

Heart Mountain Irrigation District Past  
and Future Projects  
Material Funding from WWDC  
April 3, 2013

Presentation for  
Wind/Bighorn River Basin Advisory Group

Dan Laursen, manager  
Heart Mountain Irrigation District

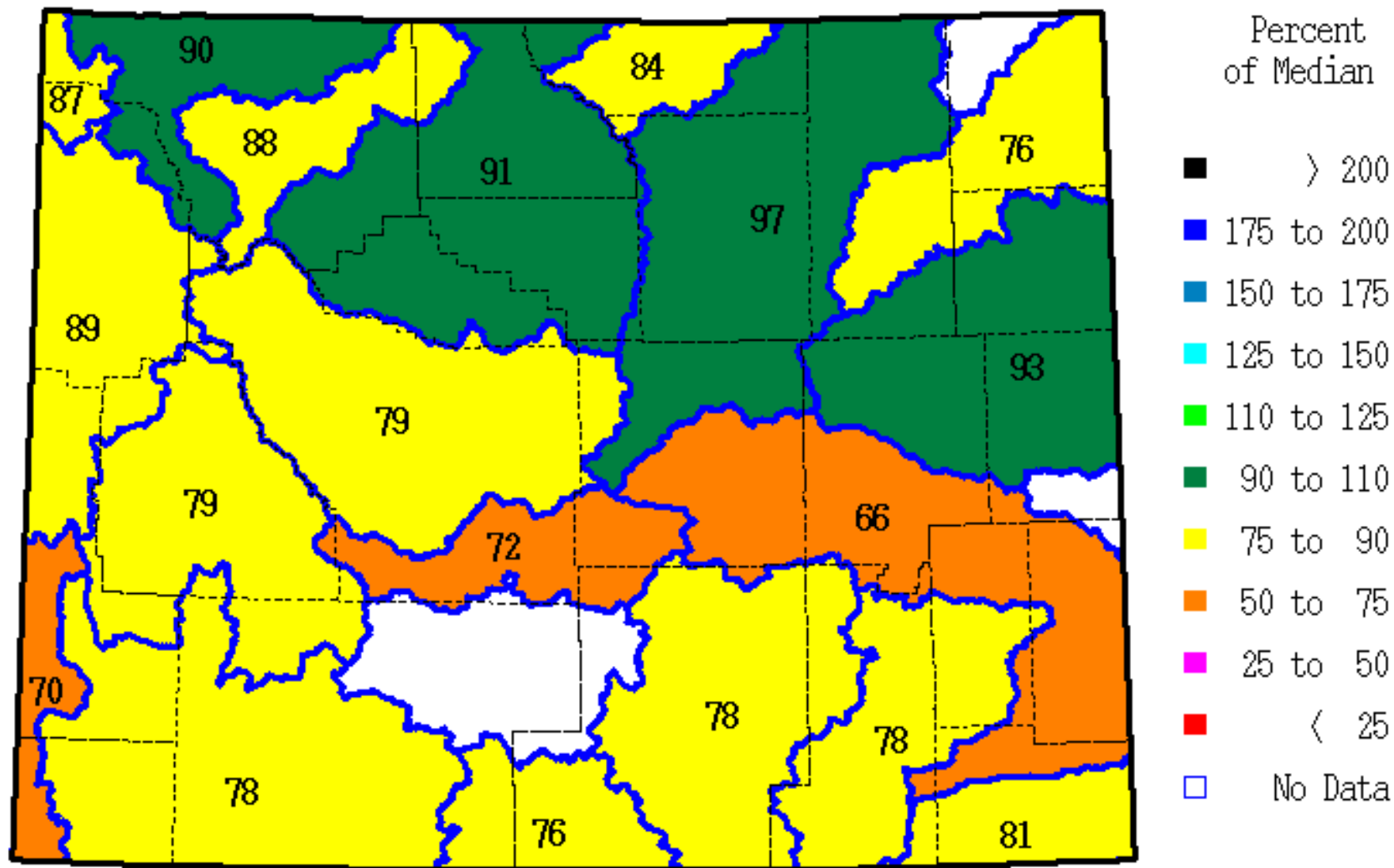
# Items to be Discussed

- Water Report
- Shoshone Project
- Heart Mountain Irrigation District
  - Quick Tour of the District and Recent Problems Encountered
  - Past and Future Projects Funded by WWDC



