

WYOMING WATER DEVELOPMENT PROGRAM



COUNCIL OF STATE GOVERNMENTS
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JASON MEAD, P.E., DIRECTOR
JASON.MEAD@WYO.GOV

WYOMING WATER DEVELOPMENT OFFICE
6920 YELLOWTAIL ROAD, CHEYENNE, WY
[HTTPS://WWWDC.STATE.WY.US/](https://wwdc.state.wy.us/)
307-777-7626

WYOMING WATER DEVELOPMENT PROGRAM HISTORY

PROGRAM CREATED IN 1975

PHILOSOPHY – TO UTILIZE A PORTION OF REVENUE DERIVED FROM NON-RENEWABLE RESOURCES AND INVEST THIS REVENUE IN RENEWABLE WATER DEVELOPMENT PROJECTS THAT WILL SERVE WYOMING CITIZENS INTO THE FUTURE



WYOMING WATER DEVELOPMENT PROGRAM MANAGEMENT

WYOMING WATER DEVELOPMENT COMMISSION (WWDC) – 10 MEMBERS

- TWO MEMBERS FROM EACH WATER DIVISION
- ONE AT LARGE MEMBER
- ONE TRIBAL MEMBER
- APPOINTED BY THE GOVERNOR
- FOUR (4) YEAR STAGGERED TERMS
- PARTY SPLIT – NO MORE THAN 75% FROM THE SAME POLITICAL PARTY



LEGISLATIVE SELECT WATER COMMITTEE (SWC)

- SIX SENATORS
- SIX REPRESENTATIVES



WYOMING WATER DEVELOPMENT PROGRAM

OPERATIONS

WYOMING WATER DEVELOPMENT OFFICE – 26 EMPLOYEES

- DIRECTOR APPOINTED BY THE GOVERNOR
- ADMINISTRATION
- CONSTRUCTION DIVISION
- DAM AND RESERVOIR DIVISION
- PLANNING DIVISION

ELIGIBLE PROJECT SPONSORS

- MUNICIPALITIES
- IRRIGATION DISTRICTS
- SPECIAL DISTRICTS



PUBLIC ENTITY THAT CAN LEGALLY RECEIVE STATE FUNDS, INCUR DEBT, GENERATE REVENUES TO REPAY A STATE LOAN, HOLD TITLE AND GRANT A MINIMUM OF A PARITY POSITION MORTGAGE ON THE EXISTING WATER SYSTEM IMPROVEMENTS APPURTENANT TO THE PROJECT OR PROVIDE OTHER ADEQUATE SECURITY FOR THE ANTICIPATED STATE CONSTRUCTION LOAN.

WYOMING WATER DEVELOPMENT PROGRAM RESPONSIBILITIES

- ◆ NEW WATER PROJECT DEVELOPMENT
- ◆ WATER PROJECT REHABILITATION
- ◆ DAMS AND RESERVOIR DEVELOPMENT
- ◆ WYOMING'S WATER PLANNING AGENCY
- ◆ GROUNDWATER EXPLORATION GRANT PROGRAM
- ◆ MANAGEMENT OF WYOMING'S WATER INVESTMENTS
- ◆ INSTREAM FLOW WATER RIGHTS
- ◆ SMALL WATER PROJECT PROGRAM
- ◆ CO RIVER BASIN STATES SALINITY CONTROL PROGRAM
- ◆ UPPER COLORADO RIVER BASIN FUND MOA
- ◆ EMERGENCY WATER PROJECTS
- ◆ UNIV. OF WYOMING WATER RESEARCH PROGRAM



WYOMING WATER DEVELOPMENT PROGRAM

FINANCIAL RESOURCES

WYOMING STATUTES PROVIDE A SEVERANCE TAX DISTRIBUTION ACCOUNT OF \$155M PER YEAR.

WATER DEVELOPMENT ACCOUNT NO. I (WDA-I)

- ◆ FUNDS AGENCY BUDGET, NEW DEVELOPMENT PROJECTS, PLANNING EFFORTS, GWEP, SWPP, OTHER (NON-PROJECT)
- ◆ RECEIVES 12.45% OF SEVERANCE TAX DISTRIBUTION ACCOUNT (\$19,297,500)

WATER DEVELOPMENT ACCOUNT NO. II (WDA-II)

- ◆ FUNDS REHABILITATION PROJECTS, SWPP
- ◆ RECEIVES 2.1% OF SEVERANCE TAX DISTRIBUTION ACCOUNT (\$3,255,000)

WATER DEVELOPMENT ACCOUNT NO. III (WDA III)

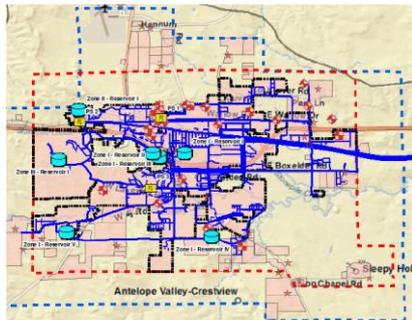
- ◆ FUNDS DAM AND RESERVOIR PROJECTS
- ◆ RECEIVES 0.5 % OF SEVERANCE TAX DISTRIBUTION ACCOUNT (\$775,000)

