

Nebraska Department of Natural Resources Preliminary Republican River Basin Forecast (2015)

November 3, 2014

**Presented at the Tri-Basin Natural Resources
District Offices
Holdrege, NE**



Department of Natural Resources

Jim Schneider, *Nebraska Department of Natural Resources*
Jesse Bradley, *Nebraska Department of Natural Resources*

Outline

- ❑ 2014 Early Projection with Management Actions
- ❑ Preliminary 2014 Accounting Results
- ❑ Dry-year Forecast (2015)
- ❑ Compact Call Year Evaluation Flow Chart
- ❑ Forecasted NRD Projections

Preliminary Accounting Results (2013-2014)

Early-Year 2013-2014 Projection with Management Actions

Year	Annual Balance		
	LRNRD	MRNRD	URNRD
2013 (Provisional)	-4,980	-6,880	1,720
2014 (Forecast)	-12,390	-4,250	-15,870
2-Year Balance (from the forecast)	-17,370	-11,130	-14,150
Management Actions	17,370	11,130	14,150
2014 Balance with NRD management actions	4,980	6,880	-1,720
2-Year Balance (with management actions)	0	0	0

Preliminary 2014 Accounting

Year	Item	Information Source
Provisional Data for T = 0 (Current Year or Immediate Past Irrigation Season)	Pumping	2013 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 2014 Basin-Wide Balance of approximately 19,800 ac-ft

Includes crediting pursuant to RRCA resolution

Current 2013-2014 Projection with Management Actions

	Annual Balance		
Year	LRNRD	MRNRD	URNRD
2013	-2,650	-2,990	2,880
2014 (Projected)	11,800	5,700	2,300
Additional Crediting from Resolution	13,000	6,700	6,800
2-Year Balance	9,150	2,710	5,180

Compliance for 2013-2014 accounting period

*2014 includes crediting for management actions based on RRCA resolution

Preliminary Dry-Year Forecast (2015)

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: - (4x10 ⁻⁷) x (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 2015 Basin-Wide Balance of approximately -38,800AF

Guide Rock Annual Balances

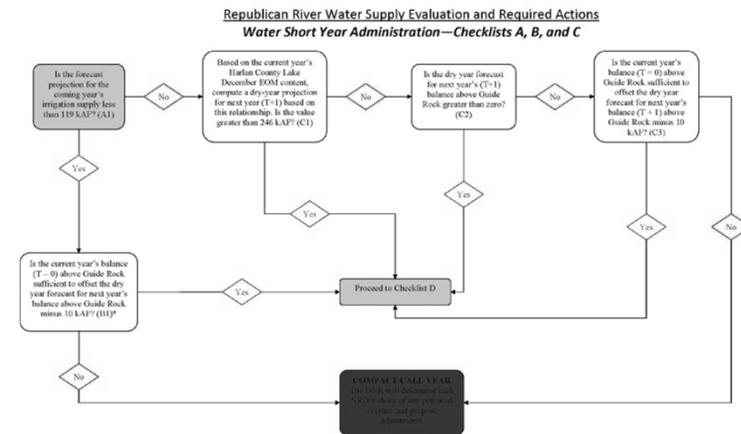
Year	Guide Rock
T = 0 (2014)	19,800 (preliminary)
T = + 1 (2015)	-38,800 (preliminary forecast)
Forecast Balance	-19,000

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.



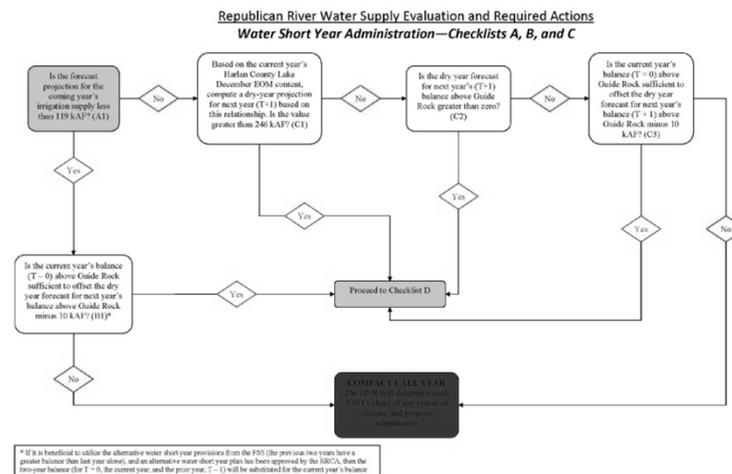
* If it is beneficial to utilize the alternative water short year provisions from the PFS (the previous two years have a greater balance than last year above), and an alternative water short year plan has been approved by the SRCA, then the previous balance (for T-0, the current year, and the prior year, T-1) will be substituted for the current year's balance.

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?

NO

Compact Call Year is Forecasted.



Forecast NRD Specific Balances

NRD Annual Balances

(2014-2015)

	Annual Balance		
Year	LRNRD	MRNRD	URNRD
2014 (Preliminary)	11,800	5,700	2,300
2015 (Forecast)	-13,400	-10,400	-15,000
2-Year Balance	-1,600	-4,700	-12,700

- 2014 includes management actions and RRCA resolution
- 2015 includes the Riverside credit to MRNRD

Summary

- ❑ Preliminary 2014 accounting balance, approximately 19,800 ac-ft
- ❑ Preliminary Dry-year forecast balance currently forecasted at approximately -38,800 ac-ft
- ❑ Total Projected shortfall for 2014-2015 of 19,000 ac-ft
- ❑ Based on the preliminary forecast, the IMP checklist indicates that a Compact Call Year will be in place in 2015

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, 2015

Thank you

Questions?



Department of Natural Resources

Outcome Comparisons for 2014

Condition	Annual Accounting Balance	NBID Water Supply for 2015	KBID Water Supply for 2015	Additional 2014 Upstream Reservoir Storage
Without the Resolution and no additional releases	~ -10,000	0	30,000	~ 15,000 - 20,000
Without the Resolution and additional releases	~ 10,000	0	0	~ 5000 - 10,000
With Signed Resolution (End of 2014)	~20,000	~ 5,000 - 15,000	~ 20,000 - 40,000	~ 15,000 - 20,000

*All values in ac-ft

NBID and KBID Supply Estimates based on assumption of project water split 60% KBID and 40% NBID