- Water Report

SWE % of Median as of Monday, 01 April 2013

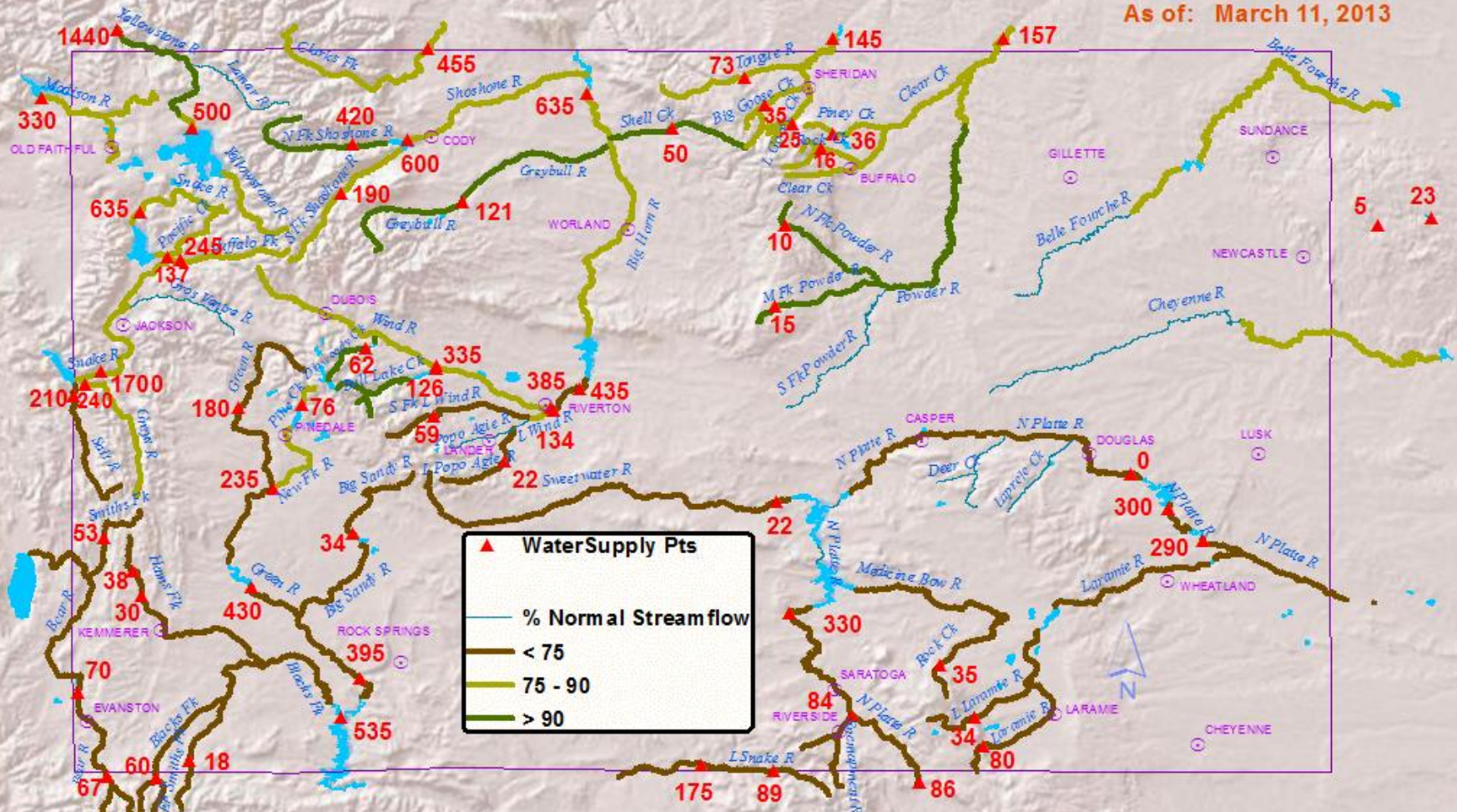


\* = Data may not provide a valid measure of conditions

# Wyoming Water Supply Outlook

VALID: APR -- JUL

As of: March 11, 2013



**▲ Water Supply Pts**

**— % Normal Streamflow**

- < 75
- 75 - 90
- > 90

Water Supply Volume Forecasts are taken from Wyoming NRCS's Basin Outlook Report

Note: Numbers in BOLD text next to Water Supply Points Refer to Volume Forecast in Thousands of Acre-feet (K-ACFT). 1 acre-foot of water covers 1 acre of land to a depth of 1 foot.

NOTE: ALL FORECAST VOLUMES REFLECT FULL NATURAL FLOW. ACTUAL OBSERVED FLOWS MAY BE AFFECTED BY UPSTREAM WATER MANAGEMENT.

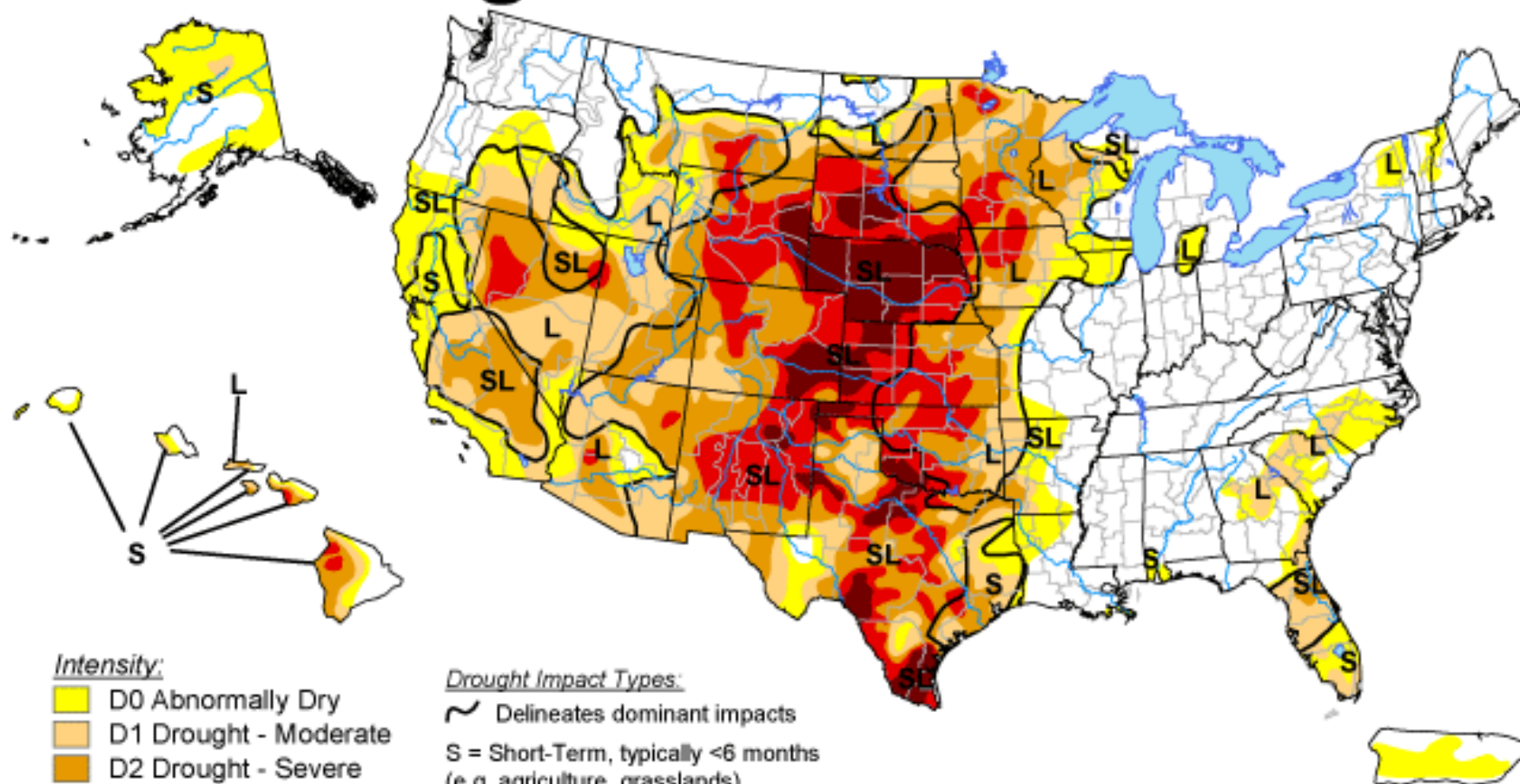
Note: The NEXT graphical water supply outlook will be issued around April 15th