WYOMING WATER DEVELOPMENT PROGRAM

PROJECT PROGRESSION

I

Reconnaissance



MASTER
PLANS

II

Feasibility



SITE SPECIFIC

III

Construction



WYOMING WATER DEVELOPMENT PROGRAM

PROJECT FINANCING

💧 PLANNING STUDIES – LEVEL I AND II

- WWDC FUNDS 100% FOR UNBIASED ANALYSES

💧 LEVEL III DESIGN AND CONSTRUCTION PROJECTS

- TYPICALLY 67% GRANT, 33% LOAN OR MATCH
- LOANS ARE OFFERED AT 4% INTEREST FOR A TERM UP TO 50 YEARS

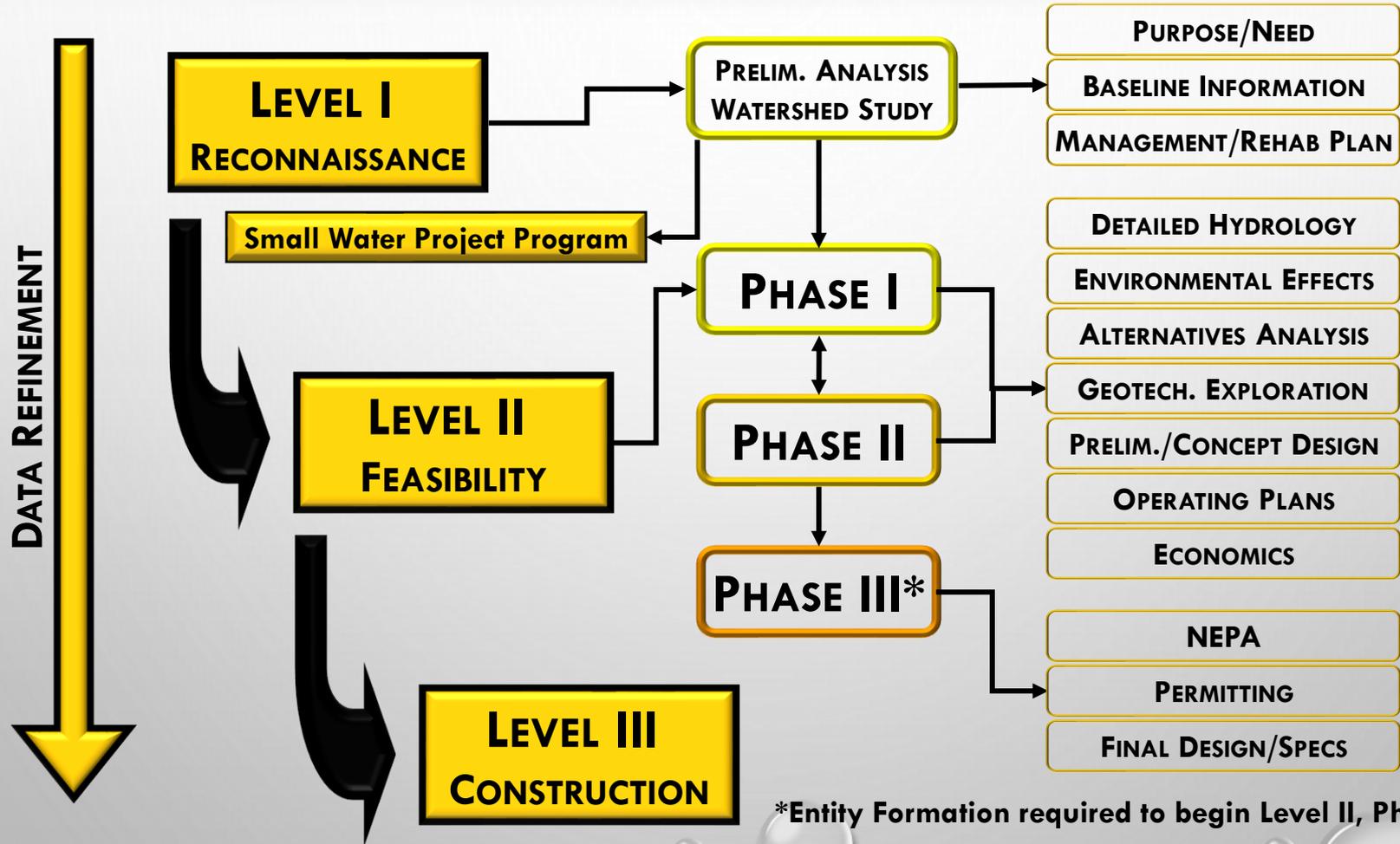
💧 SPONSOR PARTICIPATION

- RESPONSIBLE FOR 33%
- MUST PROVIDE THE FINANCIAL RESOURCES TO OPERATE AND MAINTAIN THE PROJECT

💧 DAMS AND RESERVOIRS – ABILITY TO PAY AND PUBLIC BENEFIT

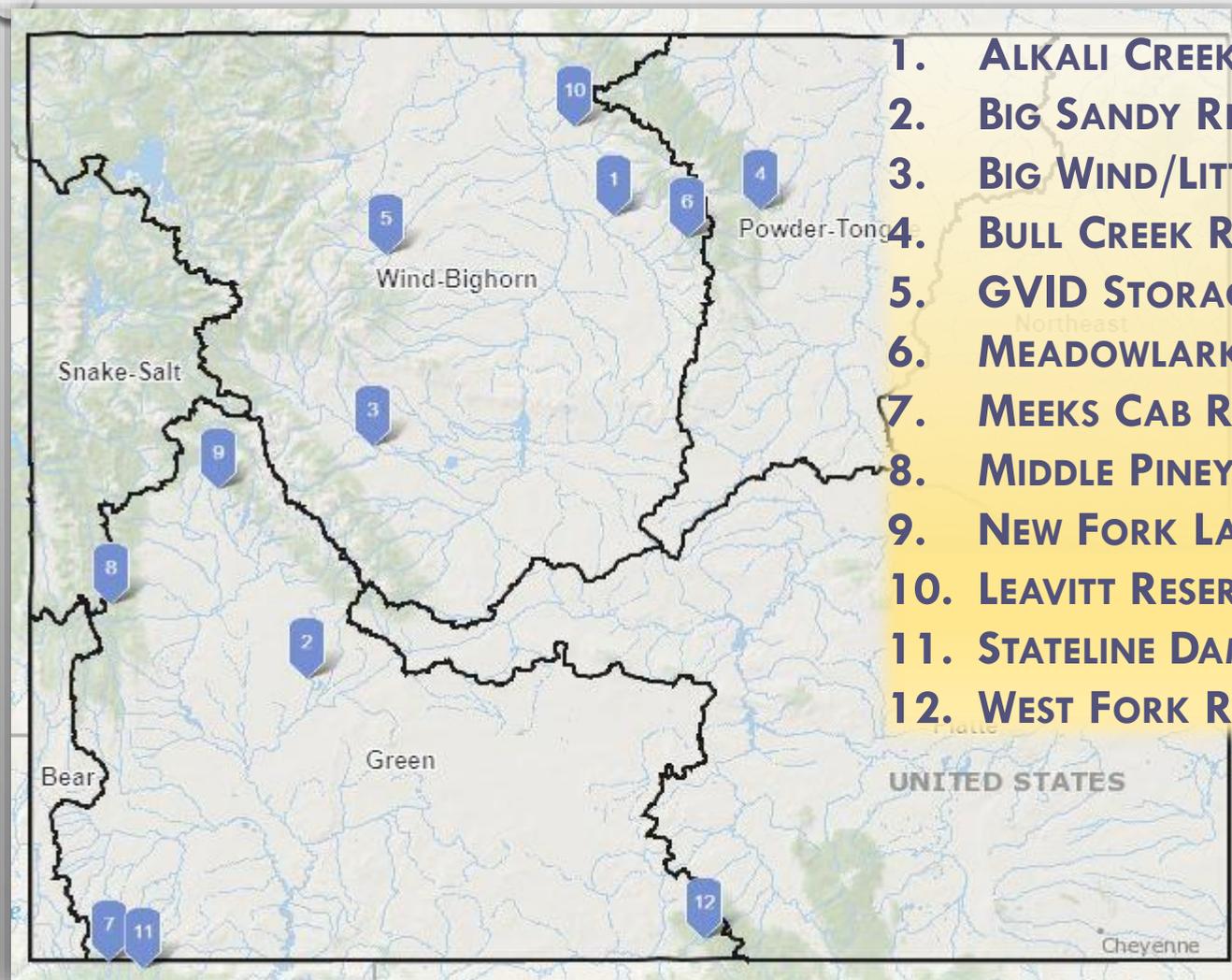
WYOMING WATER DEVELOPMENT PROGRAM

DAM AND RESERVOIR PROJECT PROGRESSION



WYOMING WATER DEVELOPMENT PROGRAM

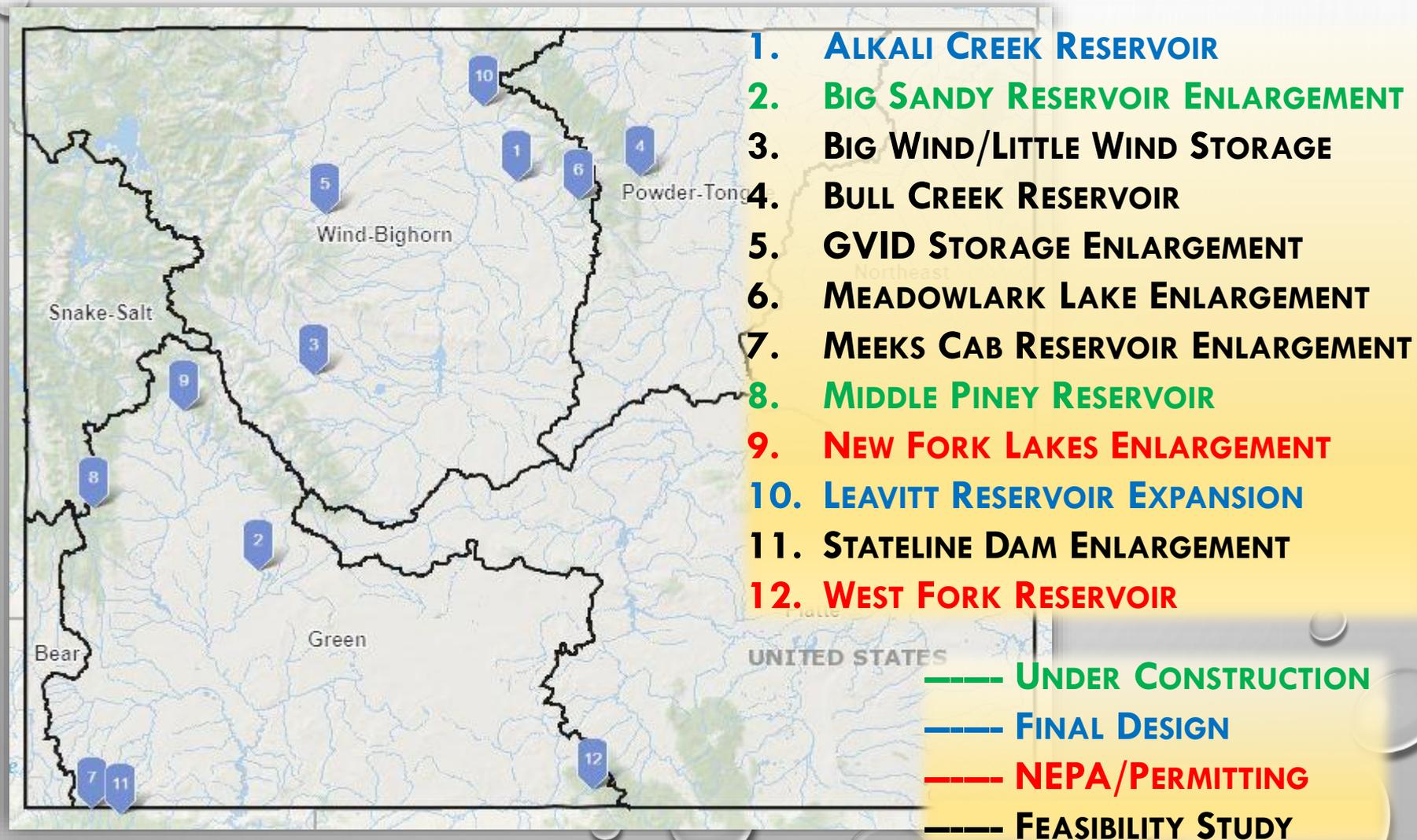
DAM AND RESERVOIR PROJECTS



