which operates these projects as one, the irrigation reservoirs (Arrowrock and Anderson Ranch) are committed to flood control operation with Lucky Peak Reservoir. However, the agreement also commits Lucky Peak to protection of the existing irrigation use of Anderson Ranch and Arrowrock reservoirs during flood control regulation, and commits space in Lucky Peak to irrigation and stream flow maintenance as well as flood control.

- b. Owner and Operator Contract - The Bureau of Reclamation owns and operates the Anderson Ranch, Arrowrock, and Diversion Dam projects and facilities. The Bureau also owns the New York Canal project and facilities. The Boise Project Board of Control operates the three projects under an operation and maintenance contract with the Bureau of Reclamation, that involves flow regulation at Anderson Ranch Dam.

3. Water Quality

The South Fork Boise River has been designated a Special Resource Water from source to mouth by the Idaho Department of Health and Welfare. The water is of outstandingly high quality and meets or exceeds the criteria established for primary contact recreation and cold water biota. No permits for point source discharges to Special Resource Waters are to be issued by the State.

No existing point pollution source is known to occur in the basin. No point-source permits have been issued. Nonpoint source pollution, however, may be a matter of concern. Activities such as road construction and maintenance, skidding or dragging logs, and mechanical brush removal, cause soil disturbance. The application of chemicals to increase growth, to control undesirable growth, or control pests is another potential source of pollution in the basin. In some areas, the removal of shade from streams can increase the water temperature to levels harmful to fish.

The State of Idaho has established regulations aimed at control of nonpoint source pollution. These regulations require:

- application of approved Best Management Practices (BMPs) or, in their absence, knowledgeable and reasonable effort to minimize adverse water quality impacts; and
- protection of designated or protected beneficial uses from serious injury.

Stream-water quality in the basin is monitored by the U.S. Forest Service, U.S. Geological Survey, and Idaho Department of Health and Welfare.

4. Stream Protection

a. State Water Plan

Chapter 17, Section 42-1734A, provides for the state protection of rivers as either a "natural" or a "recreational" river. The Idaho Water Resource Board is to designate those rivers which are to be protected in

is made and the plan is subject to change to reflect citizens desires, and be responsive to new opportunities and needs which are in keeping with water law.

A. Actions

Consistent with the goals and objectives of this plan which recognize that all vested property and water rights in effect as of July 1, 1988 are not affected, limited, or restricted in any manner by this plan, the Idaho Water Resource Board takes the following action regarding protection and management of the water resources within the South Fork Boise River Basin:

1. Designation of Protected Rivers

The South Fork of the Boise River from Anderson Ranch Dam to Neal Bridge has been designated by the Idaho Legislature and Idaho Water Resource Board as an Interim Protected Stream.

2. Federal Wild and Scenic Rivers

The U.S. Forest Service has evaluated eligibility of streams in the South Fork sub-basin, for inclusion in the federal Wild and Scenic Rivers program. Stream segments that meet criteria for study under provisions of the Wild and Scenic Rivers Act are:

- Wild** - South Fork Boise River, Trail Creek to Neal Bridge (Arrowrock Reservoir).
- Wild** - Lime Creek, Anderson Ranch Reservoir to BNF boundary.
- Scenic** - South Fork Boise River, Danskin Bridge to Trail Creek.
- Recreational** - South Fork Boise River, Anderson Ranch Dam to Danskin Bridge.
- Recreational** - South Fork Boise River, BNF boundary near Feathererville to Anderson Ranch Reservoir.

3. Water Quality Standards

The Department of Health and Welfare have established water quality standards for the State of Idaho.

4. Boise River Reservoirs Water Control Manual

Anderson Ranch is a multipurpose project which provides irrigation water, flood control, power generation, and recreation. Operation of this reservoir is coordinated with Arrowrock and Lucky Peak reservoirs to maximize utility of the available storage for the purposes for which they were constructed.

In May 1974, the Governor of Idaho requested that the Idaho Department of Water Resources review Boise River flood control management, etc., and present recommendations for improved operations. This led to the preparation of a Water Control Manual for the Boise River Reservoirs. The Bureau of Reclamation and the Army Corps of Engineers jointly regulate the Boise River reservoirs according to the Water Control Manual through a Memorandum of Agreement.

EXHIBIT 7



Comprehensive STATE WATER PLAN

Upper Boise River Basin



Arrowrock Dam site - circa 1910

Credit: Idaho Historical Society

Idaho Water Resource Board
1992

COMPREHENSIVE STATE WATER PLAN

Upper Boise River Basin

Idaho Water Resource Board

F.D. Rydalch, Chairman

Clarence Parr, Vice Chairman

Gene Gray, Secretary

Brent Bell

Kenneth Hungerford

Donald Kramer

William Platts

Mike Satterwhite

Adopted by IWRB

December, 1992

perceived hydropower development as a threat and free-flowing rivers as an attribute that was needed to maintain the primitive quality of the basin. Water quality was considered of critical importance in the basin because of the failure of Kirby Dam on the Middle Fork Boise River. At the time of the Public Issues Meeting, the future for Kirby Dam and its residual toxic sediments was not known.

Water Allocations and Projected Uses

Since January 1980, the IDWR has issued no water right permits for consumptive use of water during the period June 15 to November 1 on the Boise River and its tributaries above Lucky Peak Reservoir. In May 1992, a moratorium on most new ground and surface water uses was imposed by IDWR for the duration of the current drought. Water rights issued prior to 1980, upstream of Arrowrock and Lucky Peak, are summarized in Appendix C, Table 38, p. C-49.

All Arrowrock's active capacity of 286,600 AF has been allocated by the Bureau of Reclamation for irrigation (IDWR, 1974). Lucky Peak, on the other hand, has 111,950 AF allocated to irrigation companies or canal districts, and 152,300 AF that is allocated or reserved for stream flow maintenance, 50,000 AF of which IDFG can use (USACE, 1988a). Table 5 provides the breakdown of those allocations for both Arrowrock and Lucky Peak.