# U.S. Drought Monitor

March 26, 2013


Valid 7 a.m. EDT



## Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

## Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months  
(e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months  
(e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



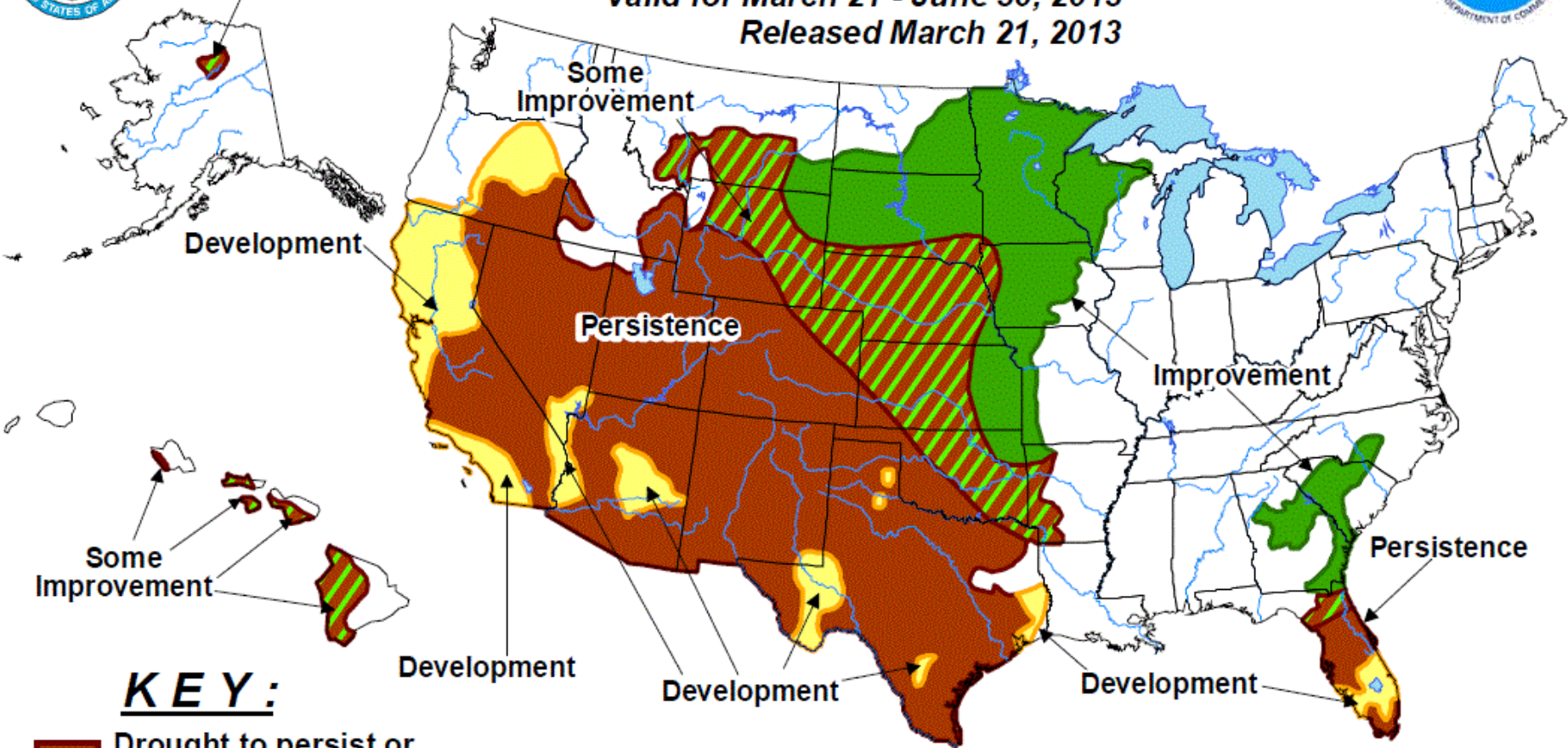
Released Thursday, March 28, 2013  
Author: Anthony Artusa, NOAA/NWS/NCEP/CPC



# U.S. Seasonal Drought Outlook


## Drought Tendency During the Valid Period

Valid for March 21 - June 30, 2013  
Released March 21, 2013



### KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

No Drought Posted/Predicted 

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events – such as individual storms – cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

**BIGHORN WATER SUPPLY FORECAST**

The March 1, 2013, water supply forecast indicates below average April - July runoff can be expected at all forecast points in the basin.