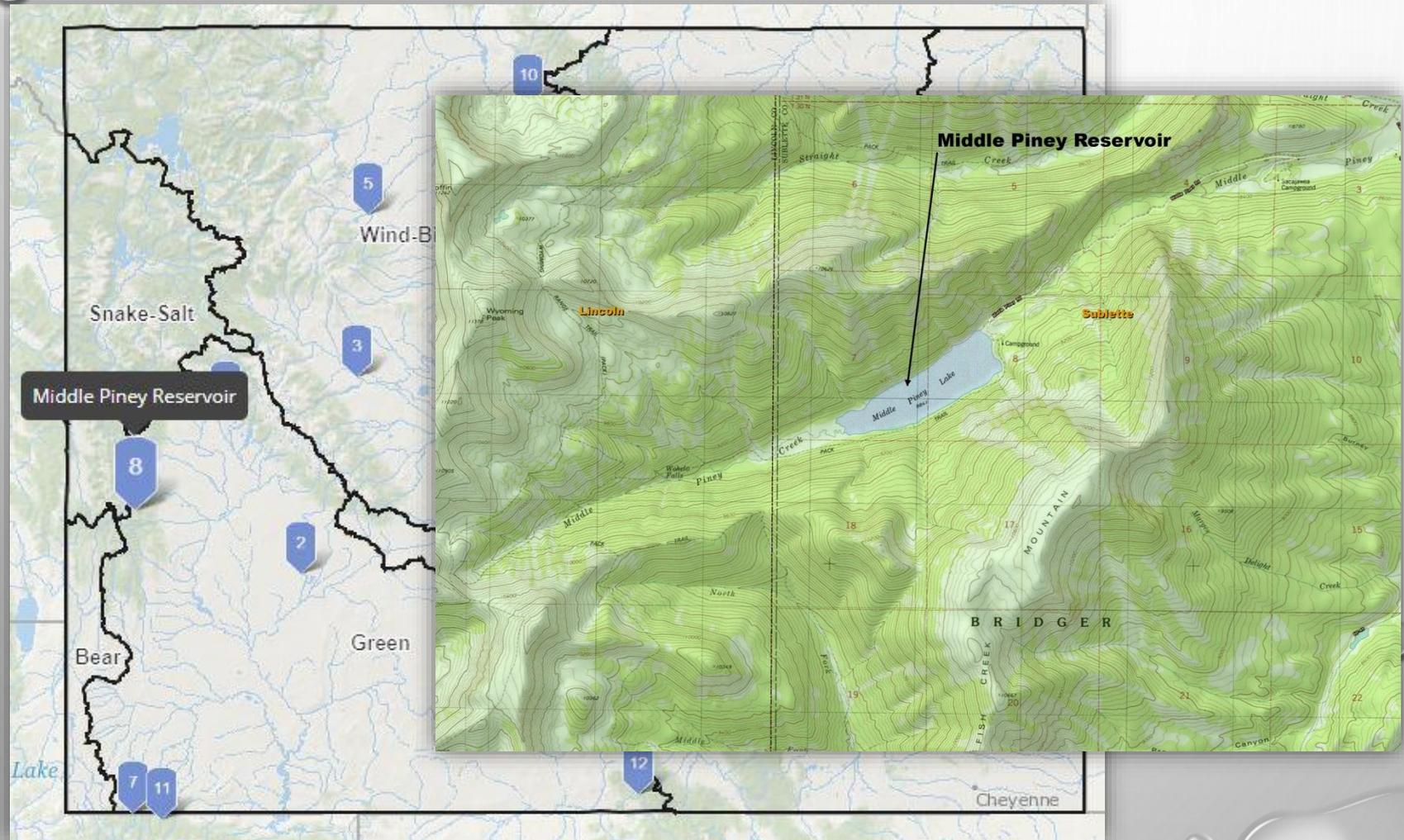
1. **ALKALI CREEK RESERVOIR**
2. **BIG SANDY RESERVOIR ENLARGEMENT**
3. **BIG WIND/LITTLE WIND STORAGE**
4. **BULL CREEK RESERVOIR**
5. **GVID STORAGE ENLARGEMENT**
6. **MEADOWLARK LAKE ENLARGEMENT**
7. **MEEKS CAB RESERVOIR ENLARGEMENT**
8. **MIDDLE PINEY RESERVOIR**
9. **NEW FORK LAKES ENLARGEMENT**
10. **LEAVITT RESERVOIR EXPANSION**
11. **STATELINE DAM ENLARGEMENT**
12. **WEST FORK RESERVOIR**

