

Republican River Compact Nebraska Stream-Gaging Data Water Year 2014

Presented to

Republican River Compact Administration

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Nebraska Water Science Center

August 27, 2015

Lincoln, NE



Summary handout – stations published by U.S. Geological Survey (USGS)

Republican River Basin streamflow-gaging stations with records published by USGS for water year (WY) 2014

[DCP, data-collection platform; NDNR, Nebraska Department of Natural Resources; USACE, U.S. Army Corps of Engineers; USBR, U.S. Bureau of Reclamation; USGS, U.S. Geological Survey]

Station number	Station name	Mean discharge (ft ³ /s)		WY 2014 as	WY 2014 as	WYs used	Remarks
		WY 2014	Long-term	percentage of long-term mean	rank/years (1 highest)	for long-term mean	

USGS Compact stations supported by the National Streamflow Information Program (NSIP)

06821500	Arikaree River at Haigler, Nebr	0.1	16.2	0.6%	81/82	1933 - 2014	
06823000	North Fork Republican River at Colo-Nebr State Line	32.3	41.3	78.0%	63/79	1935 - 2014	
06823500	Buffalo Creek near Haigler, Nebr	2.1	6.0	35.6%	72/74	1941 - 2014	
06824000	Rock Creek at Parks, Nebr	32.1	12.3	261.0%	1/74	1941 - 2014	
06827500	South Fork Republican River near Benkelman, Nebr	0.0	34.2	0.0%	77/77	1938 - 2014	
06835500	Frenchman Creek at Culbertson, Nebr	41.1	64.6	63.6%	51/64	1951 - 2014	Since Enders Reservoir
06836500	Driftwood Creek near McCook, Nebr	1.6	8.2	19.1%	64/68	1947 - 2014	
06838000	Red Willow Creek near Red Willow, Nebr	9.8	13.5	72.3%	35/53	1962 - 2014	Since Hugh Butler Lake
06847500	Sappa Creek near Stamford, Nebr (USACE funds DCP)	2.3	37.9	6.0%	59/68	1947 - 2014	
06852500	Courtland Canal at Nebr-Kans State Line (USBR DCP)	91.0	75.8	120.0%	16/60	1955 - 2014	

USGS stations supported by USGS and/or other Federal or State agencies

06828500	Republican River at Stratton, Nebr	42.1	92.8	45.4%	52/64	1951 - 2014	Funded by USACE and NSIP
06837000	Republican River at McCook, Nebr	55.6	122.6	45.4%	50/60	1955 - 2014	Funded by USBR, NDNR, and NSIP
06844500	Republican River near Orleans, Nebr	106.6	225.5	47.3%	57/67	1948 - 2014	Funded by USACE and NSIP

NDNR stations with USGS/USACE support for DCP, Web display, review, and publishing

06834000	Frenchman Creek at Palisade, Nebr	26.9	59.6	45.1%	54/64	1951 - 2014	
06843500	Republican River at Cambridge, Nebr	110.6	208.1	53.1%	57/65	1950 - 2014	Since Harry Strunk Lake

Online Annual Water Data Reports available at or through:

<http://wdr.water.usgs.gov>

<http://ne.water.usgs.gov>



Summary Charts – Compact Stations

- Published data for Water Year (WY) 2014
- Operated by the USGS Nebraska Water Science Center (NE WSC)
- Stations funded by the USGS National Streamflow Information Program (NSIP)

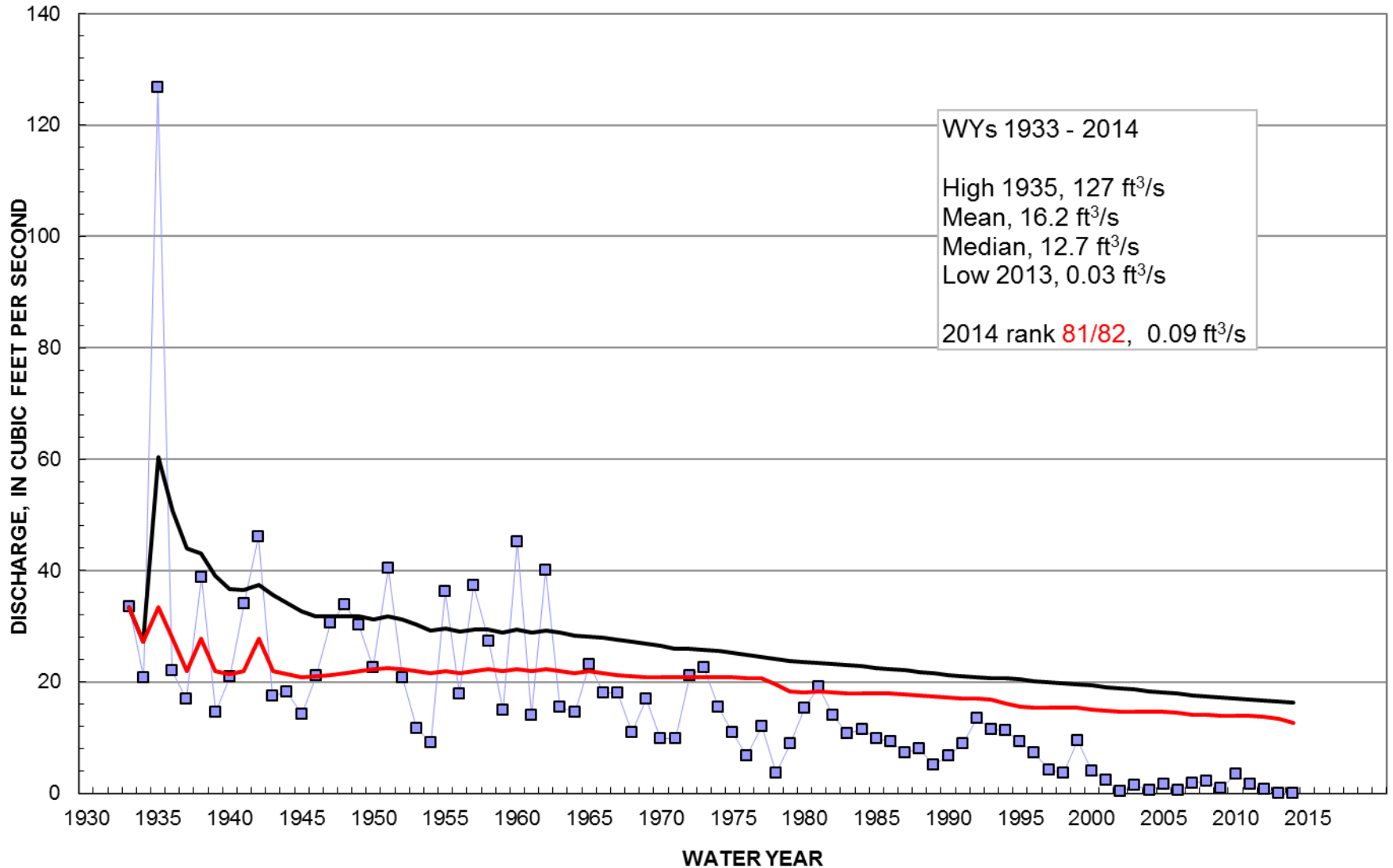
Arikaree River at Haigler, NE



(1) Haigler Canal diverts from North Fork Republican River above CO-NE Stateline: return flows enter Arikaree River