(1000 acre-feet)

Forecast Points	March 1, 2013 Forecast of April-July Runoff			30 Yr. April-July Runoff Avg. <sup>2</sup>	Expected % of Avg.	Comparative Actual April - July Runoff			
	Reasonable Minimum <sup>1</sup>	Expected	Reasonable Maximum <sup>1</sup>			W. Yr. 2012	W. Yr. 2011	W. Yr. 2010	W. Yr. 2009
Bull Lake Reservoir	95	125	155	139.7	89	118	187	151	159
Wind River above Bull Lake Creek	250	350	450	404.4	87	317	691	408	546
Boysen Reservoir	200	400	600	561.6	71	219	995	861	803
Buffalo Bill Reservoir	400	550	700	668.5	82	592	1230	674	954

<sup>1</sup> The probability is estimated to be 9 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum.

<sup>2</sup> Average is based on the 1983-2012 period.

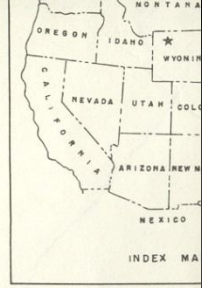
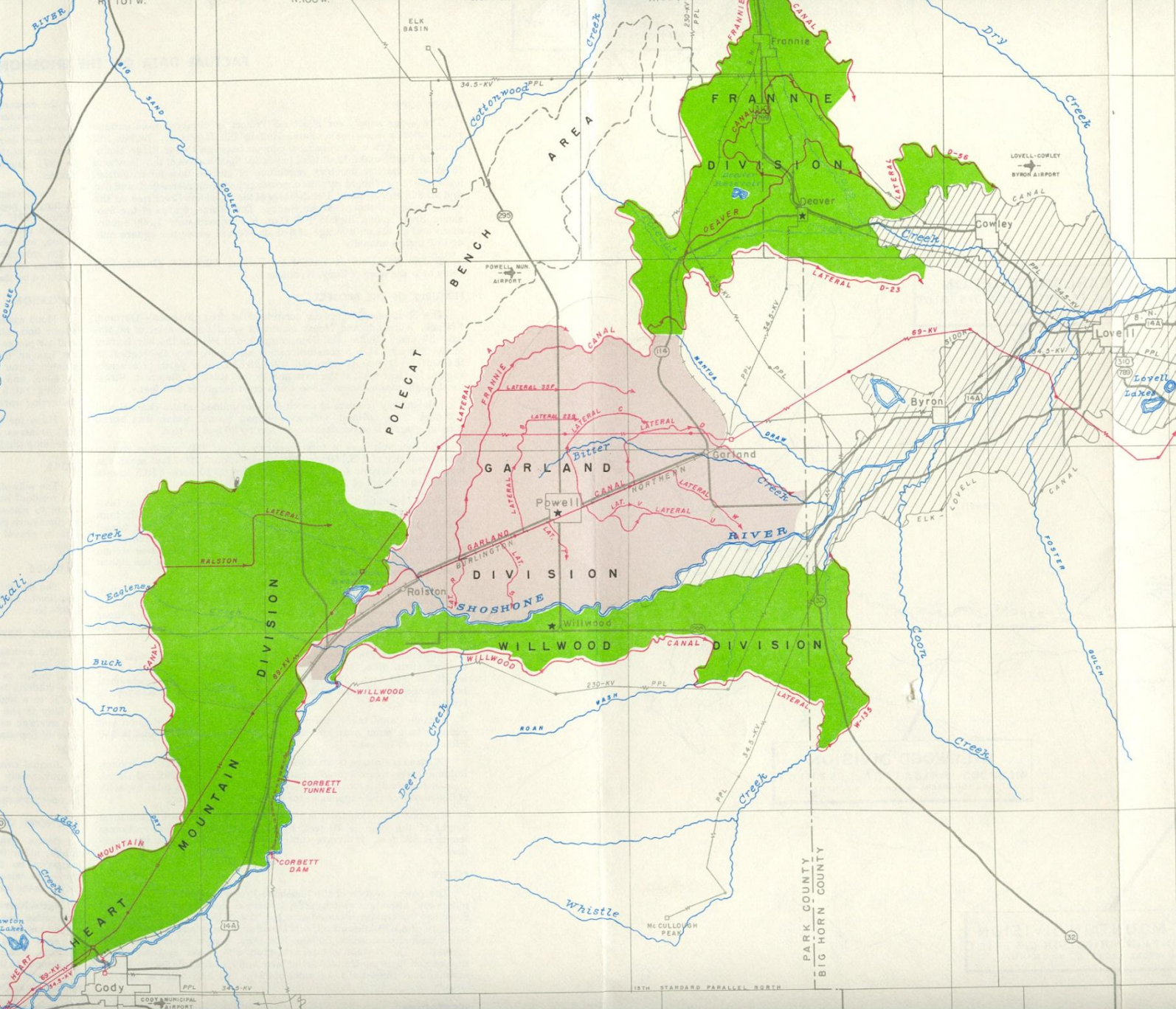
(1000 acre-feet)