Table 3. Attributes Identified by the Public as Important for the Upper Boise River Basin.*

Water Quality	Watershed Management for Irrigation/Water Quantity
Recreation	Managed Forestry
Free-flowing Rivers/Protection/Instream Flows	Hydropower Site
Wilderness/Primitiveness	Mining Laws/Restrictions
Fishery	Few Roads/Good Road Maintenance
Wildlife	Water Conservation
Multiple-Use Land/Public Land	Healthy Native Vegetation
Scenic Value Preservation	Flood Control
Healthy Riparian Areas	Seclusion
Comprehensive Basin Plan/Management Monitoring	Hot Springs
Accessible from Major Urban Areas	

*Forty-four people responded, listing anywhere from 1 to 5 valued attributes each.

EXHIBIT 8

Summary.

Total		100.5	Water Right Start			Water Right	Basin	Sequence	USE	Season
Station	Priority Date	CFS	Date	End Date						AF
ANDERSON RANCH RESERVOIR	12/9/1940		1-Jan	31-Dec	63	3614	Irrigation storage, etc.			
ANDERSON RANCH	3/1/1941	0.78	1-Jan	31-Dec	63	3615	Irrigation storage, etc.			
MAMMON PUMPS	4/1/1946	3.19	1-Mar	15-Nov	63	✓ 5179	Irrigation			
WAGNER PUMP	7/1/1952	0.08	1-Mar	15-Nov	63	✓ 31077	Irrigation			
WAGNER PUMP	7/1/1952	0.084	1-Mar	15-Nov	63	✓ 31078	Irrigation			
WAGNER PUMPS	7/1/1952	0.1	1-Mar	15-Nov	63	✓ 31444	Irrigation			
WAGNER PUMPS	7/1/1952	0.1	1-Mar	15-Nov	63	✓ 21706	Irrigation			
WAGNER PUMPS	7/1/1952	0.07	1-Mar	15-Nov	63	3618	Irrigation storage, etc.			
LEPPY CENTER POND	5/15/1954		1-Mar	31-Dec	63	✓ 3006	Commercial, Fire			
SPRING SHORES	5/15/1955	0.075	15-Mar	15-Nov	63	✓ 15098	protection.			
SANDY POINT	12/31/1955	0.27	15-Mar	15-Nov	63					
US FOREST SERVICE	12/29/1958	1	15-Mar	15-Nov	63					
NURSERY	4/1/1961	0.1	15-Mar	15-Nov	63					
PHYLLIS CANAL			1-Jan	31-Dec	63					
LUCKY PEAK RESERVOIR	4/12/1963		1-Jan	31-Dec	63					
SHARLEY PUMP	5/15/1966	0.72	1-Jan	31-Dec	63					
WILLIAMS PARK	4/30/1965	2.67	1-Jan	31-Dec	63					
FOUR CENTER POND	7/4/1966	2.12	1-Mar	15-Nov	63	✓ 3002	Irrigation			
CANAL	7/23/1967	0.16	12-Jan	31-Dec	63	✓ 3158	Irrigation			

Station	Priority Date	CFS	Water Right Start Date	Water Right End Date	Basin	Sequence	USE	Season AF
SEVEN SUCKERS CANAL	1/26/1971	0.4	1-May	15-Oct	63	✓31946	Irrigation	
SEVEN SUCKERS CANAL	1/26/1971	0.1	1-May	15-Oct	63	✓32532	Irrigation	
SEVEN SUCKERS CANAL	7/21/1980	0.1	1-May	15-Oct	63	✓31312	Aesthetic storage, Irrigation, etc.	520
MACE-CATLIN CANAL	7/21/1980	0.48	15-Apr	15-Jul	63	✓31312	Aesthetic storage, Irrigation, etc.	520
MACE-CATLIN CANAL	7/21/1980	0.24	15-Apr	15-Jul	63	✓31313	Aesthetic storage, Irrigation, etc.	44
MACE-CATLIN CANAL	7/21/1980		1-May	15-Oct	63	✓31313	Aesthetic storage, Irrigation, etc.	44
RIVERSIDE VILLAGE	6/23/1981	3.21	1-Jan	31-Dec	63	✓9751	Aesthetic	318
EAGLE ISLAND PARK	7/8/1982	0.44	15-Mar	15-Nov	63	✓9929	Irrigation	326
WILDERNESS RANCH	8/9/1985	0.45	1-Jan	31-Dec	63	✓10318	Municipal	3,890
WOODS	9/19/1986	5.29	1-Jan	31-Dec	63	✓10348	Aesthetic storage, Recreation, etc.	3,890
WILSONS RANCH CANAL	11/17/1986	0.55	1-Mar	15-Nov	63	✓12055	Municipal	10,478
UNITED WATER	9/8/1993	24.8	1-Jan	31-Dec	63	✓12055	Municipal	10,478
UNITED WATER	11/25/1994	1.2	1-Mar	15-Nov	63	✓12055	Irrigation	
SURPRISE VALLEY/MICRON	6/6/1997	15	1-Jan	31-Dec	63	✓12420	Groundwater Recharge, Industrial	6,937
CANYON COUNTY CANAL	10/12/1999	5	1-Jan	31-Dec	63	✓12550	Aesthetic	
SHAKESPEARE FESTIVAL	12/2/1999	0.11	1-Jan	31-Dec	63	✓12577	Aesthetic	
UNITED WATER	11/16/2001	20	1-Jan	31-Dec	63	✓31409	Groundwater Recharge, Municipal	24,440
ANDREWS CANAL	12/28/2005	0.1	15-May	31-Dec	63	✓31409	Groundwater Recharge, Municipal	
ANDREWS CANAL	12/28/2005	0.1	15-May	31-Dec	63	✓31409	Groundwater Recharge, Municipal	

NOTES:

Reservoir Rights

Right: Bailey Wildlife

Right: Bailey Wildlife

Rights with high flow conditions.