06821500 Arikaree River at Haigler, NE



—□— Annual mean — Cumulative mean — Cumulative median

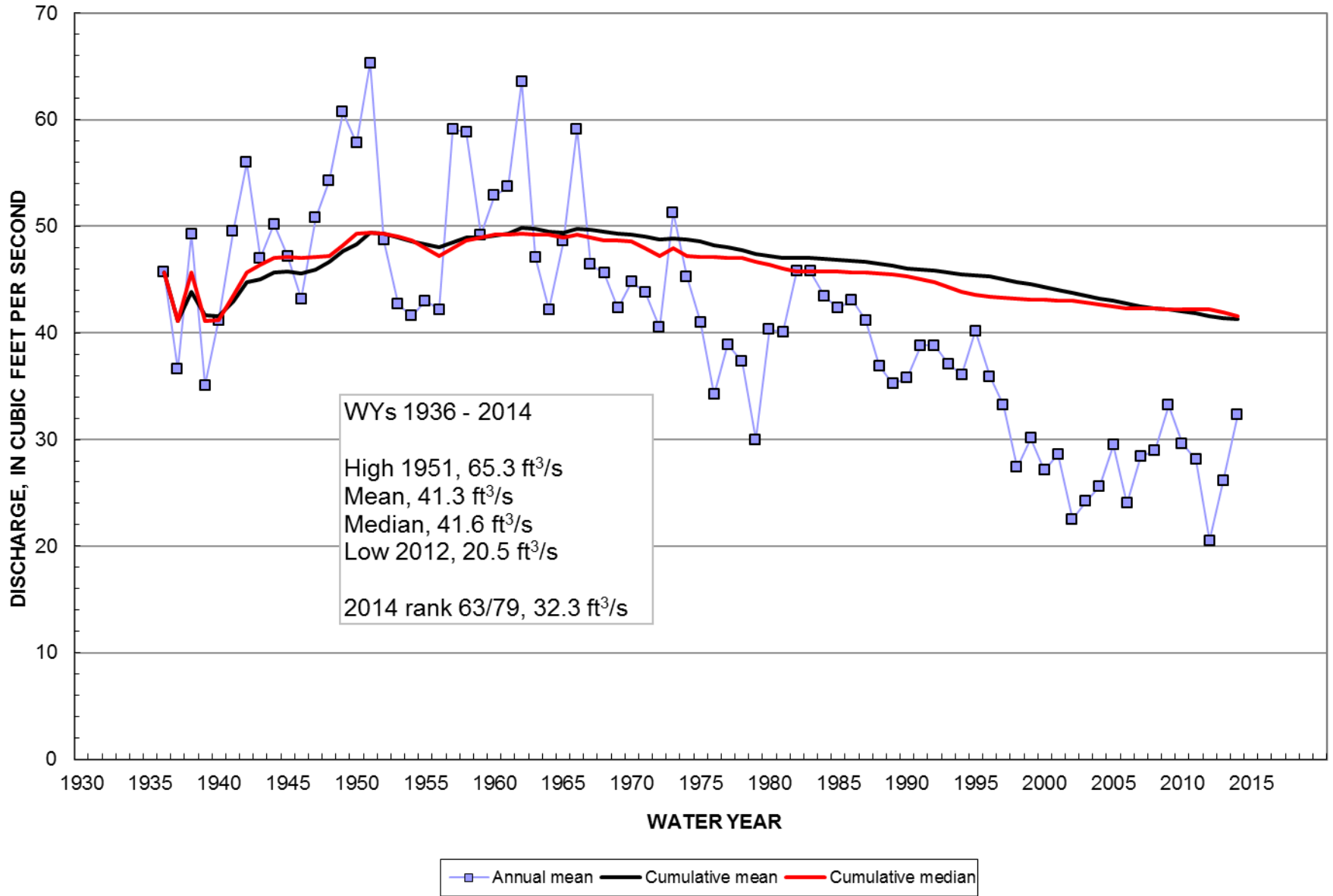
N Fk Republican River at CO-NE State Line



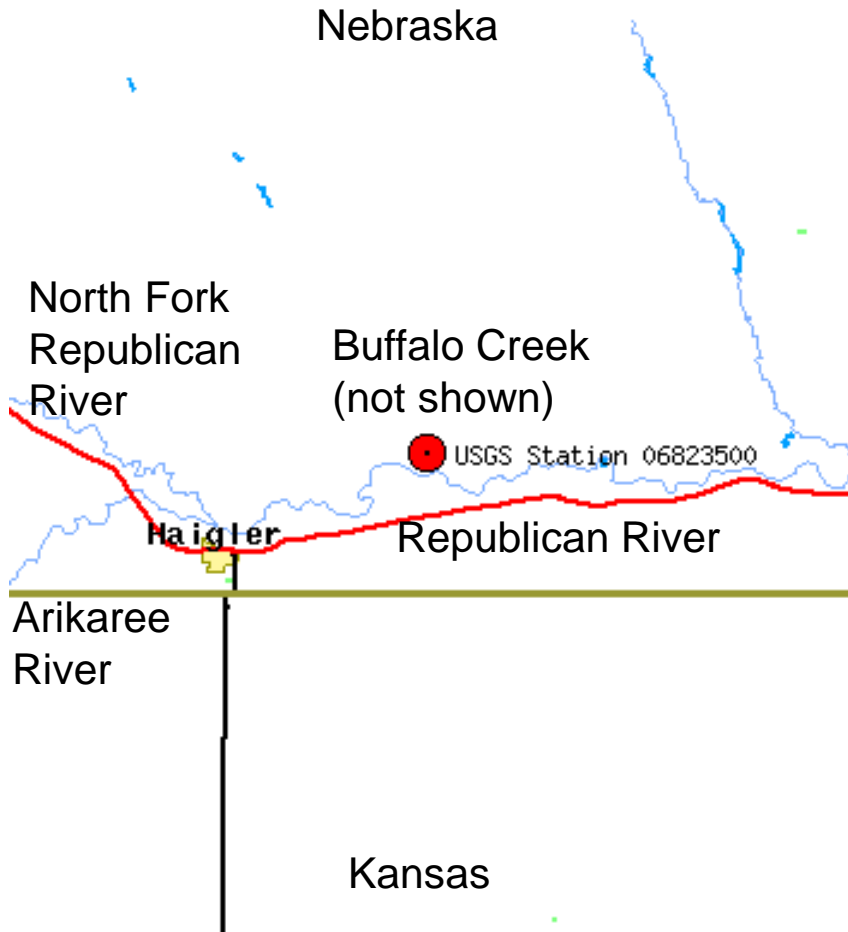
(1) Haigler Canal diverts flow upstream of station in Colorado; return flows enter Arikaree River in Nebraska