Forecast Points	March 1, 2013 Forecast of April-July Runoff						30 Yr. April-July Runoff Avg. <sup>1</sup>
	Chance of Exceeding						
	95%	75%	50%	% of Avg	25%	5%	
Bull Lake Reservoir	95	113	125	89	137	155	139.7
Wind River above Bull Lake Creek	250	309	350	87	391	450	404.4
Boysen Reservoir	200	318	400	71	482	600	561.6
Buffalo Bill Reservoir	400	489	550	82	611	700	668.5

<sup>1</sup> Average is based on the 1983-2012 period.

- Shoshone Project





**EXPLANATION**

- CANAL USBR
- CANAL OTHERS
- TUNNEL
- CONDUIT
- ↔ TRANSMISSION LINE USBR
- TRANSMISSION LINE OTHER
- AREA BENEFITED BY PROJECT
- OTHER IRRIGATED AREA

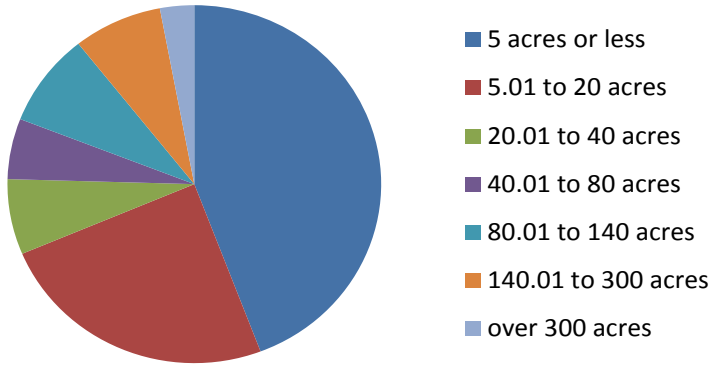


UNITED STATES  
 DEPARTMENT OF THE ARMY  
 ROBERTS ENGINEERING CENTER  
 BUREAU OF RECONSTRUCTION  
 ELLIS L. ARMSTRONG, CHIEF

**SHOSHONE**



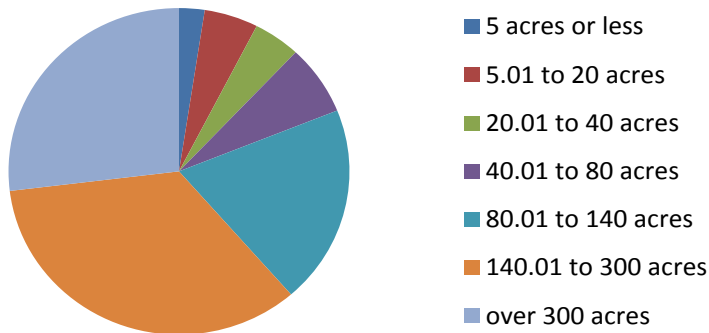
## Hrt Mtn Owners by Parcel Size



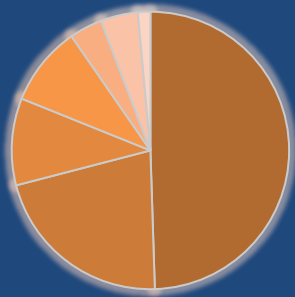
	Hrt Mtn Owners by Parcel Size	Acres
5 acres or less	299	752.11
5.01 to 20 acres	165	1588.36
20.01 to 40 acres	46	1386.13
40.01 to 80 acres	37	2150.38
80.01 to 140 acres	57	6106.27
140.01 to 300 acres	52	10712.5
over 300 acres	20	8358.51

Totals 676 Owners 31,054.26 acres

## Heart Mtn Acres by Parcel Size



## Shoshone ID Owners by Parcel Size

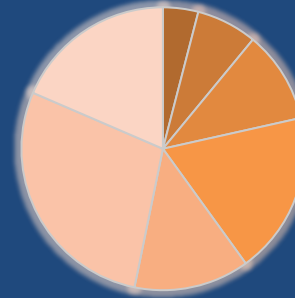


- 5 acres or less
- 5.02 to 20 acres
- 20.1 to 40 acres
- 40.06 to 80 acres
- 80.03 to 140 ac
- 140.67 to 300 ac

Shoshone Irrigation District

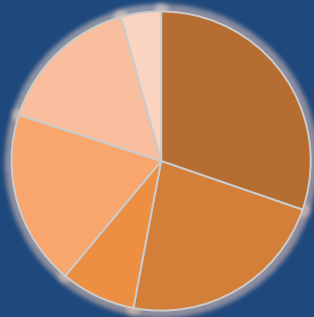
Size	Owners	Acres
5 acres or less	531	1,444
5.02 to 20 acres	252	2,483
20.1 to 40 acres	119	3,766
40.06 to 80 acres	109	6,634
80.03 to 140 ac	45	4,717
140.67 to 300 ac	51	10,108
	1,174	35,782

## Shoshone ID Acres by Parcel Size



- 5 acres or less
- 5.02 to 20 acres
- 20.1 to 40 acres
- 40.06 to 80 acres
- 80.03 to 140 ac
- 140.67 to 300 ac

## Willwood ID Owners by Parcel Size



- 5 acres
- 6 to 25 acres
- 26 to 50 acres
- 51-150 acres
- 151-300 acres
- Over 300 acres

