

# 2015 Basin Advisory Group Meetings

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# Topics

- Governor's Water Strategy
- Weather Modification Pilot Program

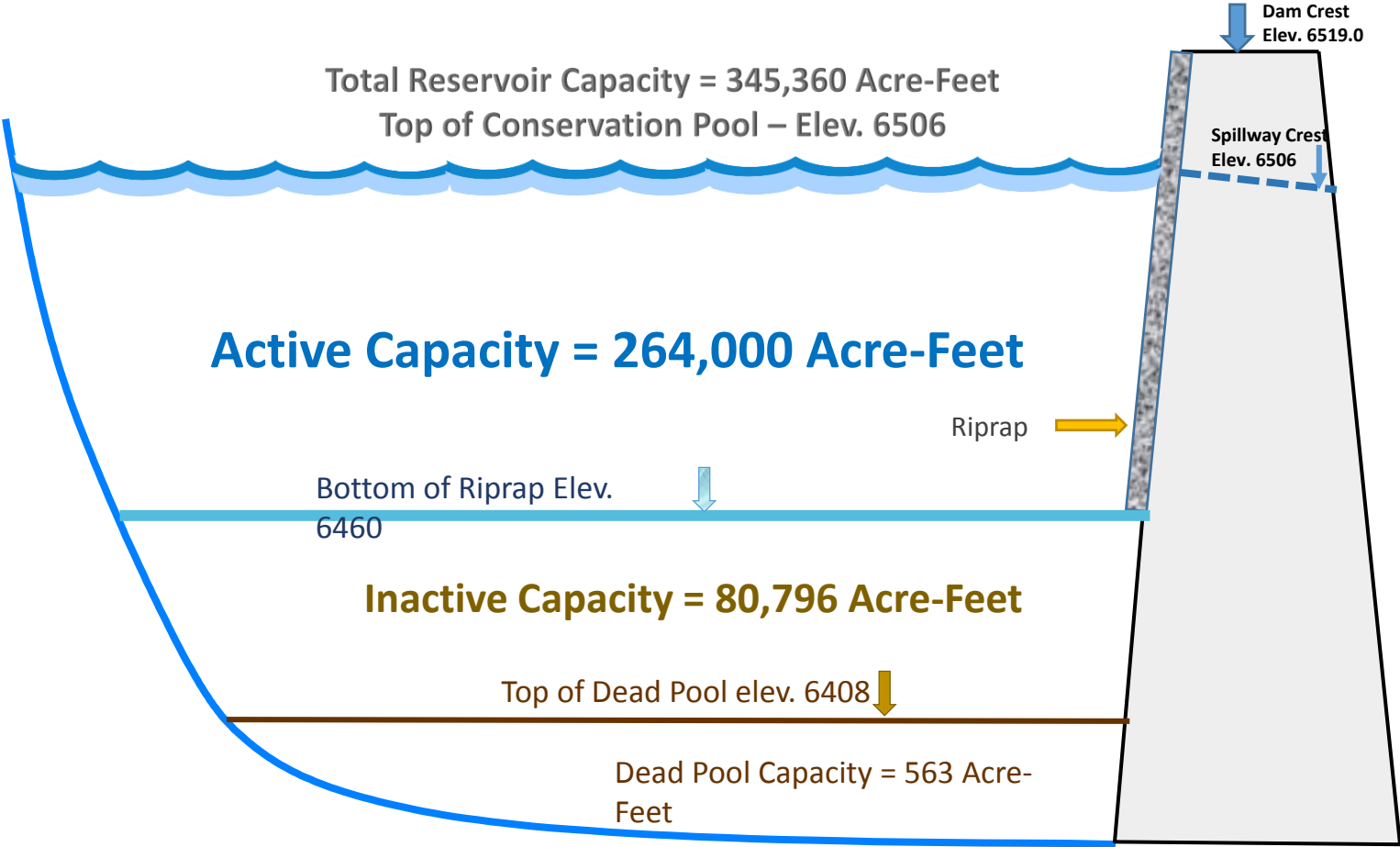
# Governor's Water Strategy

- Started with the Governor's Energy Strategy - 2013
  - Objective 9D – Wyoming State Water Strategy and Management Plan
- Public Listening Sessions
  - Started in the Fall of 2013
  - 9 Sessions in total
  - Comments were tabulated into 59 potential action items
  - Summary listening session held on June 4, 2014
- Governor's Office in Consultation with Water Agencies
  - Selecting priorities for Governor's consideration