EXHIBIT 9



IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

11/6/2012

WATER RIGHT NO. 63-31409

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	UNITED WATER IDAHO INC 8248 W VICTORY RD BOISE, ID 83709 (208) 362-1300
Attorney	GIVENS PURSLEY LLP ATTN JOHN MARSHALL 601 W BANNOCK ST BOISE, ID 83702 (208)388-1200

Priority Date: 11/16/2001

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
GROUND WATER RECHARGE	01/01	12/31	20 CFS	
MUNICIPAL	01/01	12/31	20 CFS	
Total Diversion			20 CFS	

Location of Point(s) of Diversion:

BOISE RIVER	NWNE Lt 6	Sec. 04	Township 02N	Range 03E	ADA County
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BOISE RIVER | **SENE Lt 7** | **Sec. 14** | **Township 03N** | **Range 02E** | **ADA County**

Place(s) of use:

Place of Use Legal Description: GROUND WATER RECHARGE ADA County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
02N	03E	4		SWSW										

Conditions of Approval:

1.		If additional time is needed to complete beneficial use, the permit holder may seek not more than one extension of time for filing proof of beneficial use, provided the application for extension qualifies for approval under Section 42-204, Idaho Code.
2.	26A	Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.
3.	R05	Use of water under this right will be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 63. The watermaster shall deliver this water right in its order of priority according to Idaho law, and nothing in this approval or the conditions of this approval alters or changes the legal responsibilities of the watermaster to deliver water according to the law.
4.	01J	Prior to diversion and use of water under this right, the right holder shall install and maintain on the diversion facilities a measuring device capable of determining the instantaneous diversion rate and annual volume of water diverted. These devices are to be approved by the Department prior to installation.
5.		This water right shall not be part of the right holders reasonably anticipated future needs. Diversions under this right when combined with all other water rights held or controlled by the right holder shall not exceed the water rights determined by the Department in United Water Idahos Integrated Municipal Application Package (IMAP) or other APA proceeding, or by the courts in any legal proceeding, as necessary to meet the right holders then reasonably anticipated future needs.
6.	121	The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.
7.	004	The issuance of this right does not grant any right-of-way or easement across the land of another. If measured or calculated Boise River flows at the point of diversion are less than 240 cfs during the period beginning June 16 and ending February 29, water shall not be diverted pursuant to this water right. If measured or calculated Boise River flows at the point of

8.		diversion are less than 1,100 cfs during the period beginning March 1 and ending May 31, water shall not be diverted pursuant to this water right. Measured or calculated Boise River flows at the point of diversion shall be based on gauged Lucky Peak Dam discharge minus the gauged diversion to the New York Canal. If the benchmark stream maintenance flows of 240 cfs (from June 1 to February 20) and 1,100 cfs (from March 1 to May 31) subsequently change, then the right holders diversion of Boise River flows under this right will be limited to provide for the new benchmark flows.
9.	125	The place of use for municipal purposes is within the service area of United Water Idaho as provided for under Idaho law. The place of use is generally described as within the city limits of Boise and the surrounding service area.
10.		The ground water recharge portion of this right is subject to all prior water rights, including those water rights for power purposes that may otherwise be subordinated by contract entered into by the governor and Idaho Power Company on October 25, 1984, and ratified by the legislature pursuant to Section 42-203B, Idaho Code.
11.		Pursuant to Section 42-4201A(3), Idaho Code, the Director may reduce the amount of water diverted for recharge purposes under this right even though there is sufficient water to supply the entire amount authorized for appropriation under this right.
12.		To insure that other water rights are not injured by the operations of the recharge project authorized by this right, the director retains jurisdiction to approve, disapprove, or require alterations in the methods employed to achieve ground water recharge.
13.	R07	Water discharged to a subsurface system must be authorized by a separate injection well permit.
14.		The right holder shall exercise this right only when authorized by the District 63 watermaster when the Boise River is on flood release below Lucky Peak dam/outlet. Flood releases shall be determined based upon the Memorandum of Agreement Between the Department of Army and the Department of Interior for Flood Control Operations of Boise River Reservoirs, dated November 20, 1953, contracts with Reclamation contract holders in the Boise River reservoirs, the Water Control Manual for Boise River Reservoirs, dated April 1985, and any modifications adopted pursuant to the procedures required in these documents and federal laws. The right holder shall not seek, directly or indirectly, any change to the flood control operations in the 1985 Water Control Manual for Boise River Reservoirs. This water right may not be used to divert water released from storage to augment lower Snake River flows during the migration of Snake River salmon as authorized under Idaho law, or for any purpose of use authorized under the water rights for Lucky Peak Reservoir.
15.		If the Department or the permit holder proposes to eliminate or alter these conditions during the pendency of the permit or at the time of license issuance, such alteration shall be deemed to be a substantial change in the method or proposed use of the water requiring an application to amend the permit to be filed by the permit holder under the provisions of Section 42-211, Idaho Code. The Department will give notice of the application as provided by law.
16.		The points of diversion for this water right shall not be treated as interchangeable with the right holders ground water rights, regardless of whether the interchangeability of ground water points of diversion is approved in the IMAP or another process.

Dates:

Proof Due Date: 03/01/2014

Proof Made Date:

Approved Date: 03/19/2004

Moratorium Expiration Date:

Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Application Received Date: 11/16/2001
Protest Deadline Date: 03/11/2002
Number of Protests: 6
Field Exam Date::
Date Sent to State Off:
Date Received at State Off:

Other Information:

State or Federal:
Owner Name Connector:
Water District Number: 63
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False



Close

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report

11/7/2012

WATER RIGHT NO. 63-169F

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	UNITED WATER IDAHO INC 8248 W VICTORY RD BOISE, ID 83709 (208) 362-1300
Attorney	GIVENS PURSLEY LLP C/O MICHAEL C CREAMER PO BOX 2720 BOISE, ID 83701-2720 (208)388-1200

Priority Date: 06/01/1868

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
MUNICIPAL	03/01	11/15	0.81 CFS	199 AFA
Total Diversion			0.81 CFS	

Location of Point(s) of Diversion:

Place(s) of use: Large POU Info

Conditions of Approval:

1. C18 This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.
2. 125 Place of use is within the service area of United Water Idaho as provided for under Idaho law. The place of use is generally described as within the city limits of Boise and the surrounding service area.
3. S45 Diversion for irrigation under this water right prior to April 1 and after October 31 shall occur only as authorized by the Water District 63 Water Master and only when water is being released for flood control by the United States from the Lucky Peak Dam outlet under procedures and requirements for the Memorandum of Agreement between the U.S. Department of the Army and the U.S. Department of the Interior for Flood Control Operations of the Boise River Reservoirs, dated November 20, 1953, the Water Control Manual for Boise River Reservoirs dated April 1985 and any future amendments or revisions made thereto pursuant to state or federal procedures or law; provided that any such use of this water right prior to April 1 and after October 31 shall be subordinated to water rights for storage in Lucky Peak Reservoir, Lake Lowell, Arrowrock Reservoir, and/or Anderson Ranch Reservoir, as decreed in SRBA Case No. 39576.
This right shall receive 100 percent of its decreed quantity until the natural flow of the waters of the Boise River shall decrease so that all rights containing this condition cannot receive 100 percent of their decreed quantities, at which time this right and the other rights containing this condition shall first be cut to 75 percent of their decreed quantities, as the natural flow of the river decreases, beginning with the latest rights containing this condition and proceeding to the earliest rights containing this condition in the order of their priority dates, and after all of the rights containing this condition shall have been reduced to 75 percent of their decreed quantities, should the natural flow of the waters of the river decrease below the amount necessary to supply 75 percent of those decreed quantities, then this right and the other rights containing this condition, beginning with the latest and proceeding to the earliest, shall be reduced to 60 percent of their decreed quantities.
4. 155
5. T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
6. R04 Use of water under this water right will be regulated by the watermaster of State Water District No. 63.
7. Prior to diversion and use of water under Transfer No. 4232, a totalizing flow measuring device and lockable controlling works acceptable to the Department shall be permanently installed and maintained as part of the diverting works.
8. T07 The right holder shall accomplish the change authorized by this transfer within one (1) year of the date of this approval.
9. Four points of diversion are located within Lot 7, SENE, S14, T03N, R02E.
10. SD1 This right originated as all or part of right no. 36 in the Stewart Decree and the historic Boise River Water Masters records.

Dates:

Licensed Date:

Decreed Date: 02/06/2009

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 63

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

11/7/2012

WATER RIGHT NO. 63-243E

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	UNITED WATER IDAHO INC 8248 W VICTORY RD BOISE, ID 83709 (208) 362-1300
Attorney	GIVENS PURSLEY LLP C/O MICHAEL C CREAMER PO BOX 2720 BOISE, ID 83701-2720 (208)388-1200
Original Owner	SOUTH BOISE MUTUAL IRRIGATION CO LTD 1120 CHAMBERLAIN BOISE, ID 83706 (208)344-3062

Priority Date: 05/01/1889

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
MUNICIPAL	03/01	11/15	3.3 CFS	682 AFA
Total Diversion			3.3 CFS	

Location of Point(s) of Diversion:

BOISE RIVER|SENE Lt 7|Sec. 14|Township 03N|Range 02E|ADA County

Place(s) of use: Large POU Info

Conditions of Approval:

1. C18 This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.
2. 125 Place of use is within the service area of United Water Idaho as provided for under Idaho law. The place of use is generally described as within the city limits of Boise and the surrounding service area. Diversion for irrigation under this water right prior to April 1 and after October 31 shall occur only as authorized by the Water District 63 Water Master and only when water is being released for flood control by the United States from the Lucky Peak Dam outlet under procedures and requirements for the Memorandum of Agreement between the U.S. Department of the Army and the U.S. Department of the Interior for Flood Control Operations of the Boise River Reservoirs, dated November 20, 1953,
3. S45 the Water Control Manual for Boise River Reservoirs dated April 1985 and any future amendments or revisions made thereto pursuant to state or federal procedures or law; provided that any such use of this water right prior to April 1 and after October 31 shall be subordinated to water rights for storage in Lucky Peak Reservoir, Lake Lowell, Arrowrock Reservoir, and/or Anderson Ranch Reservoir, as decreed in SRBA Case No. 39576.
This right shall receive 100 percent of its decreed quantity until the natural flow of the waters of the Boise River shall decrease so that all rights containing this condition cannot receive 100 percent of their decreed quantities, at which time this right and the other rights containing this condition shall first be cut to 75 percent of their decreed quantities, as the natural flow of the river decreases, beginning with the latest rights containing this condition and proceeding to the earliest rights containing this condition in the order of their priority dates, and after all of the rights containing this condition shall have been reduced to 75 percent of their decreed quantities, should the natural flow of the waters of the river decrease below the amount necessary to supply 75 percent of those decreed quantities, then this right and the other rights containing this condition, beginning with the latest and proceeding to the earliest, shall be reduced to 60 percent of their decreed quantities.
4. 155
5. R04 Use of water under this water right will be regulated by the watermaster of State Water District No. 63. Prior to diversion and use of water under Transfer No. 4232, a totalizing flow measuring device and lockable controlling works acceptable to the Department shall be permanently installed and maintained as part of the diverting works.
- 6.
7. T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
8. T07 The right holder shall accomplish the change authorized by this transfer within one (1) year of the date

- of this approval.
9. Four points of diversion are located within Lot 7, SENE, S14, T03N, R02E.
10. SD1 This right originated as all or part of right no. 110 in the Stewart Decree and the historic Boise River Water Masters records.

Dates:

Licensed Date:

Decreed Date: 02/06/2009

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal:

Owner Name Connector:

Water District Number: 63

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

11/8/2012

WATER RIGHT NO. 63-32342

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	UPPER CENTER POINT DITCH CO C/O KEN BRUSH 19724 DIXIE RIVER RD CALDWELL, ID 83607 (208)454-9090

Priority Date: 03/15/1954

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	03/01	11/15	10 CFS	
Total Diversion			10 CFS	

Location of Point(s) of Diversion:

BOISE RIVER	SESW Lt 2	Sec. 07	Township 04N	Range 03W	CANYON County
BOISE RIVER	NESE	Sec. 12	Township 04N	Range 04W	CANYON County

Place(s) of use: Large POU Info

Conditions of Approval:

1. 135 The boundary encompassing the place of use for this water right is described with a digital boundary as defined by I.C. Section 42-202B(2) and authorized pursuant to I.C. Section 42-1411(2)(h). The data comprising the digital boundary are incorporated herein by reference and are stored on a CD-ROM disk issued in duplicate originals on file with the SRBA District Court and the Idaho Department of Water Resources. A map depicting the place of use is attached hereto to illustrate the place of use described by the digital boundary.
2. S49 Diversion for irrigation under this water right prior to April 1 and after October 31 shall occur only when the natural flow in the Boise River below the Star Bridge in Township 04 North, Range 01 West, Section 18, NE¼ of the SE¼ of the SE¼, Boise Meridian (approximate river mile 33.9) is sufficient for water to be available for diversion at the point of diversion described above, provided that any such use of this water right prior to April 1 and after October 31 shall be subordinated to water rights for storage in Lucky Peak Reservoir, Lake Lowell, Arrowrock Reservoir, and/or Anderson Ranch Reservoir, as decreed in SRBA Case No. 39576.
3. C18 This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.
4. This right when combined with Right Nos. 63-223G, 63-233M, 63-19547, and 63-32342 can be used to irrigate up to 542 within the boundary of the Upper Center Point Ditch Company.