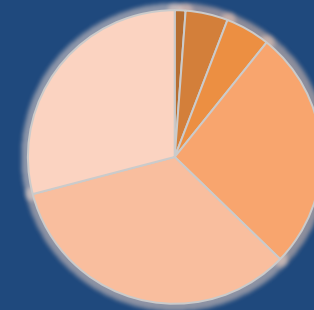
### Willwood Irrigation District

Size	Owners	Acres
5 acres	56	133
6 to 25 acres	42	523
26 to 50 acres	15	551
51-150 acres	35	2,970
151-300 acres	29	3,779
Over 300 acres	8	3,260

185

11,216

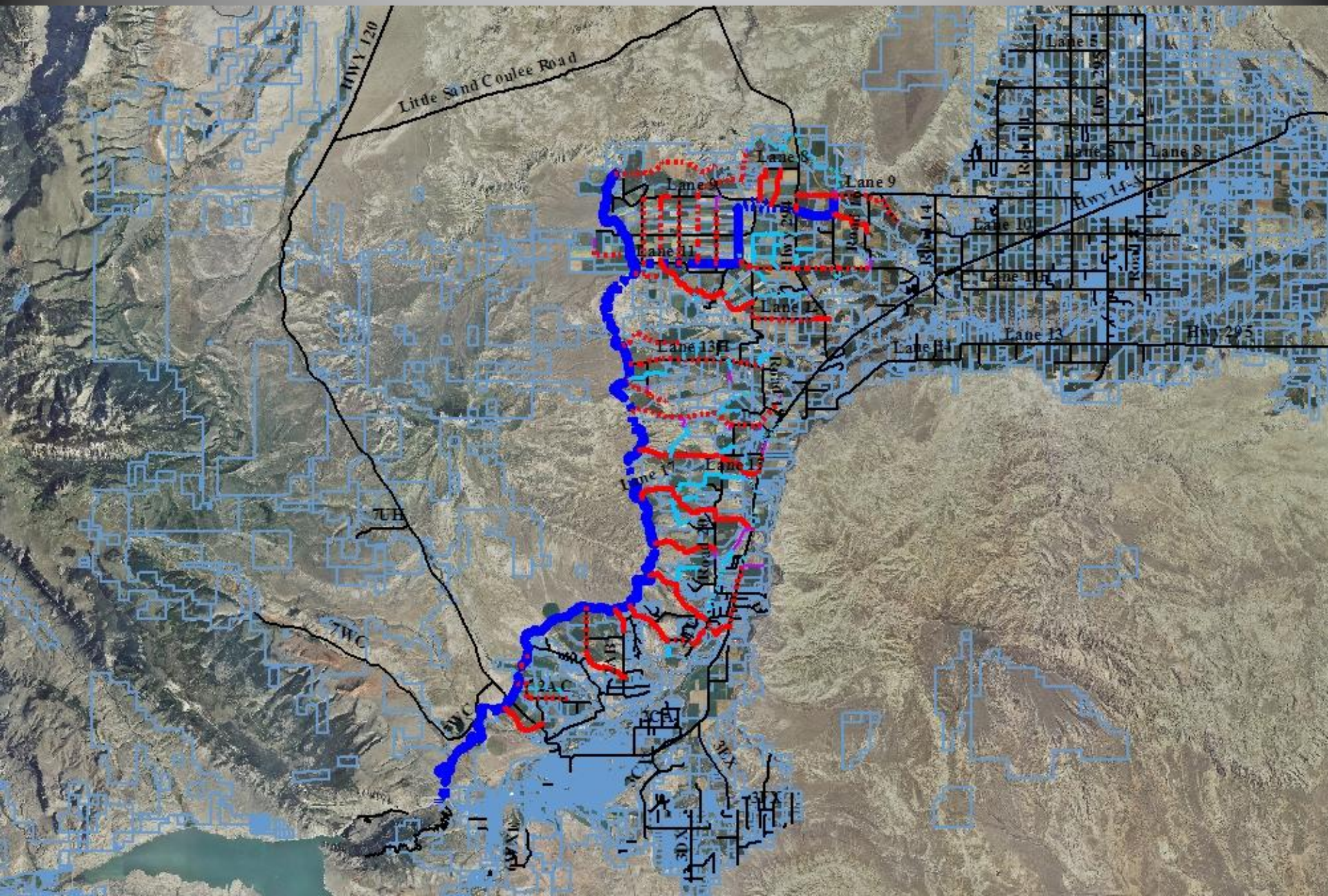
## Willwood ID Acres by Parcel Size



- 5 acres
- 6 to 25 acres
- 26 to 50 acres
- 51-150 acres
- 151-300 acres
- Over 300 acres

- Heart Mountain Irrigation District
  - Quick Tour of the District and Recent Problems Encountered
  - Past and Future Projects Funded by WWDC

