06823000 N Fk Republican River at CO-NE State Line

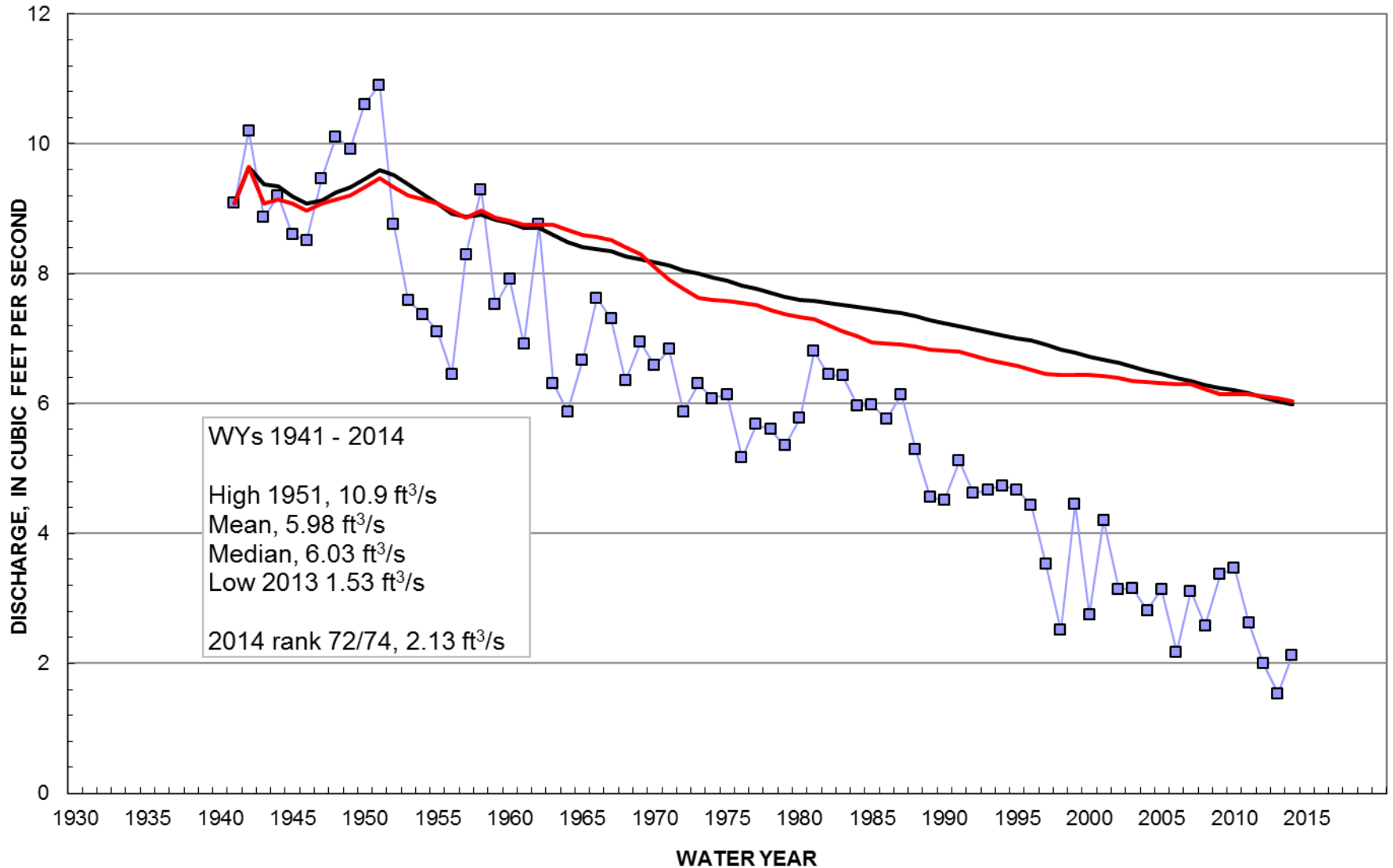


Buffalo Creek near Haigler, NE





06823500 Buffalo Creek near Haigler, NE



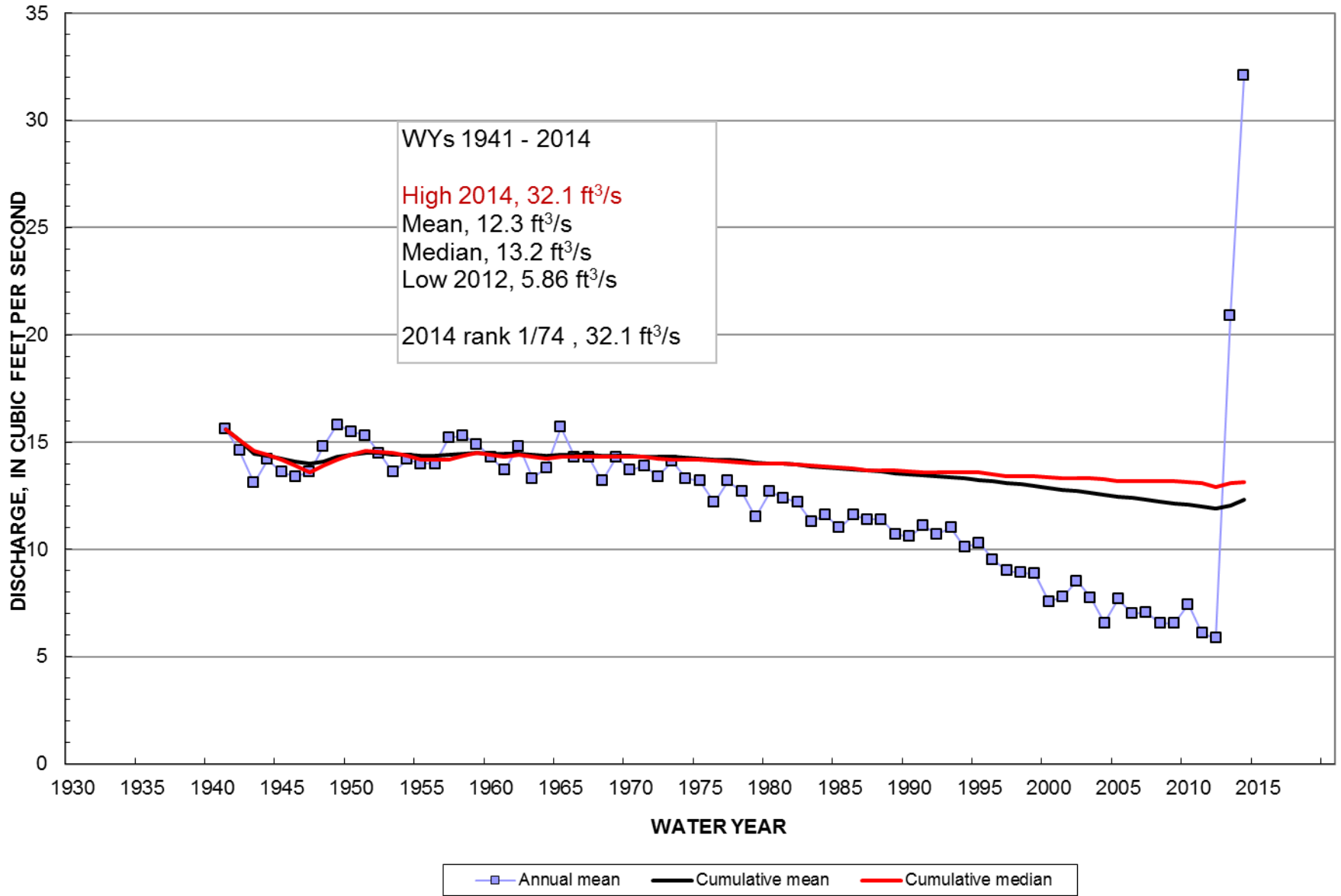
— Annual mean — Cumulative mean — Cumulative median

