

# Nebraska Department of Natural Resources Preliminary Republican River Basin Forecast (2014)

---

*November 20, 2013*

*Presented to the*

**Nebraska Republican River Management  
Districts Association**

Jesse Bradley, *Nebraska Department of Natural Resources*



# Outline

---

- ❑ 2013 Projection with Management Actions
- ❑ Preliminary 2013 Accounting Results
- ❑ Dry-year Forecast (2014)
- ❑ Compact Call Year Evaluation Flow Chart
- ❑ Forecasted NRD Balances

# Preliminary Accounting Results (2013)

# 2013 Projection with Management Actions

---

	Annual Balance		
Year	LRNRD	MRNRD	URNRD
2012	2,610	8,820	2,470
2013 (Projected)	-2,610	-6,160	-2,470
2-Year Balance	0	2,660	0

# Preliminary 2013 Accounting

Year	Item	Information Source
Provisional Data for T = 0 (Current Year or Immediate Past Irrigation Season)	Pumping	2012 Pumping
	Surface Water Use	Estimated from preliminary data and previous years values
	Stream flow	Available provisional records end of year estimated
	Evaporation	T – 1 records and provisional data

**Estimated 2013 Basin-Wide Balance of approximately -10,940 AF**

# NRD Annual Balances

## (2012-2013)

---

	Annual Balance		
Year	LRNRD	MRNRD	URNRD
2012	3,542	12,751	4,926
2013 (Preliminary)	-6,670	-6,390	2,120
2-Year Balance	-3,128	6,361	7,046

**Includes 2013 management actions and LRNRD/MRNRD agreement**

# Preliminary Dry-Year Forecast (2014)

# Dry-Year Forecast

Year	Item	Information Source
Forecast Year T + 1 (Coming Irrigation Season)	Groundwater Consumptive Use and Imported Water Supply Credit	Average values for T = 0 and T - 1
	Surface Water Consumptive Use	Colorado: Average of T - 1 and T - 2 use Kansas: + (.1858 x HCL content) + 9,575 Nebraska: - $(4 \times 10^{-7}) \times (\text{NE lake volume})^2$ + (0.52) x (NE lake volume) - 42,000
	Streamflow	(5-year average of state line flows) x 0.41 + 0.23 x HCL content - 27,450

**Estimated 2014 Basin-Wide Balance of approximately -32,400AF**

# Guide Rock Annual Balances

---

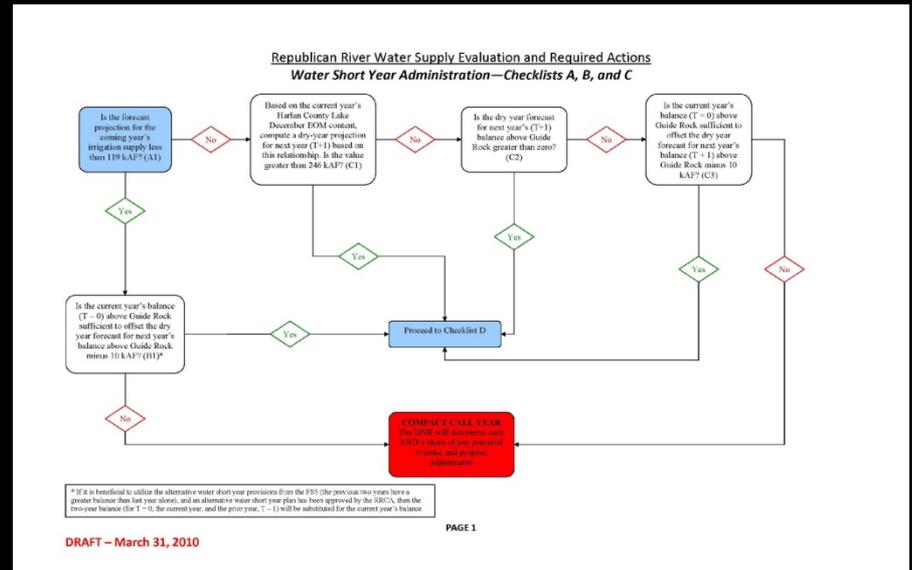
Year	Guide Rock
T = 0 (2013)	<b>-10,940</b> <b>(preliminary)</b>
T = + 1 (2014)	<b>-32,400</b> <b>(forecast)</b>
<b>Forecast Balance</b>	<b>-43,340</b>

# Compact Call Year Evaluation (Checklist A.)

Is the forecast projection for the coming year's irrigation supply less than 119 kAF?