Dates:

Licensed Date:

Decreed Date: 01/15/2009

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal:

Owner Name Connector:

Water District Number: 63

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit: 517

Combined Volume Limit:

Combined Rate Limit:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

11/8/2012

WATER RIGHT NO. 63-3585

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	E G JOHNSON
Current Owner	NANCY JOHNSON 24007 HWY 20-26 PARMA, ID 83660 (208)722-5829
Original Owner	JOHN R MC CURRY RT 2 PARMA, ID 83660

Priority Date: 02/21/1967

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	04/01	10/31	0.56 CFS	126 AFA
Total Diversion			0.56 CFS	

Location of Point(s) of Diversion:

| | | | |

BOISE RIVER|SWSW Lt 9|Sec. 25|Township 05N|Range 05W|CANYON County

Place(s) of use:

Place of Use Legal Description: IRRIGATION CANYON County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
05N	05W	25	9	SWSW	27.9									

Total Acres: 27.9

Conditions of Approval:

1. C18 This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.
2. S39 The use of water for irrigation under this right may begin as early as March 1 and may continue to as late as November 15, provided other elements of the right are not exceeded. The use of water before April 1 and after October 31 under this remark is subordinate to all water rights having no subordinated early or late irrigation use and a priority date earlier than the date a partial decree is entered for this right.

Dates:

Licensed Date:

Decreed Date: 02/06/2009

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector: AND

Water District Number: 63

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

11/8/2012

WATER RIGHT NO. 63-32066

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	THE TINA IEST FAMILY LLLP C/O HELEN TIDWELL 5700 S LINDER RD MERIDIAN, ID 83642 (208) 888-3325
Attorney	HOFSTETTER LAW OFFICE ATTN: DANA HOFSTETTER 608 W FRANKLIN ST BOISE, ID 83702 (208) 424-7800
Original Owner	TINA IEST FAMILY LTD PARTNERSHIP 2313 TERRACE DR CALDWELL, ID 83605 (208)459-6382

Priority Date: 12/08/2004

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
WILDLIFE	11/15	03/15	20.5 CFS	
Total Diversion			20.5 CFS	

Location of Point(s) of Diversion:

BOISE RIVER|SESWSE Lt 2|Sec. 25|Township 05N|Range 05W|CANYON County

Place(s) of use:

Place of Use Legal Description: WILDLIFE CANYON County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
05N	05W	23		NESW			NWSW			SWSW			SESW	
				NESE			NWSE			SWSE			SESE	
		26	1	NENE		2	NWNE		2	SWNE		1	SENE	
				NENW		3	SENW							

Conditions of Approval:

1. 26A Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which the permit holder had no control.
2. R05 Use of water under this right will be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 63.
3. 01R When notified by the Department, the right holder shall install and maintain a measuring device of a type acceptable to the Department as part of the diverting works.
4. Wildlife use is for habitat improvement during the non-irrigation season.
5. X38 Use of water under this right shall be non-consumptive. At such time in the future as the Director determines necessary to protect the prior rights of other users, the Director may require determination of the rate of loss within the system using a procedure approved by the Director, and the Director may require mitigation for all system losses.
6. This right does not authorize the diversion and use of water released from Lucky Peak Reservoir for stream flow maintenance purposes in connection with Water Right 63-3618.

Dates:

Proof Due Date: 09/01/2010

Proof Made Date: 07/02/2010

Approved Date: 09/01/2005

Moratorium Expiration Date:
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Application Received Date: 12/08/2004
Protest Deadline Date: 04/25/2005
Number of Protests: 0
Field Exam Date::
Date Sent to State Off:
Date Received at State Off:

Other Information:

State or Federal:
Owner Name Connector:
Water District Number: 63
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

Close

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report

11/8/2012

WATER RIGHT NO. 63-9751

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	RIVERSIDE VILLAGE HOMEOWNERS ASSN INC 5537 N GLENWOOD ST STE A GARDEN CITY, ID 83714 (208)323-1080

Priority Date: 06/23/1981

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BOISE RIVER	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
AESTHETIC	01/01	12/31	3.21 CFS	2324 AFA
Total Diversion			3.21 CFS	

Location of Point(s) of Diversion:

BOISE RIVER|NENE|Sec. 25|Township 04N|Range 01E|ADA County

Place(s) of use:

Place of Use Legal Description: AESTHETIC ADA County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
04N	01E	24	4	SWSW		3	SESW							
			2	SWSE										
		25	3	NWNE										

Conditions of Approval:

1. 004 This right does not grant any right-of-way or easement across the land of another.
2. R04 Use of water under this water right will be regulated by the watermaster of State Water District No. 63.
3. R43 The right holder shall maintain measuring devices at the point of diversion and at the point of discharge and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion(s).
4. Return flow is discharged into the Boise River via Riverside Creek in the NESE, S23, T04N, R01E. Diversion and use of water is authorized only when flows in the Boise River warrant delivery of water under a date of priority of June 23, 1981. If this priority cannot be satisfied, diversion must cease unless:
5. a) the use is entirely non-consumptive and all water is returned to the river, or b) the consumptive amount of water is replaced from another source or right which is deliverable. In such case, a determination of consumptive use must be made and an acceptable method of replacement must be approved by the department prior to delivery under another source or right.
6. F17 The point of diversion for this water right is unsurveyed accretion land. The quarter-quarter description has been protracted from the adjacent public land survey.

Dates:

Licensed Date:

Decreed Date: 02/16/2007

Permit Proof Due Date: 10/1/1982

Permit Proof Made Date: 9/15/1982

Permit Approved Date: 9/14/1981

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date: 06/23/1981

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 63

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

EXHIBIT 10

RONALD J. TENPAS

Acting Assistant Attorney General
Environment and Natural Resources Division

DAVID W. GEHLERT

Natural Resources Section
Environment and Natural Resources Division

U.S. Department of Justice

1961 Stout Street, 8th Floor

Denver, Colorado 80294

Phone: (303) 844-1386

Fax: (303) 844-1350

Counsel for the United States

**IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS**

In Re SRBA)

Case No. 39576)

Subcase Nos. 63-3618

)
)
)
)
)
AFFIDAVIT OF ROBERT J. SUTTER

STATE OF IDAHO)

) ss.