Rock Creek at Parks, NE

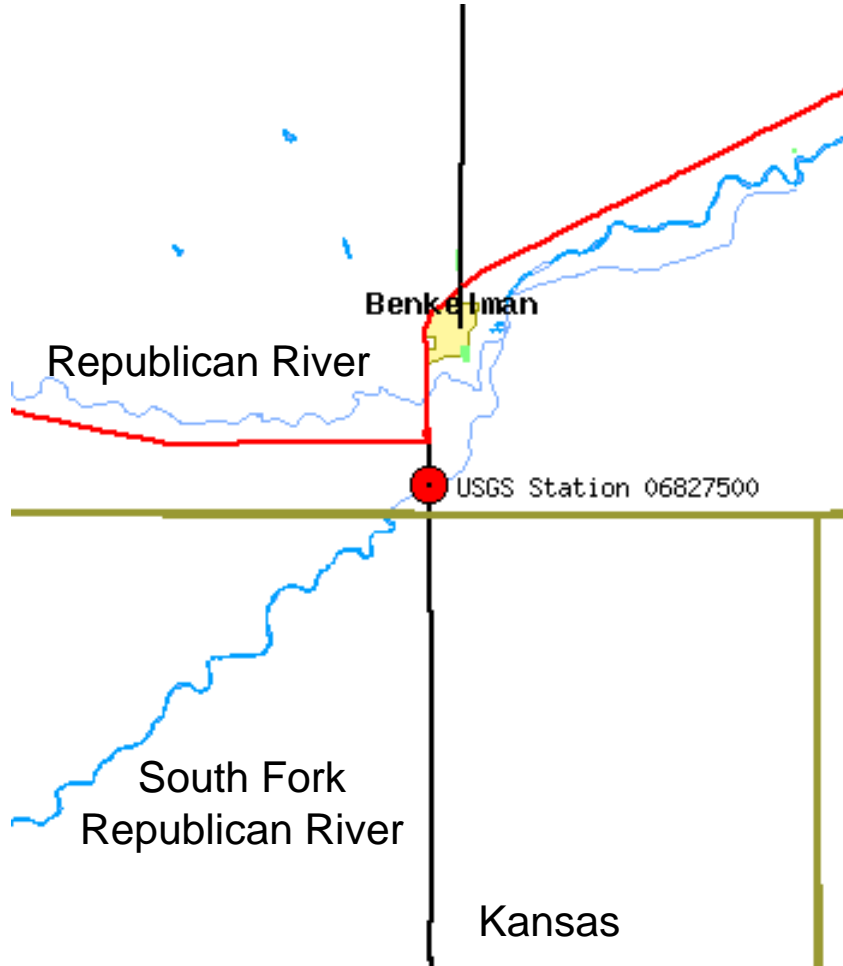




06824000 Rock Creek at Parks, NE

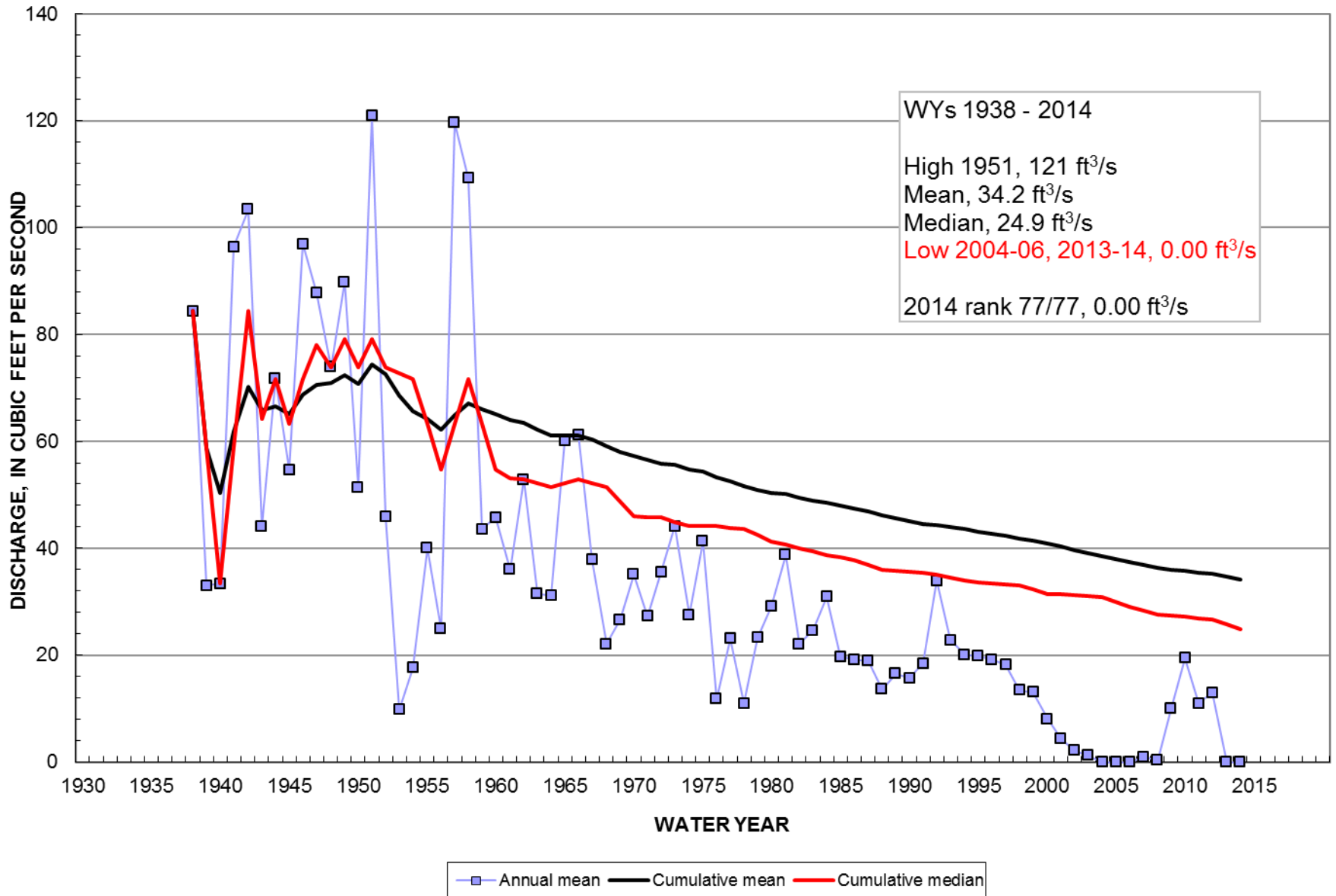


South Fork Republican River near Benkelman, NE





06827500 S Fk Republican River near Benkelman, NE

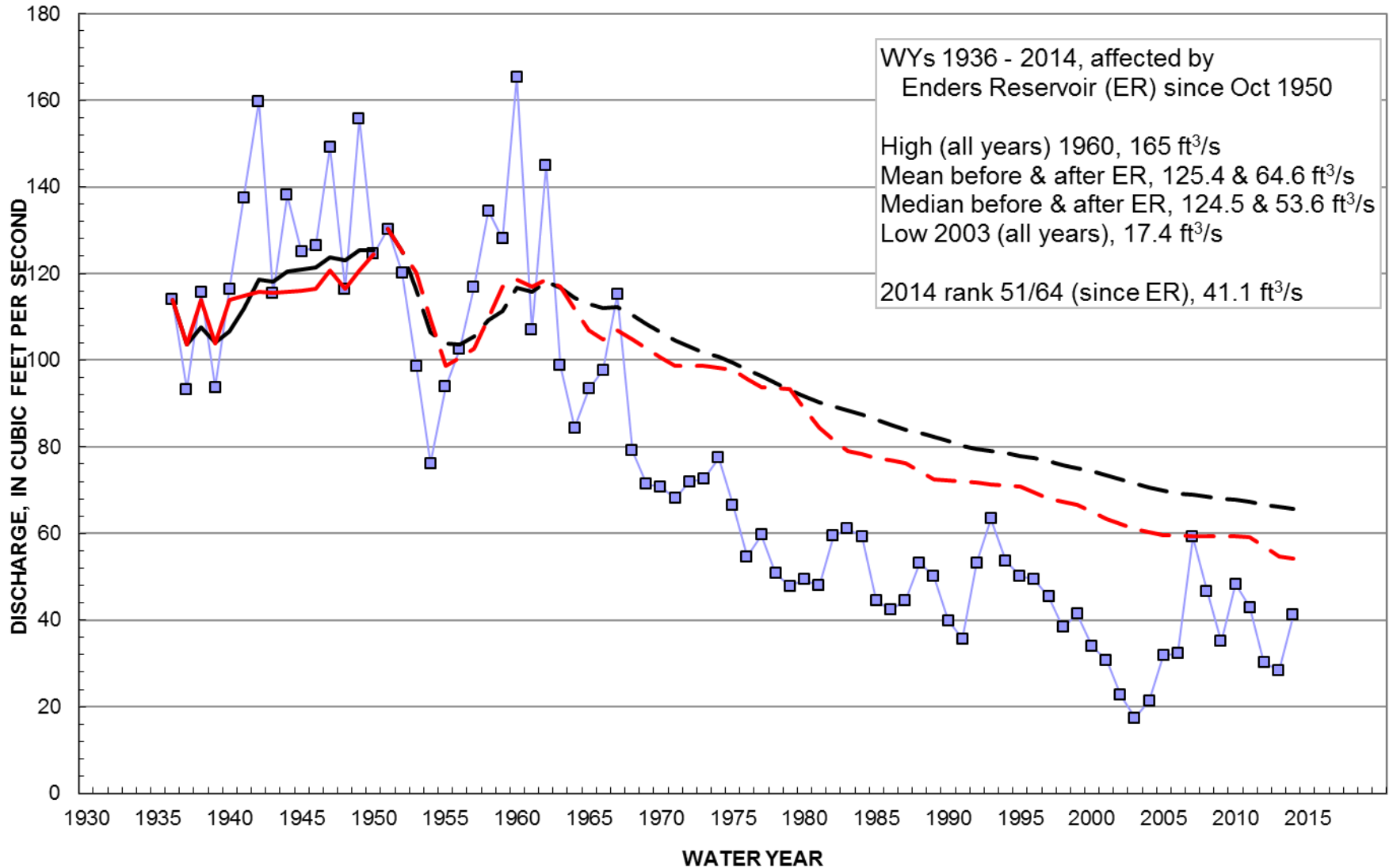


Frenchman Creek at Culbertson, NE