**YES**

**Proceed to Checklist B.**

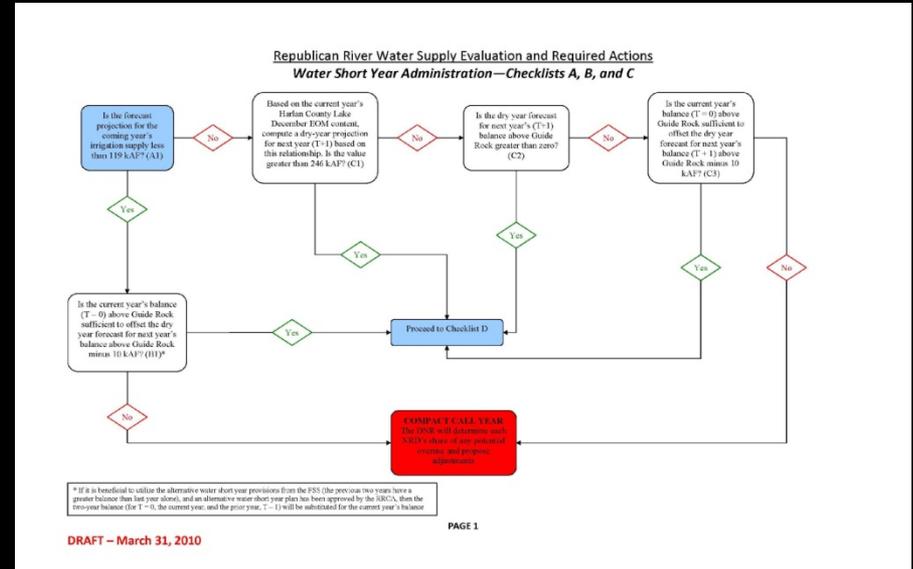


# Compact Call Year Evaluation (Checklist B.)

- Is the current year's balance ( $T = 0$ ) above Guide Rock sufficient to offset the dry year forecast for next year's balance above Guide Rock minus 5 kAF?

**NO**

**Compact Call Year is Forecasted.**



# Forecasted NRD Specific Balances

# NRD Annual Balances

## (2013-2014)

---

	Annual Balance		
Year	LRNRD	MRNRD	URNRD
2013 (Preliminary)	-6,670	-6,390	2,120
2014 (Forecast)	-13,100	-3,850	-15,450
2-Year Balance	-19,770	-10,240	-13,330

**Includes 2013 management actions and LRNRD/MRNRD agreement and Riverside credit to MRNRD for 2014 and debit to LRNRD**

# Summary

---

- ❑ Preliminary 2013 accounting balance, approximately -10,940 ac-ft
- ❑ Preliminary Dry-year forecast balance currently forecasted at approximately -32,400 ac-ft
- ❑ Total Projected shortfall for 2013-2014 of 43,340 ac-ft
- ❑ Based on the preliminary forecast, the IMP checklist indicates that a Compact Call Year will be in place in 2014

# Next Steps

---

- ❑ Each NRD will take actions to achieve a zero balance or in the alternative wells located in the rapid response will be curtailed
- ❑ The Department will issue an order and closing notices to all surface water natural flow appropriations as well as closing notices to prevent additional storage of waters until such time as Compact compliance is ensured
- ❑ The Department will complete its final forecast prior to January 1, 2014

# Thank you

---

# Questions?