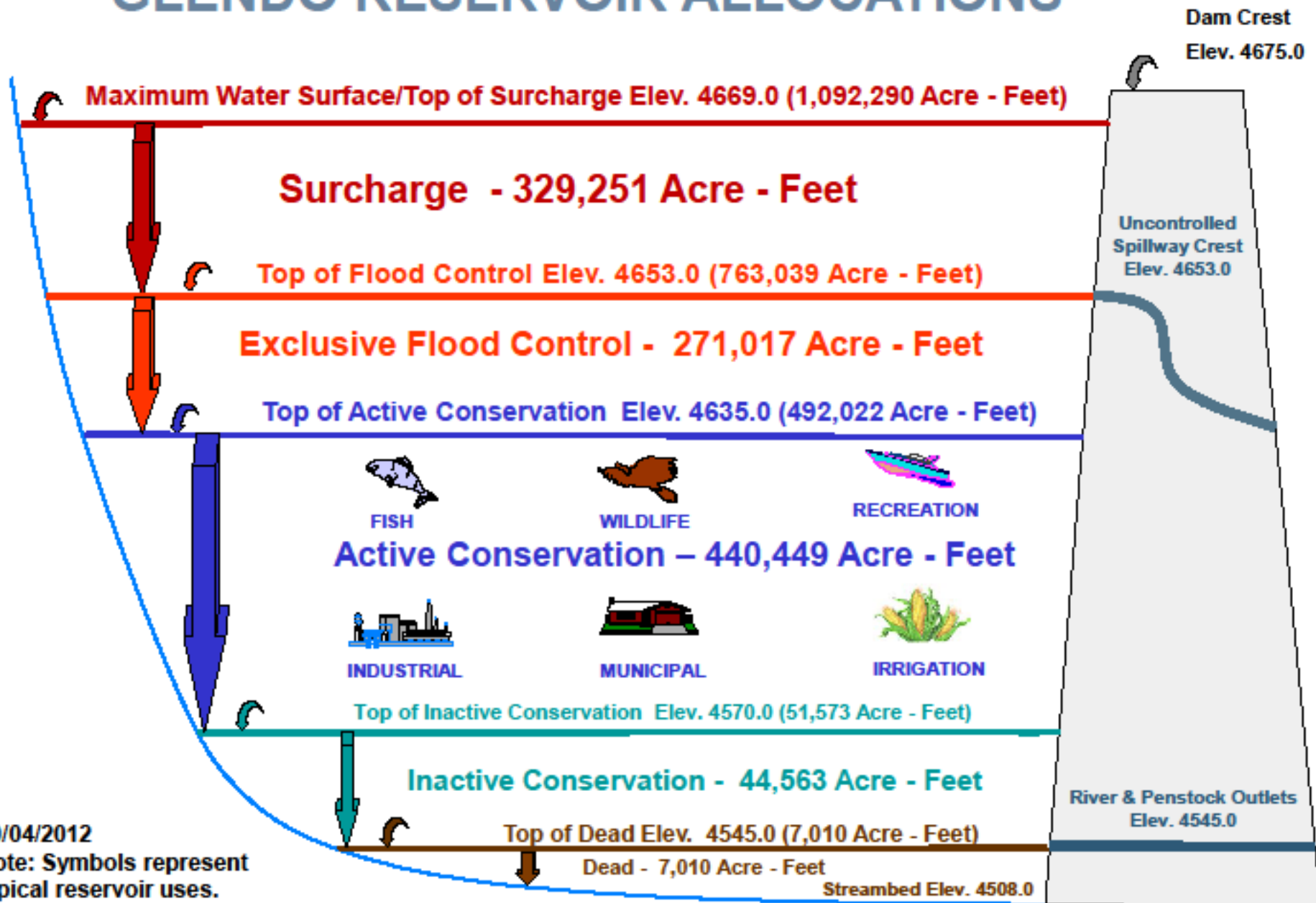
# Governor's Water Strategy

- Release Date for the Governor's Water Strategy
  - January 2015
- Contents
  - Water Development
  - Water Management
  - Water Conservation and Protection
  - Watershed Restoration
- Water Development
  - Build more storage
    - Ten in Ten – Build 10 new reservoirs in the next 10 years
    - WY currently has 16 storage projects in planning, valued at \$473 million
  - Pursue Fontenelle Reservoir riprap project
  - Glendo Reservoir flood storage project

# FONTENELLE RESERVOIR ALLOCATIONS



# GLENDO RESERVOIR ALLOCATIONS



10/04/2012

Note: Symbols represent typical reservoir uses.