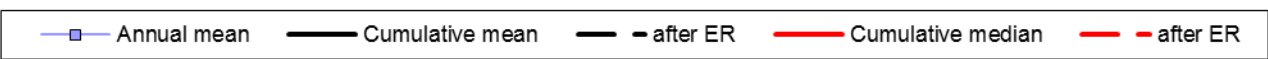
06835500 Frenchman Creek at Culbertson, NE



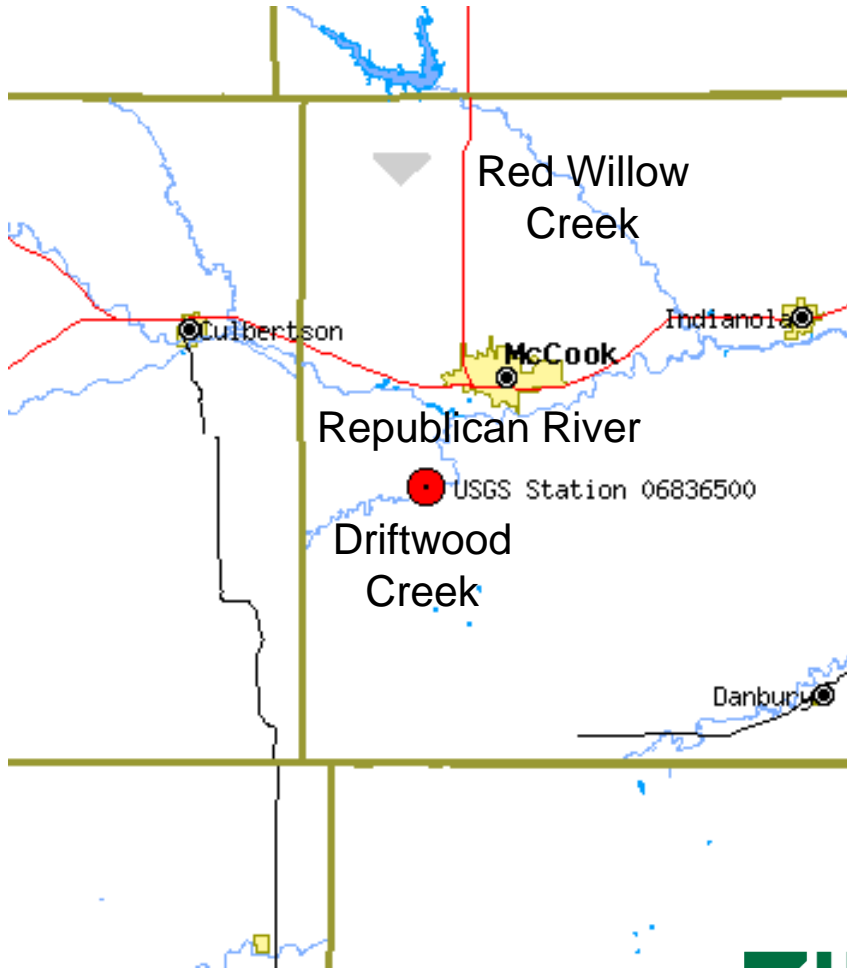
WYs 1936 - 2014, affected by Enders Reservoir (ER) since Oct 1950

High (all years) 1960, 165 ft³/s
Mean before & after ER, 125.4 & 64.6 ft³/s
Median before & after ER, 124.5 & 53.6 ft³/s
Low 2003 (all years), 17.4 ft³/s