WYOMING WATER DEVELOPMENT PROGRAM

DAM AND RESERVOIR PROJECTS



DAM & RESERVOIR DIVISION PROJECTS – MIDDLE PINEY RESERVOIR



DAM & RESERVOIR DIVISION PROJECTS – MIDDLE PINEY RESERVOIR



DAM & RESERVOIR DIVISION PROJECTS – MIDDLE PINEY RESERVOIR

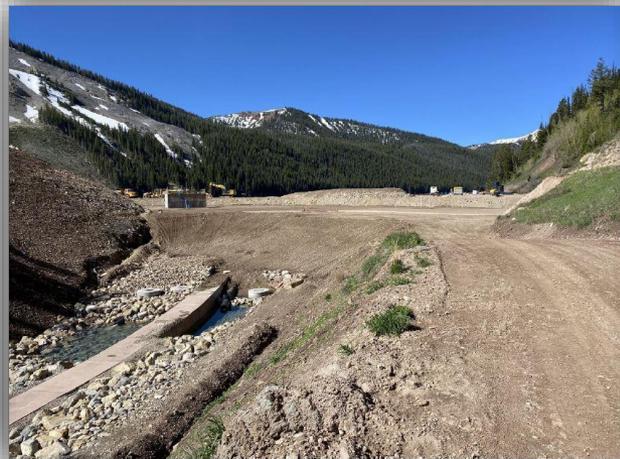


DAM & RESERVOIR DIVISION PROJECTS – MIDDLE PINEY RESERVOIR

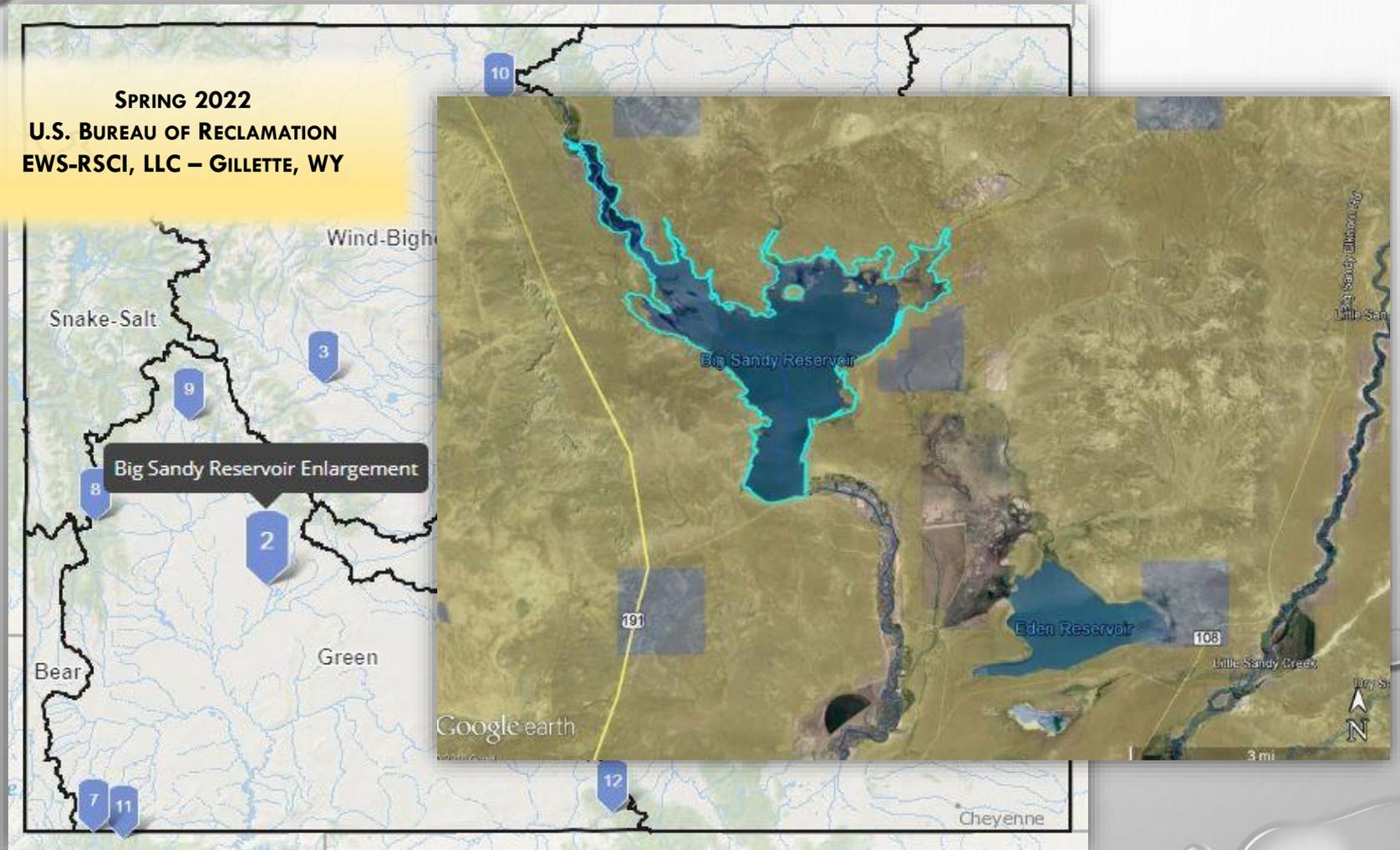
GROUNDBREAKING CEREMONY – JULY 2018
STANTEC (STATES WEST/WENCK)
NW CONSTRUCTION, INC – BOZEMAN, MT
ELEV. 8,800 FEET ABOVE SEA LEVEL
30-YEAR SPECIAL USE PERMIT
P3578R – 4,201 AF – SEPT. 4, 1919