03.20.2012 16:02





03.22.2012 12:08





03.22.2012 12:01





03.28.2012 12:32



**Contracted with Pavement  
Maintenance Inc.  
For Crack Sealing  
At a Cost of \$14,644**



04.05.2012 10:19





04.03.2012 10:34





04.05.2012 10:23





04.05.2012 10:24



May 2011



05.26.2011 10:44



05.26.2011 10:44



05.27.2011 10:34



05.31.2011 10:07













06.04.2011 08:52



06.04.2011 15:18



06.04.2011 15:28



06.05.2011 10:00























Heart Mountain Irrigation District





June 2008



Hea























**Last liner main canal repair**

02.09.2012 09:57







02.09.2012 16:16





02.15.2012 15:51





02.16.2012 15:05





02.16.2012 15:07





02.27.2012 11:33





01.16.2013 09:58





01.16.2013 10:01





01.21.2013 14:16





01.28.2013 10:47





01.29.2013 13:29





01.29.2013 13:32





02.04.2013 16:17



**Cleaning Dirt in Canals  
and Laterals Before  
Water Season Last Year**

**Main Canal Near Ralston Chute  
and Pumps**



02.15.2012 16:13





02.15.2012 16:13





02.15.2012 16:16





03.28.2012 14:55





04.03.2012 14:38





04.14.2011 09:57



04.14.2011 09:59



04.14.2011 10:02



04.14.2011 10:06











# Projects Funded with WWDC Dollars

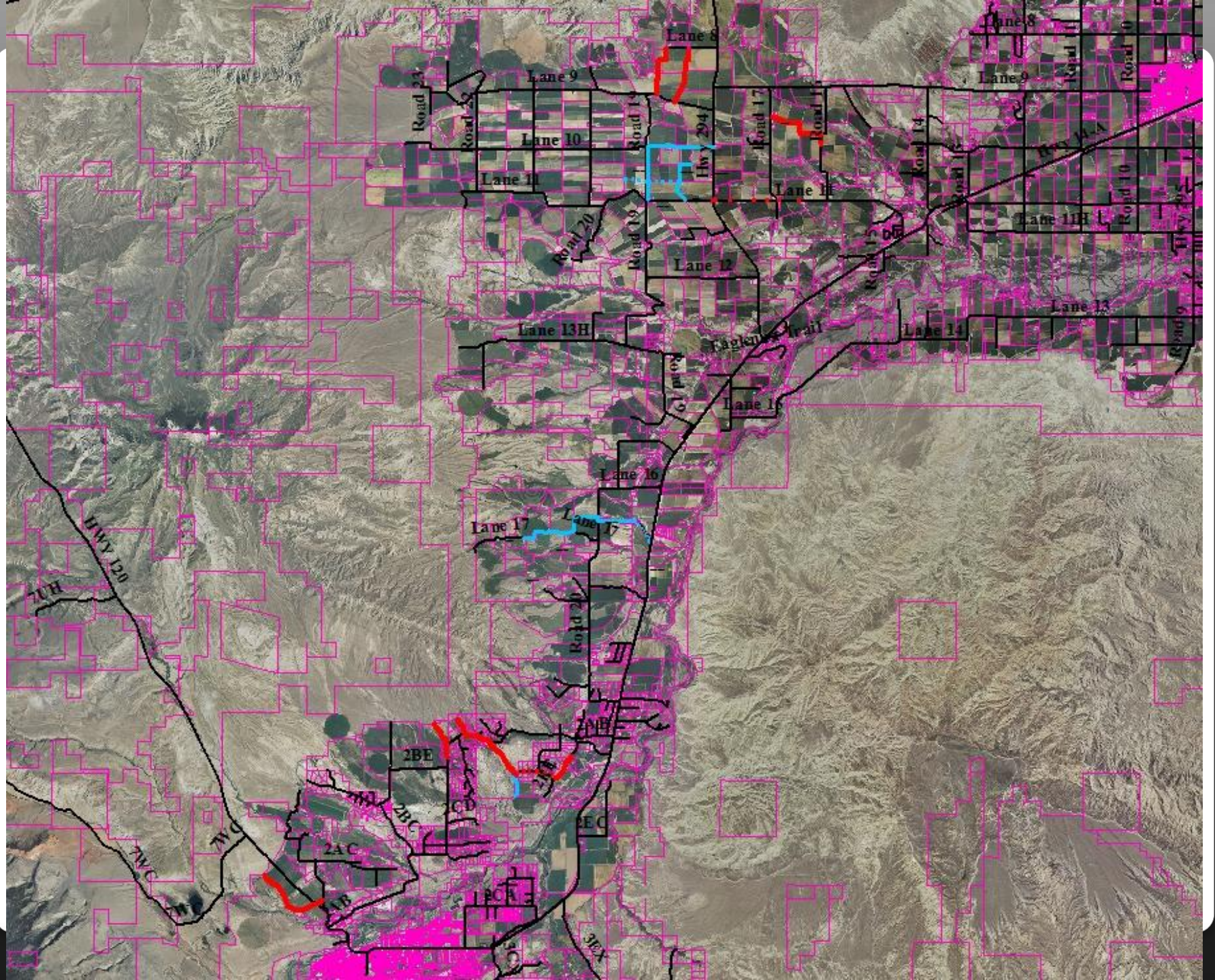
















11.07.2008 09:10









11.07.2008 09:11









11.07.2008 09:14

























11.17.2008 09:40





11.17.2008 09:40





















11.18.2008 13:11





11.18.2008 13:16





11.18.2008 13:32





12.31.2008 09:00