2014 rank 51/64 (since ER), 41.1 ft³/s

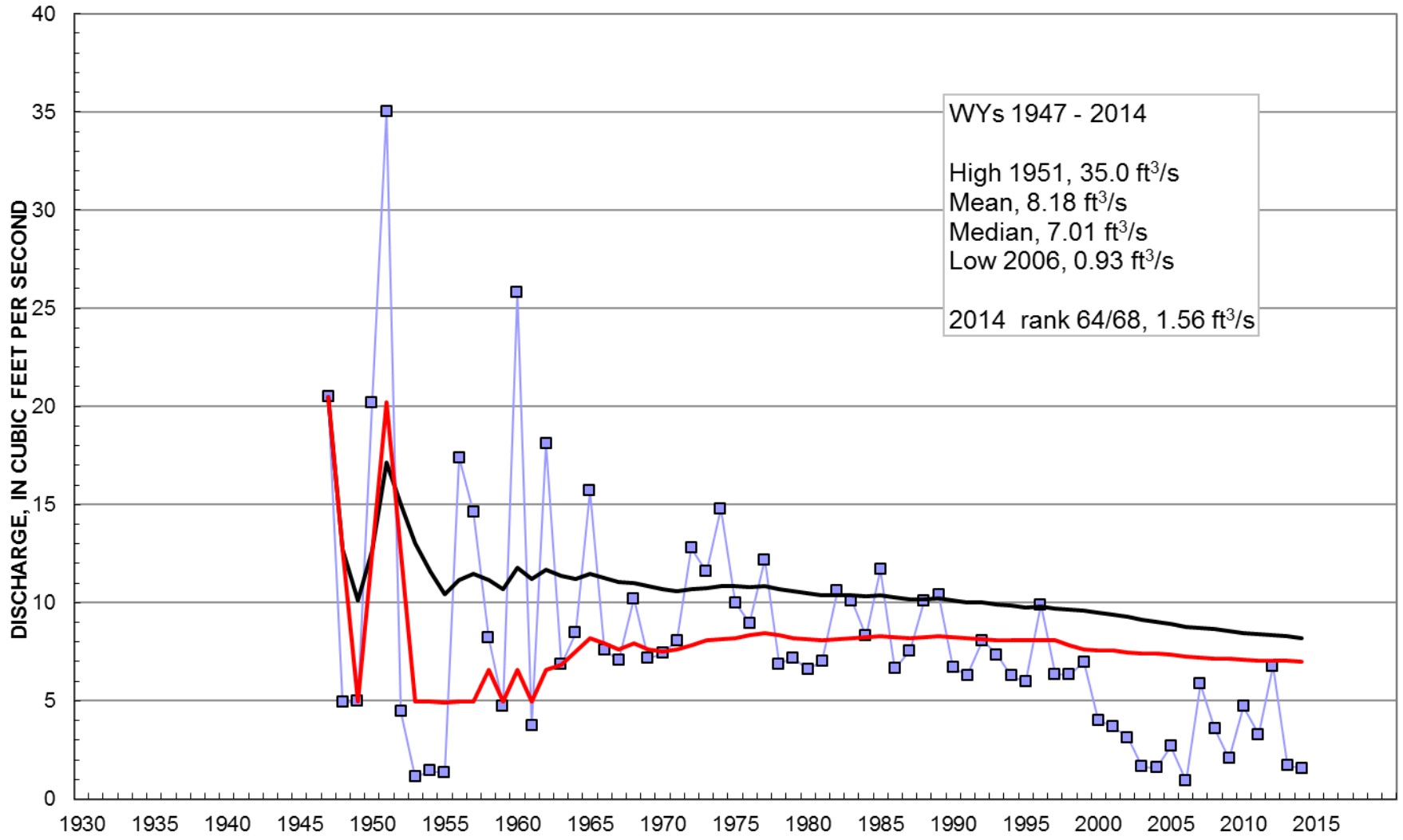


Driftwood Creek near McCook, NE





06836500 Driftwood Creek near McCook, NE



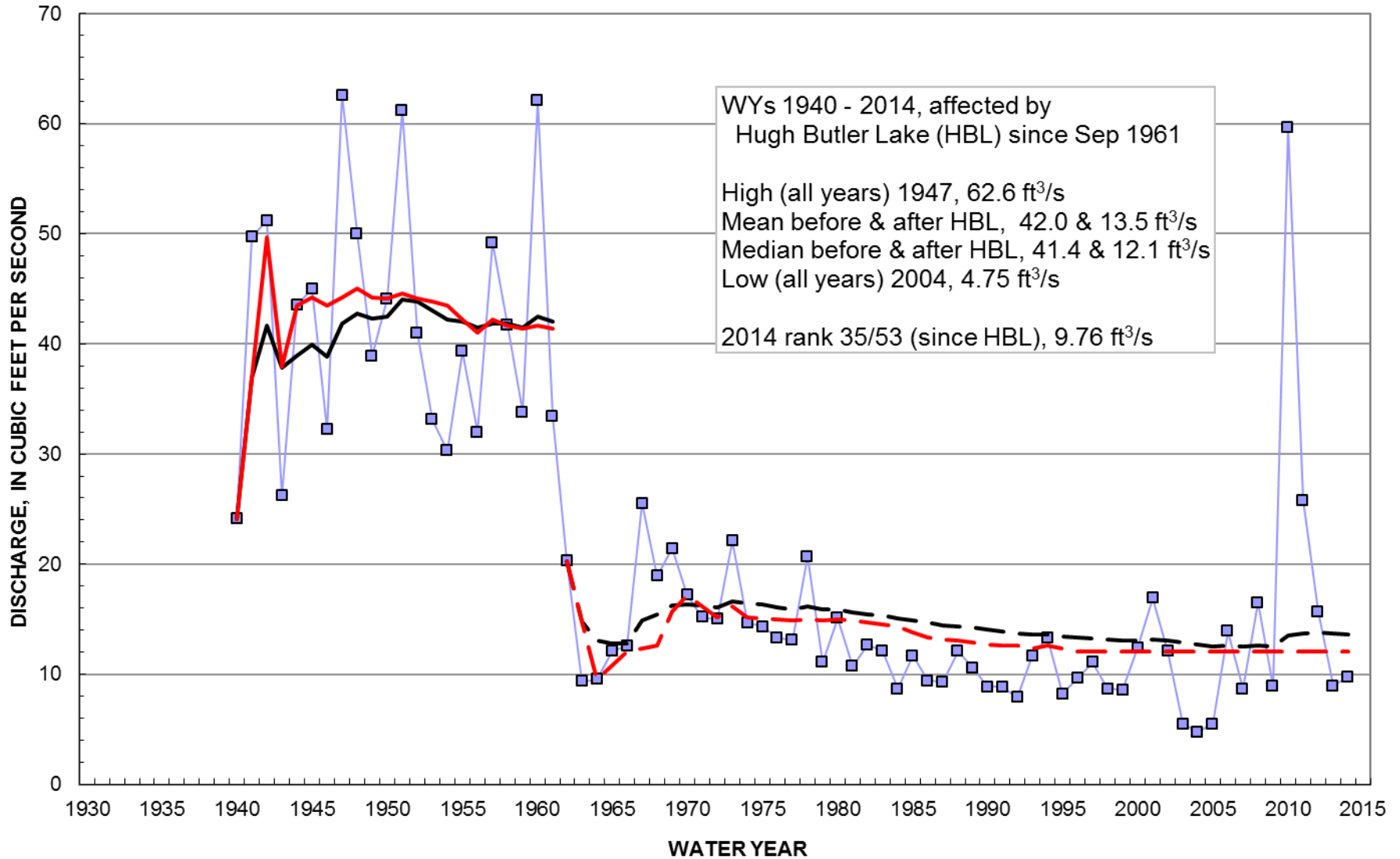
Annual mean Cumulative mean Cumulative median