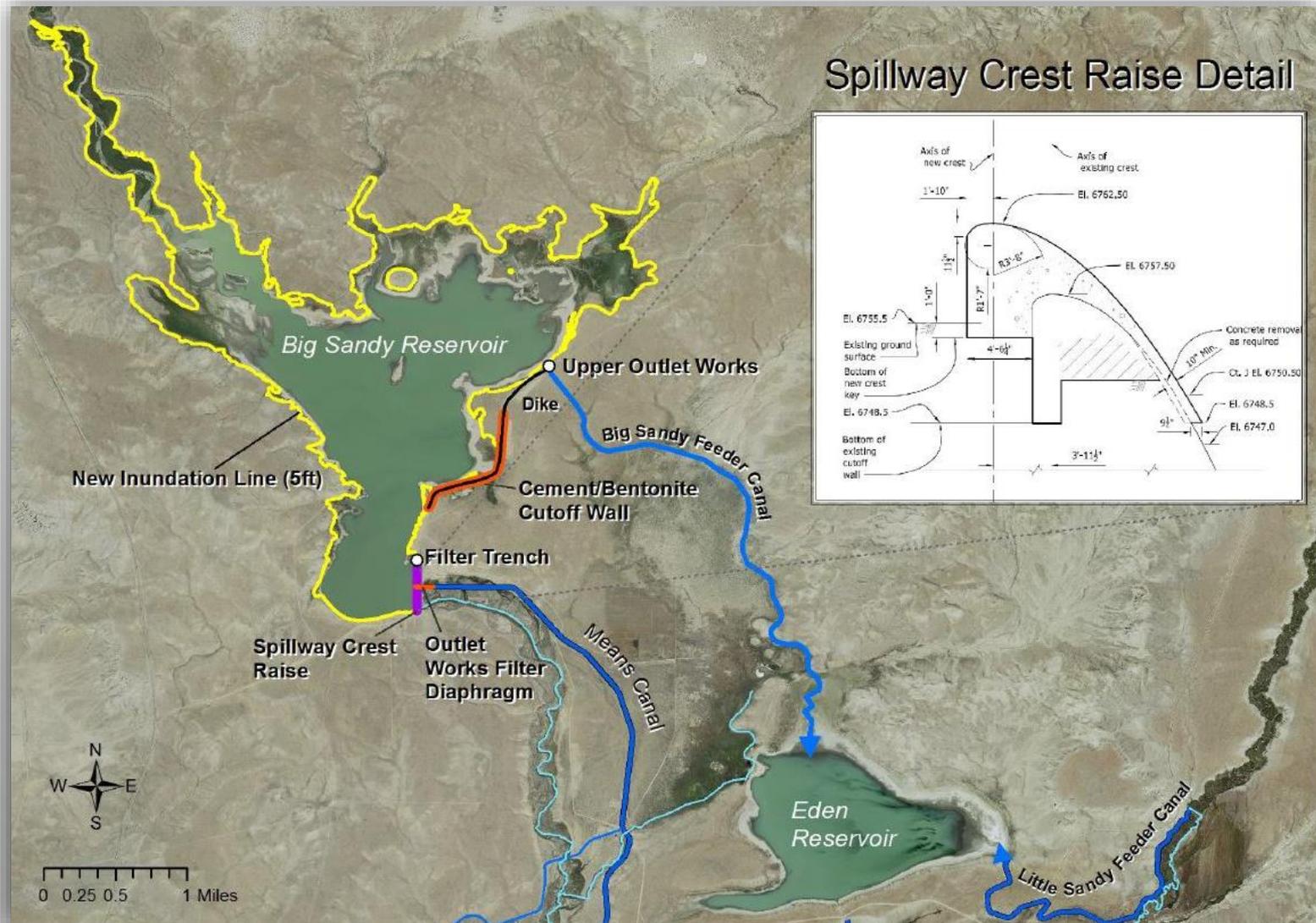
DAM & RESERVOIR DIVISION PROJECTS – MIDDLE PINEY RESERVOIR



DAM & RESERVOIR DIVISION PROJECTS – BIG SANDY ENLARGEMENT



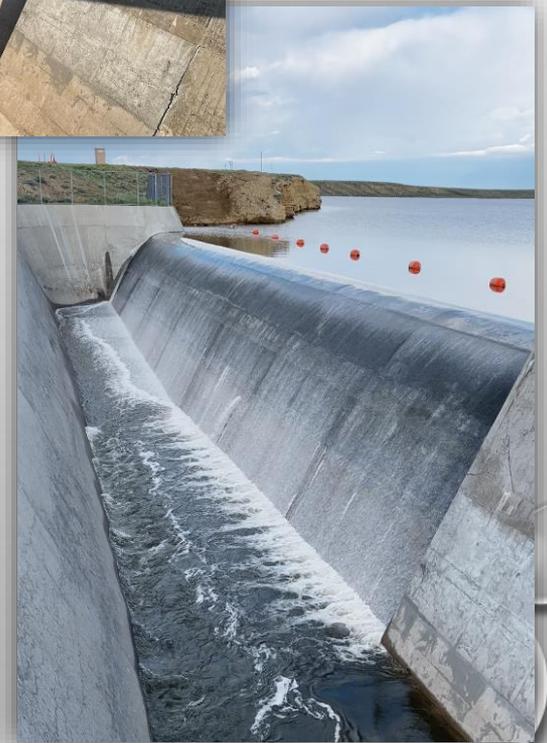
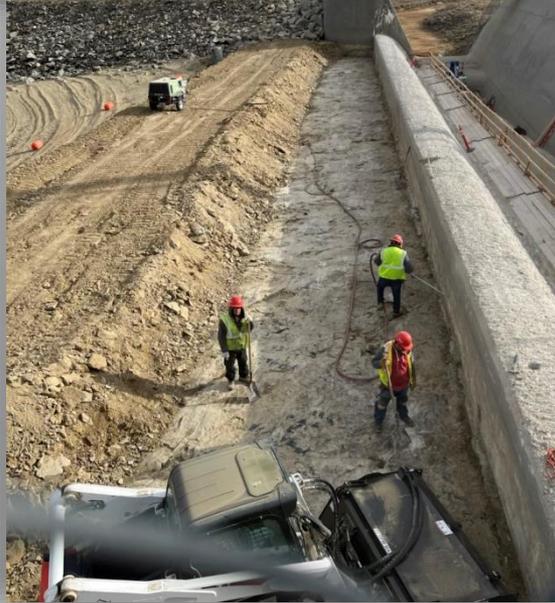
DAM & RESERVOIR DIVISION PROJECTS – BIG SANDY ENLARGEMENT



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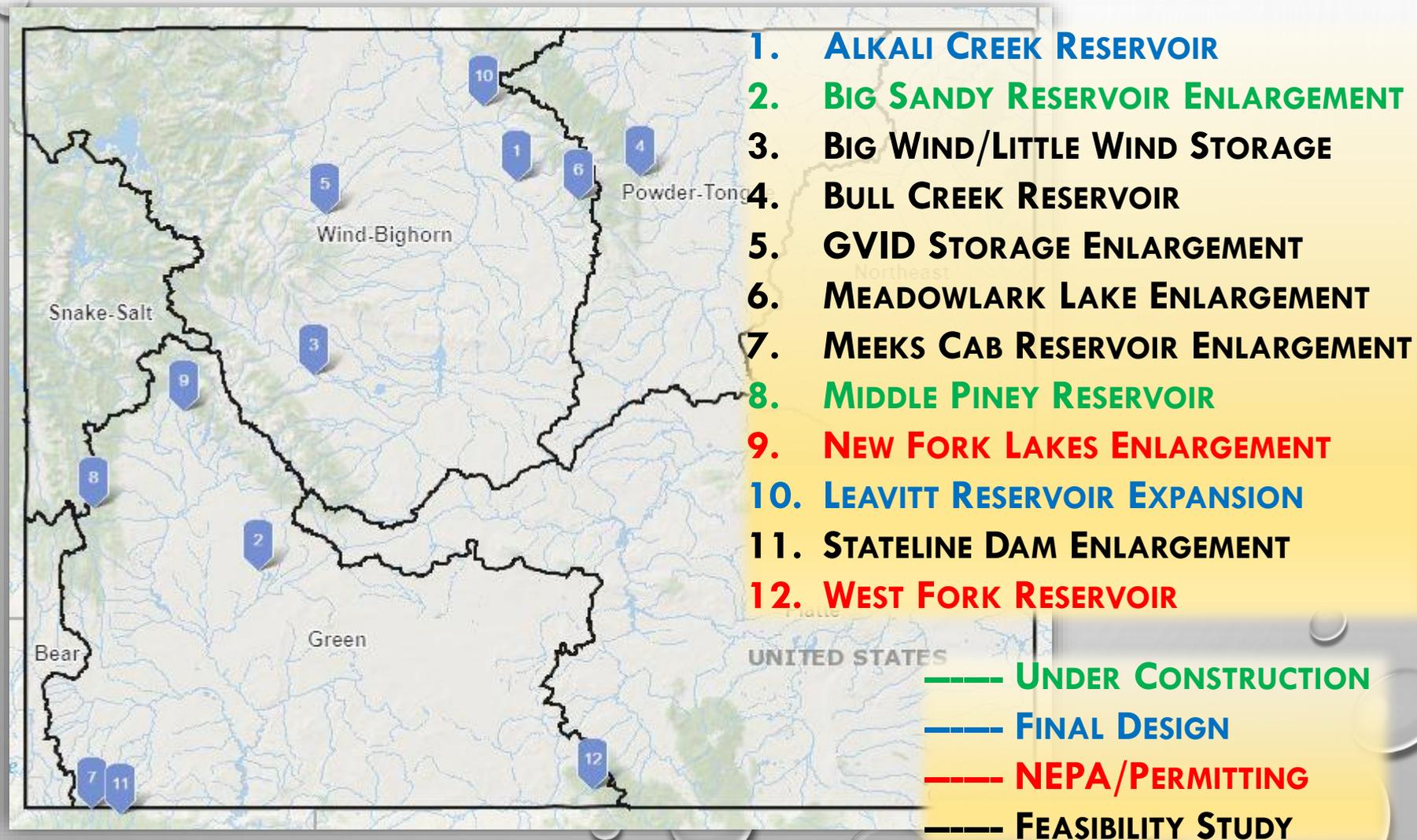