County of Ada)

I, ROBERT SUTTER, being duly sworn upon oath, state as follows:

1. I am a registered Professional Engineer in the state of Idaho. I was employed as a Water Resource Engineer in the Hydrology Section of the State of Idaho Department of Water Resources from 1969 to 1995. I served as Hydrology Section Manager for the State of Idaho Department of Water Resources from 1995 to 2002.

2. In 1986, I developed the Boise River Water Right Accounting computer program (hereafter called the "Accounting Program") and the Boise River Storage Allocation computer program (hereafter called the "Allocations Program") for the Boise River. These two programs have been used by the Idaho Department of Water Resources (Department) and the Boise River Watermaster (Watermaster) to account for natural flow and reservoir storage water each and every year since 1986. The Department runs both the Accounting Program and the Allocations Program. However, the Department and the Watermaster work closely with each other, exchanging information in an iterative manner while making all program runs. The Watermaster uses the results of these programs to correctly deliver natural flow and storage water throughout the year. I have reviewed both the Accounting and the Allocations programs that are currently being used by the Department and the Watermaster and have found both to be essentially the same as when I left the Department in 2002.

3. For water right accounting purposes, the Department uses an "irrigation year," which begins on November 1 and ends on October 31. It includes the non-irrigation season period from November 1 to April 1 when reservoirs store water, as well as the period after April 1 when the irrigation season begins. In many years reservoirs continue to store water into the irrigation season, sometimes as late as July.

4. Typically the Accounting Program is first run sometime between February and April for the time period beginning November 1, the first day of the irrigation year. For each day after November 1, the Accounting Program calculates the amount of water that is credited to each of the Boise River Reservoirs, Arrowrock, Anderson Ranch and Lucky Peak, according to their respective storage rights. The accumulated amount of storage credited to each reservoir storage

right is often termed "paper fill," as opposed to the measured contents of the reservoir, which is termed "physical fill." The physical fill in a reservoir seldom equals the paper fill because:

- a) the system (Arrowrock, Anderson Ranch, And Lucky Peak reservoirs) storage fill and use is not reconciled until the end of the irrigation year; and b) the three Boise River reservoirs are operated as a system and therefore storage water credited "on paper" to one reservoir can physically be stored in a different reservoir. The Accounting Program only accounts for the fill of the reservoir storage right. The Accounting Program does not calculate the amount of storage water that accrues to individual space entitlements.

5. As natural flow recedes, reservoir storage rights (which are generally later in time than irrigation natural flow rights) go out of priority, and reservoirs stop accruing stored water. Reservoir storage rights go out of priority typically sometime between April 1 and July 31, depending on the magnitude of runoff. Once the reservoirs stop accruing storage, the Allocations Program is run to calculate stored water allocations for individual space entitlements. The United States Bureau of Reclamation provides a list of space entitlements in each reservoir to the Watermaster and the Department. The Allocations Program computes storage water allocations for these entitlements in Arrowrock, Anderson Ranch and Lucky Peak reservoirs simultaneously based on the paper fill of each reservoir.

6. There are two different situations for which the Allocations Program calculates the amount of water that has been stored in each space entitlement:

- a) In a year of low to moderate runoff, the paper fill in one or more of the Boise River reservoirs may not fill to 100 percent of its storage right (or total allocated space). In this type of year, the Allocations Program distributes the amount of the accumulated paper fill to all

space entitlements proportional to their entitlement. This is typically done sometime after April 1 when the reservoir rights cease to accumulate paper fill.

b) In a year of above average runoff, storage water may be physically released from the Boise River reservoirs early in the irrigation year to make space to store anticipated high natural flows to prevent flooding in the lower Boise River below Lucky Peak Reservoir. This flood control operation typically can occur anytime from January through May.

7. When storage is released for flood control, the paper fill of each reservoir in the Accounting Program is not affected, and continues to increase until each reservoir fills to 100 percent of its storage right. I have examined accounting results for all years since the inception of the use of the Accounting Program in 1986. As a result of this examination, I have found that for years when system flood control operations have occurred on the Boise River, the paper fill of all storage rights in Arrowrock, Anderson Ranch and Lucky Peak reservoirs has never failed to initially fill to 100 percent. It is logical that the system will fill completely in any year in which there is a system flood control operation because the criteria for flood releases are based on the presence of insufficient space in the system to capture the forecasted runoff.

8. As the flood control operation typically progresses, the reservoirs cease storage releases and begin to physically refill as the high runoff is then stored to prevent downstream flooding. The Accounting Program tracks the amount of natural flow stored during the refill phase of a flood operation as "unaccounted for" storage. When the accumulation of "unaccounted for" storage ends, the flood operation is completed. The end of flood operations typically occurs sometime from April through July. At the end of a flood operation, ideally the amount of "unaccounted for" storage will be equal to the amount of storage released for flood

control so that the amount of water stored physically in the reservoirs will be equal to the paper fill, which is 100 percent of the storage right (or allocated storage). If the "unaccounted for" storage is less than the storage released for flood control, this shortfall is termed the "failure to refill due to flood control."

9. At the end of the flood control operation the Allocations Program is then run to calculate stored water allocations for individual space entitlements. Again, the Allocations Program computes allocations for all three Boise River reservoirs simultaneously using the paper fill of each reservoir. In this system flood control situation, the paper fill of Arrowrock Reservoir and Anderson Ranch Reservoir remains at 100 percent of their storage right (or allocated space). The Allocations Program therefore allocates a full supply of storage to all individual entitlements in Arrowrock and Anderson Ranch reservoirs. From 1986 through 2007, there have been ten years for which system flood control releases were made. I have examined these years and in all cases, Arrowrock and Anderson Ranch entitlements received 100 percent allocation. The same conclusion was reached by Mary Mellema in her Affidavit dated November 13, 2007.