Red Willow Creek near Red Willow, NE





06838000 Red Willow Creek near Red Willow, NE



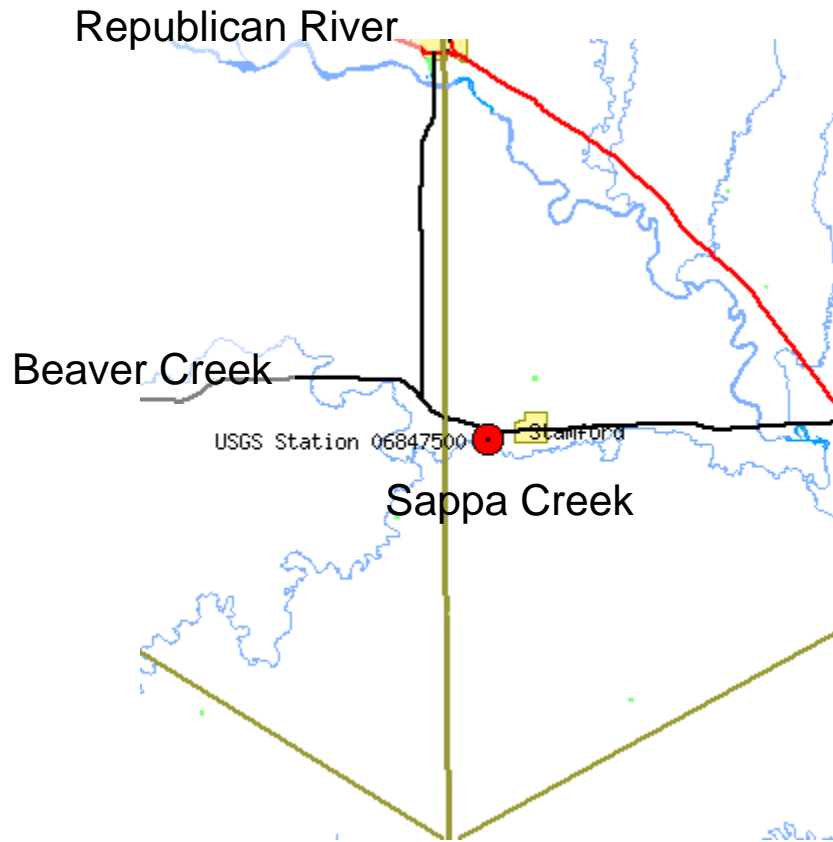
WYs 1940 - 2014, affected by
Hugh Butler Lake (HBL) since Sep 1961

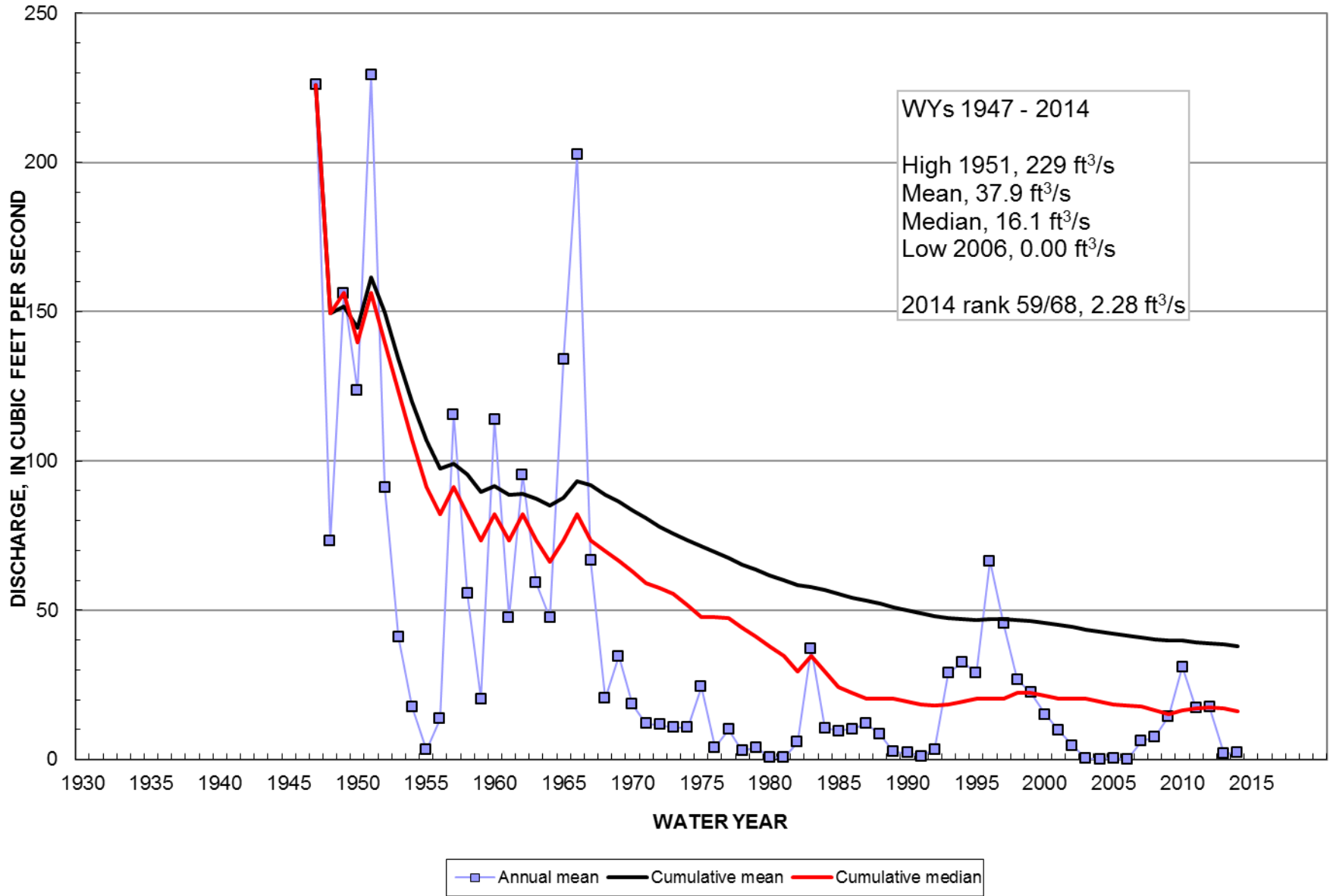
High (all years) 1947, 62.6 ft³/s
Mean before & after HBL, 42.0 & 13.5 ft³/s
Median before & after HBL, 41.4 & 12.1 ft³/s
Low (all years) 2004, 4.75 ft³/s

2014 rank 35/53 (since HBL), 9.76 ft³/s

—■— Annual mean — Cumulative mean - - after HBL — Cumulative median - - after HBL