# Governor's Water Strategy

- Water Management
  - Credible Climate, Weather and Stream Flow Data
  - Uniform Hydrographers Operations Manual
  - Groundwater Analysis and Control Area Management Framework
- Water Conversation and Protection
  - Collaborative Planning and Authorization Processes
  - Water Quality Data Integrity Initiative
- Water and Watershed Restoration
  - River Restoration
  - Collaborative Fish Passage Restoration

# Questions



# Weather Modification Pilot Program

- Goal was to evaluate winter orographic cloud seeding
- Randomized Scientific Study
  - Time Frame: 2008 – 2014
  - Location: Medicine Bow and Sierra Madre Mountains
  - WMI, Inc. provided all seeding equipment and operational personnel
  - NCAR provided scientific analyses
  - 154 Cases
  - 36 Cases disqualified for quality control issues with precipitation gauges
  - 118 Cases used in the primary statistical analysis



# WYOMING

BSIROKA RANGE

BIGHORN MTS

WIND RIVER RA

LARAMIE MTS

Great Divide Basin

MEDICINE BOW MTS

Red Lodge

Powell

Lovell

Sheridan

Cody

Greybull

Buffalo

Gillette

Mooreport

Spearfish

Sundance

Dea

Lead

Cloud Pk + 13167

Worland

Wright

Newcastle

Thermopolis

Shoshoni

Riverton

Casper

Douglas

Lusk

Jackson

Gannett Pk + 13804

Pinedale

Lander

Big Piney

Farson

Granite Mts

Pathfinder Reservoir

Seminole Reservoir

Fort Laramie

Wheatland

Torrington

Medicine Bow

Rawlins

Saratoga

Laramie

Cheyenne

Rock Springs

Green River

Flaming Gorge Reservoir

Kings Peak + 13528

Bridger Pk + 11004

+ 547

90

25

80

25

# Weather Modification Pilot Program

- Results – 118 Cases
  - 3% increase in precipitation
  - 28% probability that the results occurred by chance
- Unintended Downwind Effects
  - Modeling studies indicated that 18 cases resulted in downwind precipitation in the Medicine Bow Mountains (control range)
  - 100 Cases Remained
    - Precipitation results increased from 3% to 9%
- Generator Hours (8 generators at 4 hours each = 32 hours max.)
  - Eliminate cases with less than 27 generator hours (38 cases)
  - 62 Cases Remained
    - Precipitation increased from 3% to 17%

# Weather Modification Operational Programs

- Wind River Mountains
  - 10 Generators – used in the Pilot Program
  - First Season of Operations
    - Start Date: November 15, 2014
    - End Date: April 30, 2015
    - Total Cost: \$911,393
    - WY share (25% plus management): \$240,000
    - Water users share: 75% (\$684,000)
  - Second Season
    - Total Cost: \$640,000
    - WY share (25% plus management): \$170,000
    - Water users share: 75%

# Weather Modification Operational Programs

- Wind River Mountains – Funding Partners (2014 – 2015 Season)
  - Central Arizona Project
  - Colorado Water Board of California – Six-Agency Committee
  - Southern Nevada Water Authority
  - Arizona Dept. of Water Resources
  - Utah Division of Water Resources
  - US Bureau of Reclamation

# Weather Modification Operational Programs

- Big Horn Mountains
  - Feasibility Study
  - Start Date: July 1, 2015
  - Completion Date: July 1, 2016
  - Budget: \$300,000
  
- Laramie Range Mountains
  - Feasibility Study
  - Start Date: July 1, 2015
  - Completion Date: July 1, 2016
  - Budget: \$300,000

# Weather Modification Operational Programs

- Medicine Bow and Sierra Madre Mountains
  - Design and Permitting
  - Start Date: July 1, 2015
  - Completion Date: December 31, 2016
  - Budget: \$300,000
  - Unknown: Forest Service NEPA process
- All Three New Operational Programs Require:
  - Public Outreach
  - Seek funding commitments for in-basin water users

# Questions