12.31.2008 09:02





01.05.2009 10:47









amida  
WACKER  
20 KW

01.08.2009 10:15





01.16.2009 10:56





01.16.2009 11:09





01.23.2009 10:01





WACKER

01.23.2009 10:03





01.23.2009 10:03





02.06.2009 08:32





02.06.2009 08:33





02.06.2009 08:33





02.06.2009 08:35





02.06.2009 08:37





02.13.2009\_09:17





02.16.2009 15:36





02.16.2009 15:36

NY 2009





02.25.2009 10:36





02.25.2009 10:37





02.25.2009 10:46





03.13.2009 09:29





03.13.2009 09:30





03.13.2009 09:31





03.18.2009 08:47





03.18.2009 08:58





03.19.2009 08:19





03.19.2009 08:24





03.19.2009 08:25





03.27.2009 07:16





03.27.2009 07:17





04.21.2009 05:30





04.27.2009 10:19







# Canal Weed Screen Progress







































04.06.2011 10:00



04.11.2011 10:45



04.11.2011 11:06



04.11.2011 11:06





04.21.2011 11:29



04.26.2011 14:33



04.26.2011 14:33



**Pictures of the weed screen  
in the main canal and how it  
performed last year**







09.25.2012 11:21





09.25.2012 11:21





09.13.2012 14:17





CAUTION  
ELECTRICAL  
DANGER

09.13.2012 14:18





09.13.2012 14:18





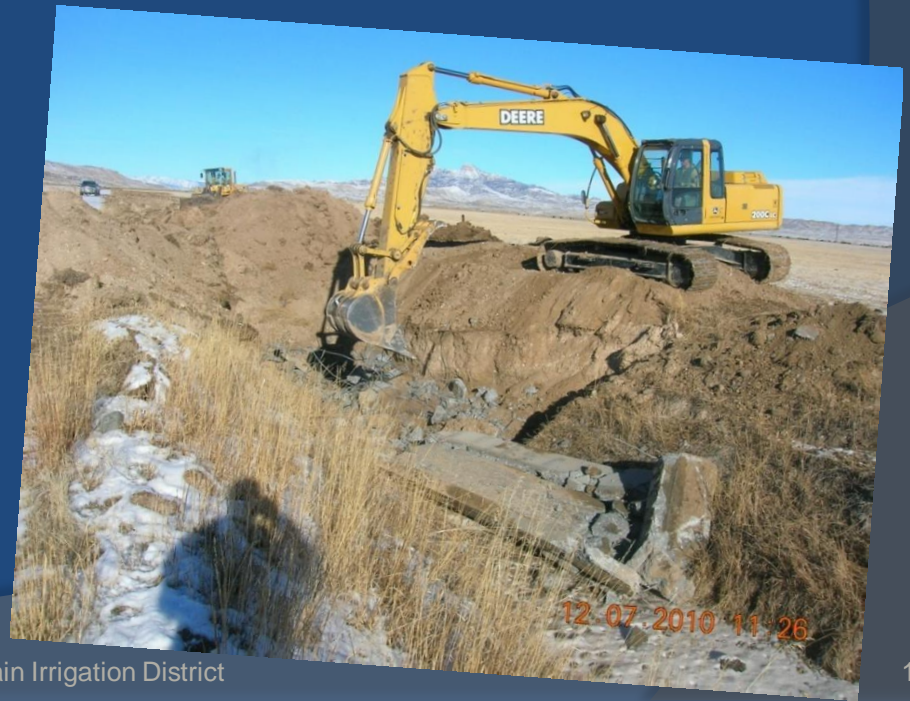




02.14.2013 11:53



# Mucking H24

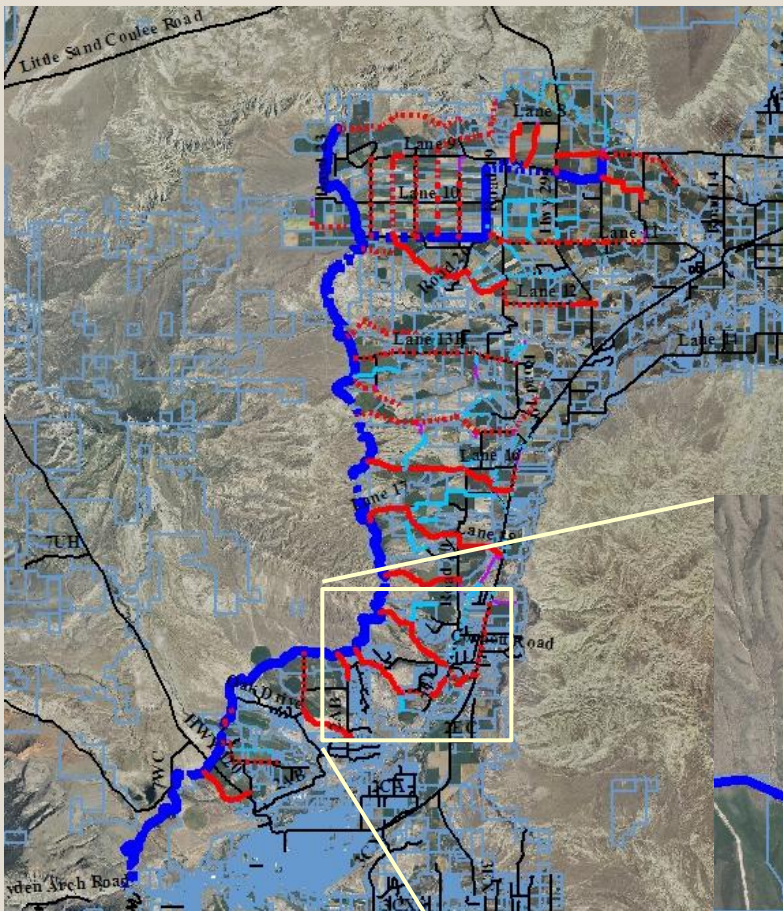




# Next Year's Project funded by WWDC

- Bury Lateral H57 with pipe
  - 380 acres served
  - 18 cfs. capacity
  - 14,460 lf. pipe
  - 11 boxes
  - \$334,200 anticipated from WWDC





**Enlarged Map of Area**