DAM & RESERVOIR DIVISION PROJECTS – BIG SANDY ENLARGEMENT



WYOMING WATER DEVELOPMENT PROGRAM

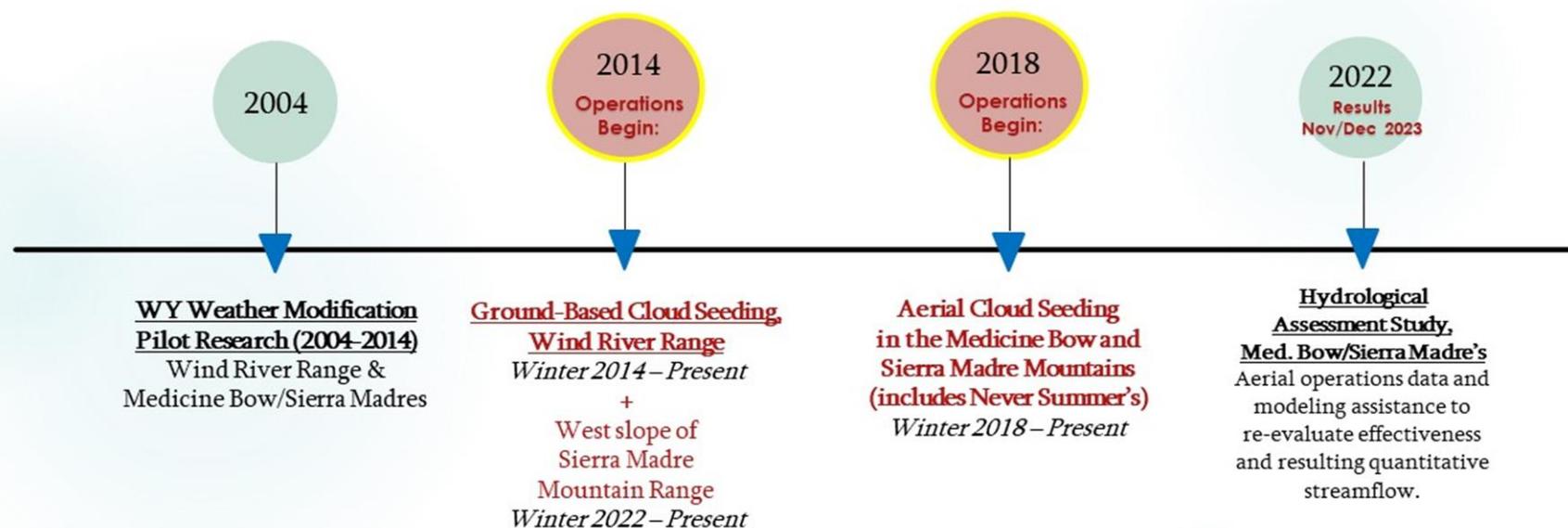
DAM AND RESERVOIR PROJECTS



WYOMING WATER DEVELOPMENT PROGRAM

CLOUD SEEDING PROGRAM - TIMELINE

- ▶ Prior to 2003, WY Assoc. of Conservation Districts inquired about cloud seeding
- ▶ 2003, WWDO was tasked with exploring cloud seeding feasibility



Two key criteria : 1) Supercooled liquid water (SLW) 2) Temperature for silver iodide to nucleate ice

1

CLOUD

Air flows over the mountain forming a cloud that may contain supercooled liquid water



Temperature
< -6 °C (21°F)

4

ICE

The silver iodide forms ice crystals

5

SNOW

The ice crystals grow at the expense of supercooled water and become large enough to fall and create snow

2

RELEASE

Silver iodide particles are released by an aircraft or ground based generator



3

DISPERSION

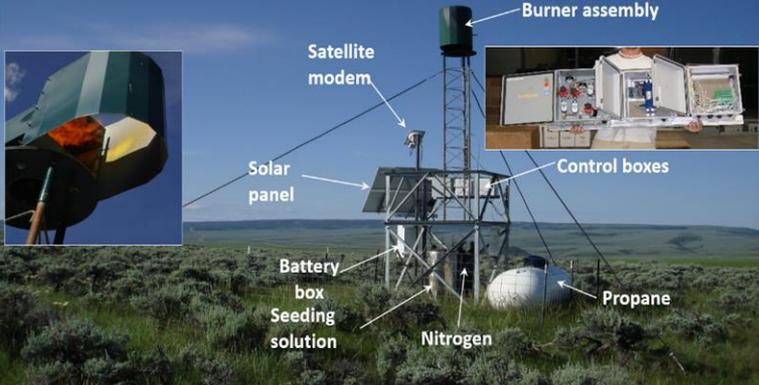
Silver iodide particles reach the targeted cloud

Ground-based seeding has additional criteria that impact dispersion
(wind direction, atmospheric stability)

0°C (32°F)

Air Flow

WEATHER MODIFICATION INCORPORATED



WYOMING WATER DEVELOPMENT PROGRAM CLOUD SEEDING PROGRAM

Funding Partnerships

for Cloud Seeding Operations

Wind River Mountains Cloud Seeding (Generator Seeding)

- Lower Basin Parties (Agreement Establishing Programmatic Funding for the Colorado River for Colorado River Basin Weather Modification)
 - *Central Arizona Project*
 - *Southern Nevada Water Authority*
 - *Colorado River Board of California (Six Agency Committee)*
- Local Funding Partners in Green River Basin
 - *Trona Mining Industry, Joint Power Water Board, Rocky Mountain Power*

Legislation requires this project be a cost-share:

37% (State of Wyoming), 63% (other funding partners)

WYOMING WATER DEVELOPMENT PROGRAM CLOUD SEEDING PROGRAM

Funding Partnerships

for Cloud Seeding Operations

Medicine Bow, Sierra Madre and Never Summer Mountains (Aerial Seeding)

- City of Cheyenne Board of Public Utilities (Cheyenne, WY)
- Jackson County Water Conservancy District (Walden, Colorado)

WYOMING WATER DEVELOPMENT PROGRAM CLOUD SEEDING PROGRAM – ASSESSMENT STUDY

**CLOUD SEEDING OPERATIONS HYDROLOGICAL ASSESSMENT FOR
MEDICINE BOW AND SIERRA MADRE MOUNTAIN RANGES**

**GOAL: EVALUATE OPERATIONAL IMPACTS OF AERIAL CLOUD
SEEDING (QUANTITATIVE: PRECIPITATION AND STREAMFLOW)
WITHIN THE NORTH PLATTE AND LITTLE SNAKE RIVER BASINS**