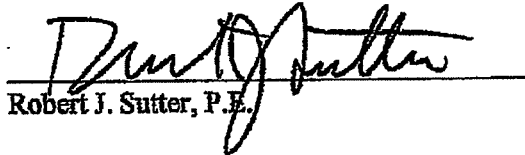
10. The paper fill of Lucky Peak Reservoir used by the Allocations Program is equal to its allocated space less any "failure to refill due to flood control." This "shortfall" is subtracted from the Lucky Peak Reservoir paper fill because Lucky Peak Reservoir has the latest water right priority of the three Boise River reservoirs, and Lucky Peak Reservoir is the primary flood control facility. In the case where there is a "shortfall" in Lucky Peak Reservoir paper fill, the Allocations Program allocates the fill in Lucky Peak as follows: If the shortfall is 60,000 acre-feet or less, all entitlements in Lucky Peak Reservoir receive 100 percent of their allocation except for the Streamflow Maintenance entitlement in Lucky Peak Reservoir, which receives an

amount equal to its entitlement less the shortfall. Additionally, if the shortfall is greater than 60,000 acre-feet, the amount in excess of 60,000 acre-feet is taken proportionally from all entitlements in Lucky Peak, including the remainder of the Streamflow Maintenance entitlement.

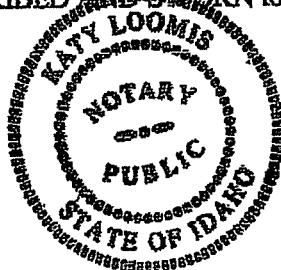
11. Storage in the Streamflow Maintenance entitlement has always been released beginning sometime in October after the end of the irrigation season in order to maintain a flow in the Boise River below Lucky Peak Reservoir. These Boise River storage releases continue throughout the non-irrigation season (November 1 to April 1) unless flood control releases preclude the need for such flow maintenance.

Further your affiant sayeth naught.

DATED this 12 Day of FEB 2008.


Robert J. Sutter, P.E.

SUBSCRIBED AND SWORN to before me this 12th Day of February, 2008.



Notary Public for Idaho Katy Loomis
Residing at: Boise, Ada County, Idaho
My Commission Expires: 10/17/2009

EXHIBIT 11



John V. Evans
Governor

C. Stephen Allred
Director

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

#13

Superseded

Statehouse
Boise, Idaho 83720
(208) 384-2215

MEMORANDUM

JUL 10 1977

Department of Water Resources
Western Regional Office

JULY 11, 1977

TO: STAFF

FROM: C. STEPHEN ALLRED *CSA*

RE: BOISE RIVER APPROPRIATIONS

Effective immediately, no additional water right permits for consumptive use of water during the period of June 15 to November 1 will be issued on the Boise River and tributaries in the reach upstream from Lucky Peak Reservoir.

The water in this reach of the River has been determined to be fully appropriated by the existing waterusers, and therefore, no water is available for any additional users.

Persons wishing to file applications for permit in this area should be advised of the limited season of use and possible denial of the permit.

Applications for permits downstream from Lucky Peak must still be evaluated individually to determine whether water is available.

EXHIBIT 12

WATER DELIVERY ACCOUNTING
BOISE RIVER
WD-63

The purpose of this paper is to provide background information for a discussion of procedures to be used in the accounting of water deliveries on the Boise River, WD-63. The accounting process is similar to that used in WD-1, but certain unique features of Boise River require modifications from it. The accounting program was used by WD-63 during the irrigation season of 1986. Adoption of methods for computing storage accrual during the winter season is the principal subject of this paper, but other items regarding data requirements and use are also presented.

Irrigation Rights

Boise River diversion rights are contained in the Stewart and Bryan decrees and are listed in the annual reports of WD-63. These rights involve a "sliding scale" which involve successive reductions in all rights to 75 percent, then 65 percent of decreed amounts before any user is shut off. The irrigation season is not defined in the decrees but the Department's interpretation that the season is April 1 through October 31 has generally been followed. Canals in the lower valley frequently exceed their natural flow rights.

Storage Rights

In order of priority, the water rights for storage in Arrowrock, Anderson Ranch, Lucky Peak and for diversion to Lake Lowell are as follows:

<u>Priority</u>	<u>Rate (cfs)</u>	<u>Volume (acre-feet)</u>	<u>1/ Remarks</u>
14 December 1903	1,354.58	--	New York Canal (BD)
13 January 1911	8,000.00	--	Arrowrock (BD)
25 June 1938	--	15,000	Arrowrock (L)
9 December 1940	--	493,161	Anderson (L)
12 April 1963	--	307,000	Lucky Peak (P)

1/ BD - Bryan Decree; L - License; P - Permit. All of these rights are held by the Bureau of Reclamation for the Department of the Interior.

The New York Canal right of 1,354.58 cfs is an irrigation right which can also be used to store water in Lake Lowell Reservoir during the non-irrigation season.

Arrowrock Reservoir is filled according to two rights, one for 8,000 cfs for a physical capacity of 275,000 acre-feet and another for 15,000 acre-feet with no limit on the diversion rate. However, because of siltation, the current total physical capacity is 286,600 acre-feet.

Anderson Ranch Reservoir is filled by a right for 493,161 acre-feet with no limit on diversion rate. This right is limited by dead storage of 28,980 acre-feet plus normally inactive

storage of 40,981 acre-feet to 423,200 acre-feet active space.

Lucky Peak Reservoir is filled by a right for 307,000 acre-feet, also having no limit on diversion rate. The right is limited by normally inactive storage of 28,800 acre-feet to 278,200 acre-feet of space. The Lucky Peak right is at permit stage with licensing pending.

The above-described reservoir rights are the primary diversion rights in effect during the non-irrigation season (1 November to 1 April). Prior to and subsequent to these dates when natural flow is sufficient to meet some or all of these rights, the storage rights are considered equal in stature to all other rights subject to priority date and other conditions imposed by state water law. To provide for efficiency and flexibility in reservoir operations, storage under these rights can physically occur in any of the three reservoirs without regard to the reservoir specified in the right as long as the capability of any other right to be exercised remains unaffected.

The volume stored per annum, beginning on 1 November of each year, cannot exceed the volume specified by the water right or the physical capacity of the reservoir unless all subsequent rights have been met. The volume stored (including unused storage from a previous year) cannot, on any given day, exceed the specified or physical volume of the reservoir. Previously unused storage (carryover) which is released during the non-

irrigation season for a specified beneficial use can be replaced within the constraints of the right(s) governing that space.