WYOMING WATER DEVELOPMENT PROGRAM

BASIN STATES SALINITY CONTROL PROGRAM

- ◆ 1974 COLORADO RIVER BASIN SALINITY CONTROL ACT (PL 93-320)
- ◆ A PROGRAM AUTHORIZING THE SECRETARIES OF THE U.S. DEPARTMENTS OF INTERIOR AND AGRICULTURE TO ENHANCE AND PROTECT THE QUALITY OF WATER AVAILABLE IN THE COLORADO RIVER FOR USE IN THE UNITED STATES AND MEXICO.
- ◆ THE BUREAU OF RECLAMATION, THE U.S. DEPARTMENT OF AGRICULTURE AND THE BUREAU OF LAND MANAGEMENT ARE UNDERTAKING ONGOING SALINITY CONTROL PROGRAMS.
- ◆ FUNDING IS AVAILABLE FOR COMPETITIVELY SELECTED PROJECTS THAT REDUCE SALINITY CONTRIBUTIONS TO THE COLORADO RIVER.



WYOMING WATER DEVELOPMENT PROGRAM

UPPER COLORADO RIVER BASIN MOA



- ◆ 1956 COLORADO RIVER STORAGE PROTECTION ACT (CRSPA) – COMPREHENSIVE DEVELOPMENT OF THE WATER RESOURCES OF COLORADO RIVER BASIN
- ◆ 2011 COLORADO RIVER ENERGY DISTRIBUTORS (CREDA), RECLAMATION, DOI, WESTERN AREA POWER ADMINISTRATION (WAPA) AND THE UPPER DIVISION STATES OF COLORADO, NEW MEXICO, UTAH AND WYOMING ENTERED INTO THE MOA, AND IN 2020 ALL PARTIES ENTERED INTO MOA2.
- ◆ MOA - \$161M, 14 YRS (\$11.5M/YR) (WY – 15.5% OR APPROX. \$25M)
- ◆ MOA 2 - \$187M+, 2020-2025, 2025-2037 (\$14.4M/YR) (WY – 15.5% OR \$29M)
- ◆ MOA PROVIDES A METHODOLOGY FOR COLLECTING CRSP POWER REVENUES FOR USE BY RECLAMATION TO FURTHER THE PURPOSES OF CRSPA THROUGH APPLICATION OF THOSE REVENUES TO PROJECTS RECOMMENDED BY THE NON-FEDERAL PARTIES WITHIN THE UPPER COLORADO RIVER BASIN FOR THE BENEFIT OF THE UPPER DIVISION STATES
- ◆ MOA, PROJECTS MUST BE LOCATED IN THE COLORADO RIVER BASIN (GREEN RIVER OR LITTLE SNAKE RIVER BASINS IN WYOMING) AND BENEFIT CRSPA PROJECTS.

WYOMING WATER DEVELOPMENT PROGRAM

PROGRAM CHALLENGES

- ❖ CRITICAL AGING IRRIGATION INFRASTRUCTURE
- ❖ FORT LARAMIE CANAL TUNNEL COLLAPSE 2019
- ❖ LAPRELE DAM 2019
- ❖ RECONNAISSANCE LEVEL STUDY STARTED IN 2022
- ❖ TARGETED AND METHODOICAL APPROACH TO PROACTIVELY IDENTIFY THE MOST CRITICAL IRRIGATION INFRASTRUCTURE AND DEVELOP RECONNAISSANCE LEVEL COST ESTIMATES FOR COMPARISON
- ❖ ATTEMPTING TO UNDERSTAND DEPTH AND BREADTH OF THE PROBLEM AND BETTER POSITION THE STATE TO RESPOND TO SUCH ISSUES BEFORE THEY BECOME EMERGENCIES



WYOMING WATER DEVELOPMENT PROGRAM

PROGRAM CHALLENGES

- ◆ DEMAND OUTPACING AVAILABLE FUNDING
- ◆ PRIORITIZING AND PHASING OF PROJECTS
- ◆ VOLATILE BIDDING – HIGHER CONSTRUCTION BID PRICES
 - ◆ COVID-19
 - ◆ FEDERAL FOCUS ON INFRASTRUCTURE AND FUNDING/GROWTH IN THE CONSTRUCTION SECTOR
 - ◆ LABOR SHORTAGES IN MANUFACTURING AND CONSTRUCTION
 - ◆ SUPPLY CHAIN DELAYS
 - ◆ LIMITED AVAILABILITY AND INCREASES COST OF GOODS, FUEL AND EQUIPMENT
- ◆ SPONSOR'S CONTINGENCY FUNDS AND PROJECT AMENDMENTS COMPETING WITH NEW PROJECTS
- ◆ NEED TO LEVERAGE FEDERAL FUNDING TO STRETCH STATE FUNDING

WYOMING WATER DEVELOPMENT PROGRAM

PROGRAM CHALLENGES

◆ NEED TO LEVERAGE FEDERAL FUNDING TO STRETCH STATE FUNDING

- ◆ INFLATION REDUCTION ACT - \$500M DEPT OF INTERIOR FOR INVESTMENT IN THE UPPER COLORADO RIVER BASIN STATES FOR LONG-TERM SYSTEM EFFICIENCY IMPROVEMENTS THAT WILL RESULT IN ADDITIONAL WATER CONSERVATION FOR THE ENTIRE SYSTEM.

- ◆ PHASE 1 - \$125M SYSTEM CONSERVATION PILOT PROGRAM

- ◆ PHASE 2 – APPROX. \$375M FOR LONG-TERM, DURABLE PROJECTS

- ◆ SYSTEM CONSERVATION AND EFFICIENCY PROJECTS THAT ACHIEVE VERIFIABLE, MULTI-YEAR REDUCTIONS IN USE OF OR DEMAND FOR WATER SUPPLIES,
- ◆ DEMONSTRATION PROJECTS TO SPUR ADVANCES IN WATER CONSERVATION AND EFFICIENCY USING INNOVATIVE TECHNIQUES,
- ◆ ECOSYSTEM AND HABITAT RESTORATION PROJECTS TO ADDRESS ISSUES DIRECTLY CAUSED BY DROUGHT.

- ◆ NRCS REGIONAL CONSERVATION PARTNERSHIP PROGRAM

- ◆ GRANT ADMINISTRATOR POSITION

WYOMING WATER DEVELOPMENT PROGRAM

QUESTIONS

Wyoming Water Development Office

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