Accounting Procedures

This section is a summary of procedures that were used in 1986 or that are planned to be in place for 1987.

Data are collected and entered into the system in two ways. Daily river and reservoir data are all compiled in the USBR HYDROMET system and these will be transferred to the IDWR VAX. Diversion data are taken by the watermaster, who enters them into the VAX via his terminal. The watermaster operates stage recorders on _____ canals and the remainder have staff gages. Diversions are visited weekly, measured, staff gages are read and charts picked up from the recorders. The watermaster computes mean daily flows from the recorder charts. The non-recording sites are assumed to vary linearly between visits.

Both the HYDROMET data and watermaster-collected data generally use the most recent rating shifts. No attempt is made to later adjust the flows for transitions between shifts.

The 1987 accounting year will begin with a determination of carryover from 1986. Carryover determination will be in accordance with prior practice. Unused prior year storage is assigned as carryover in the following sequence: Lucky Peak,

Anderson Ranch, Arrowrock, because use is charged in the reverse order.

The accounting process determines natural flows at each reservoir and at seven valley locations. Accrual occurs by assigning the natural flows at each reservoir in order of the respective priorities. During periods of Boise Project diversions, accrual to the reservoirs is reduced because of the earlier right of the New York Canal. After April 1, irrigation diversions which have generally earlier priorities than the reservoirs, begin to affect accrual. Accrual ceases when the reservoir rights are all filled or when the natural flows are all credited to earlier irrigation rights. Allocation of the storage is then made to the respective space holders. For each reservoir, the canal accounts are set as their previous year's carryover plus their proportion of the reservoir's computed accrual. (Arrowrock carryover is redistributed ^{at the end of} each year.)

Flood control releases occur in more than seventy percent of all years. These do not affect accrual. Accrual continues in accordance with the rights in effect, but the released water is water that was stored earlier. Actual storage may continue to occur after the storage rights are all filled "on paper" as a result of the flood control releases. The second fill, called "unaccounted for storage," may, but usually does not, result in a total system fill. Any such fill deficit is assigned first to the top 73,900 acre feet in Lucky Peak, and if greater, propor-

tionally among the Lucky Peak irrigation users (111,950 ac ft), Idaho Fish and Game use (50,000 ac ft) and the remaining non-contracted space (42,350 ac ft). If the deficit were greater than the Lucky Peak capacity, the remainder would be proportionally shared by the Anderson Ranch contractors.

During the irrigation season as natural flows decline to such level that not all rights can be fully satisfied, the canal rights are progressively adjusted to 75 percent, then 60 percent in accordance with the sliding scale. If there were unsatisfied reservoir rights, they would be cut to zero if necessary to prevent sliding scale cuts to irrigation users.

Stored water use will be charged whenever a diversion exceeds the right it is entitled to exercise at that time. This includes any diversion in excess of its total rights when all rights are good, or excesses above the applicable sliding scale rights. If flood control releases occur after these stored water charges, the stored water use account will be returned to zero.

In determining natural flows at the reservoirs, evaporation will be added back, because under natural conditions, this loss would ^{not} occur. At the end of the irrigation season, the storage accounts must therefore also be adjusted for this loss.

Implications of Accounting Changes

Probably the most significant effect of the accounting change results from computation and allocation of natural flow at each reservoir. The former method allocated the total physical fill based upon the overall right sequence: Arrowrock, Anderson Ranch and Lucky Peak. This had the effect of crediting natural flow upstream. Mores Creek water was moved to Arrowrock and Anderson until they filled. After Arrowrock filled, gain below Anderson Ranch was moved into Anderson until it filled.

The new method will always result in some accrual to Lucky Peak because of its location. Following is a comparison of accounting effects on accrual using 1973 and 1977 data.

	Allocation (1000 AC FT)			
	1973		1977*	
	<u>Former</u>	<u>New</u>	<u>Former</u>	<u>New</u>
Anderson Ranch	420.6	389.7	219.0	219.0
Arrowrock	286.6	286.6	263.7	226.5
Lucky Peak	211.1	249.2	182.0	214.0

* 1977 allocation was changed due to adjustments between Lake Lowell and Arrowrock. Such adjustments were not made in other years and are not reproducible.

In most other recent years, the system approximately filled and only minor differences would result.

With the exception of 1977, Lake Lowell's storage condition has had no direct effect on accrual in the main river reservoirs.

Lake Lowell was, and will continue to be, independent of the river.

When New York Canal diversions in winter exceed the natural flow or exceed the winter diversion right (1354.58 cfs), the excess is stored water. It will be deducted from the Boise Project carryover from the previous year, and these storage withdrawals can be refilled in the period ending 31 March. Storage diversions after 31 March cannot be credited with refill because they must be treated like the other irrigation diversions. The watermaster will limit New York Canal storage diversion to the volume of prior year carryover.

Similarly, releases of fish flow water from the Idaho Fish and Game Department space and/or the USBR uncontracted space will be taken from carryover in these accounts. They, too, can refill this space in the period ending 31 March. If any releases of this type occur after 31 March, the space used after that date will not be refillable.

Inclusion of evaporation in the natural flow computation will cause an increase in natural flow, and a consequent decrease in stored water use. This will be balanced by adjusting the reservoir accounts downward, but the gainers and losers will, to some extent, be different canals. Although no comparisons have been made it is believed that impacts would be minor.

Computation of gains below Lucky Peak will result in less stored water use because of the increase in natural flow available.

When conditions are such that no natural flow need be passed at Middleton and/or Caldwell, flows of ____ cfs and ____ cfs at these locations will be designated as "operational flow" to prevent stored water from passing these points. Below these locations, the operational flow will revert to natural flow.

Stored water use can occur before peak storage is reached for the three main river reservoirs. The result will be slightly greater fill and more storage use in some years.

Possible Other Future Changes

The following items will not be addressed in 1987 accounting but may require work in the future.

(1) If it is determined that use of real time data results in substantial error, it may be appropriate to make revisions at the end of the season and run a revised final accounting.

(2) Because of its interchange with Indian Creek, there is an apparent need to gage the Riverside Canal above that stream.

(3) Consideration should be given to incorporating travel

time in the process of determining natural flow.

(4) A method should be devised for estimating river diversion by the Boise Water Corporation Ranney collectors and other non-agricultural diversions.