Sappa Creek near Stamford, NE



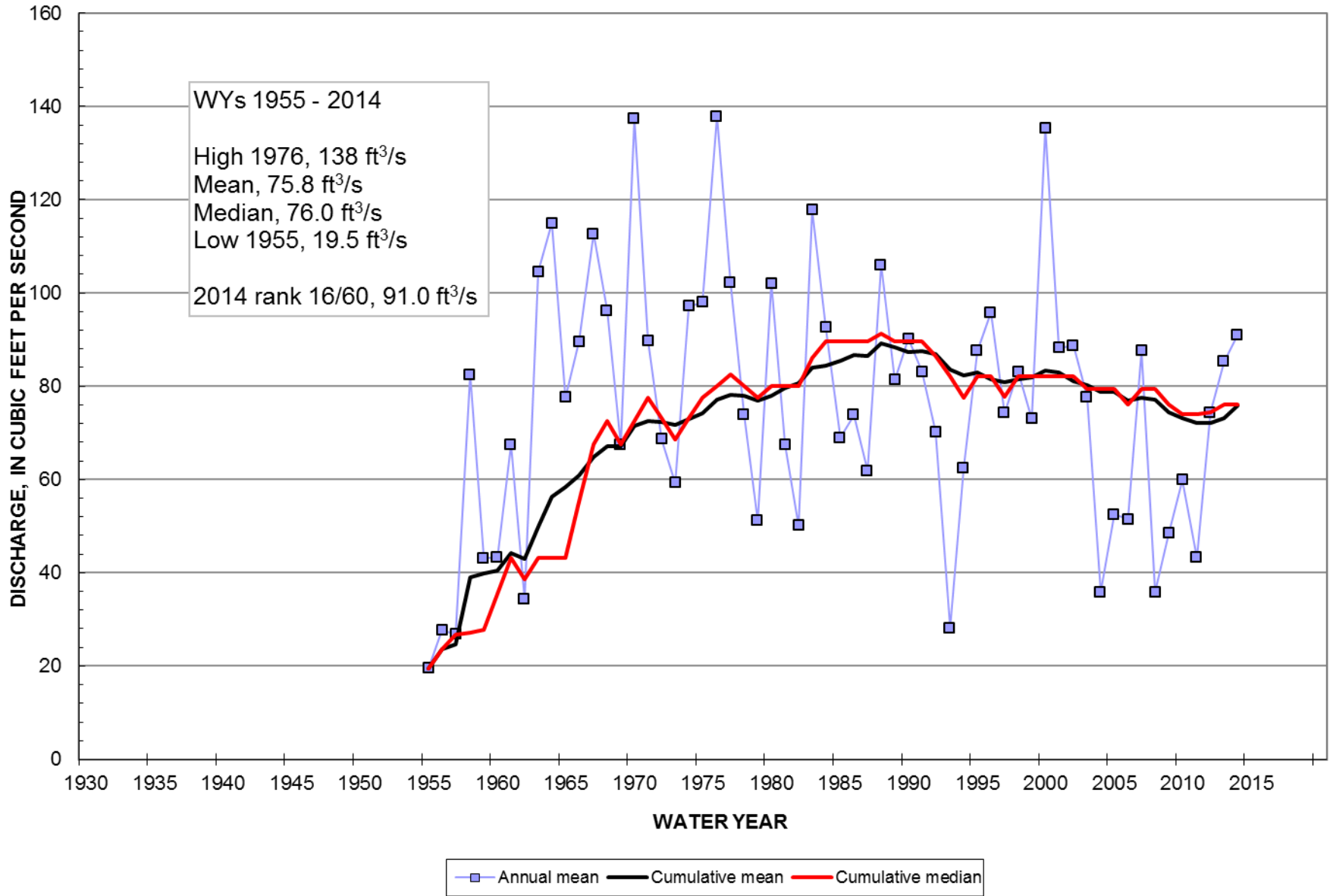


Courtland Canal at NE-KS Stateline



Courtland Canal: diverts flow from Republican River; and connects to and extends beyond Lovewell Reservoir in Kansas

06852500 Courtland Canal at NE-KS State Line

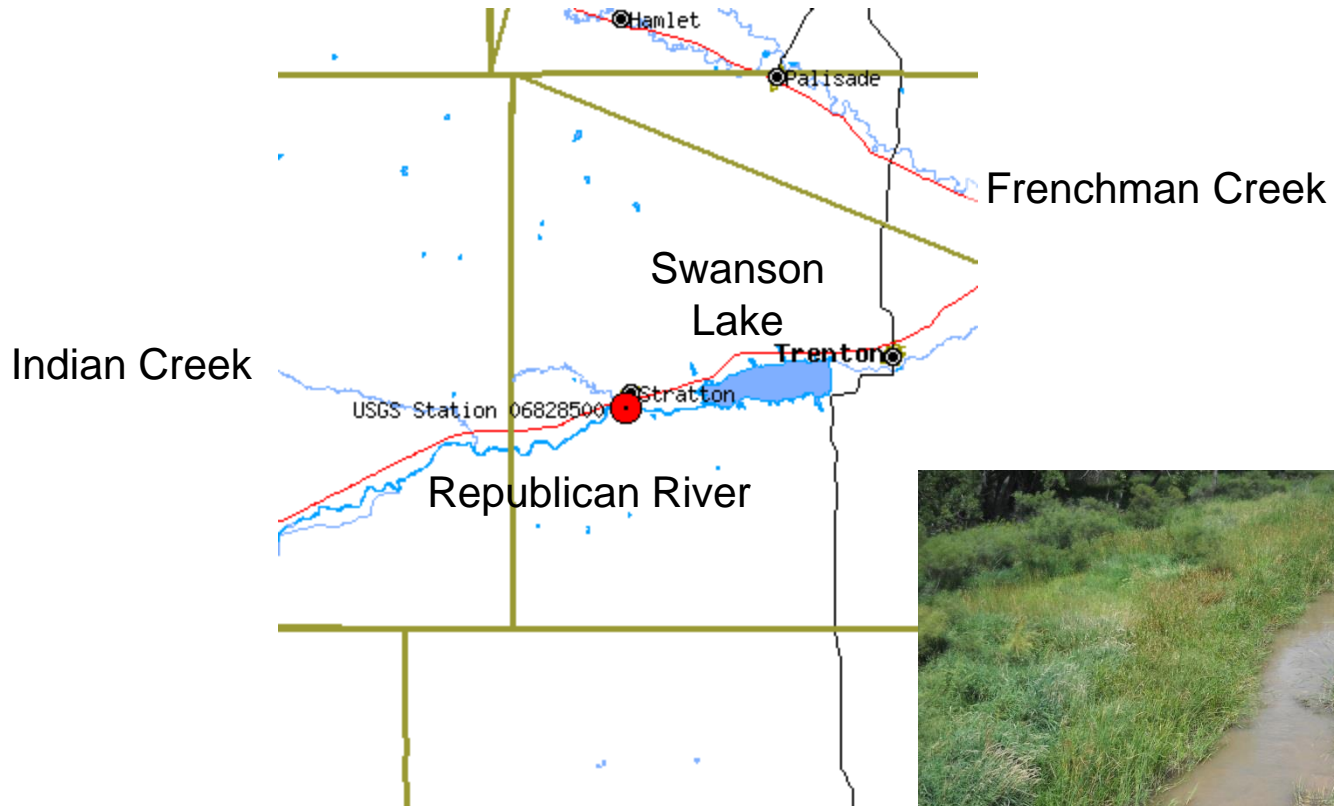


Summary Charts – Other USGS Stations

- Published data for Water Year 2014
- Operated by the USGS Nebraska Water Science Center
- Stations funded by:
 - other Federal agencies
 - State and local agencies with USGS match from the Cooperative Water Program

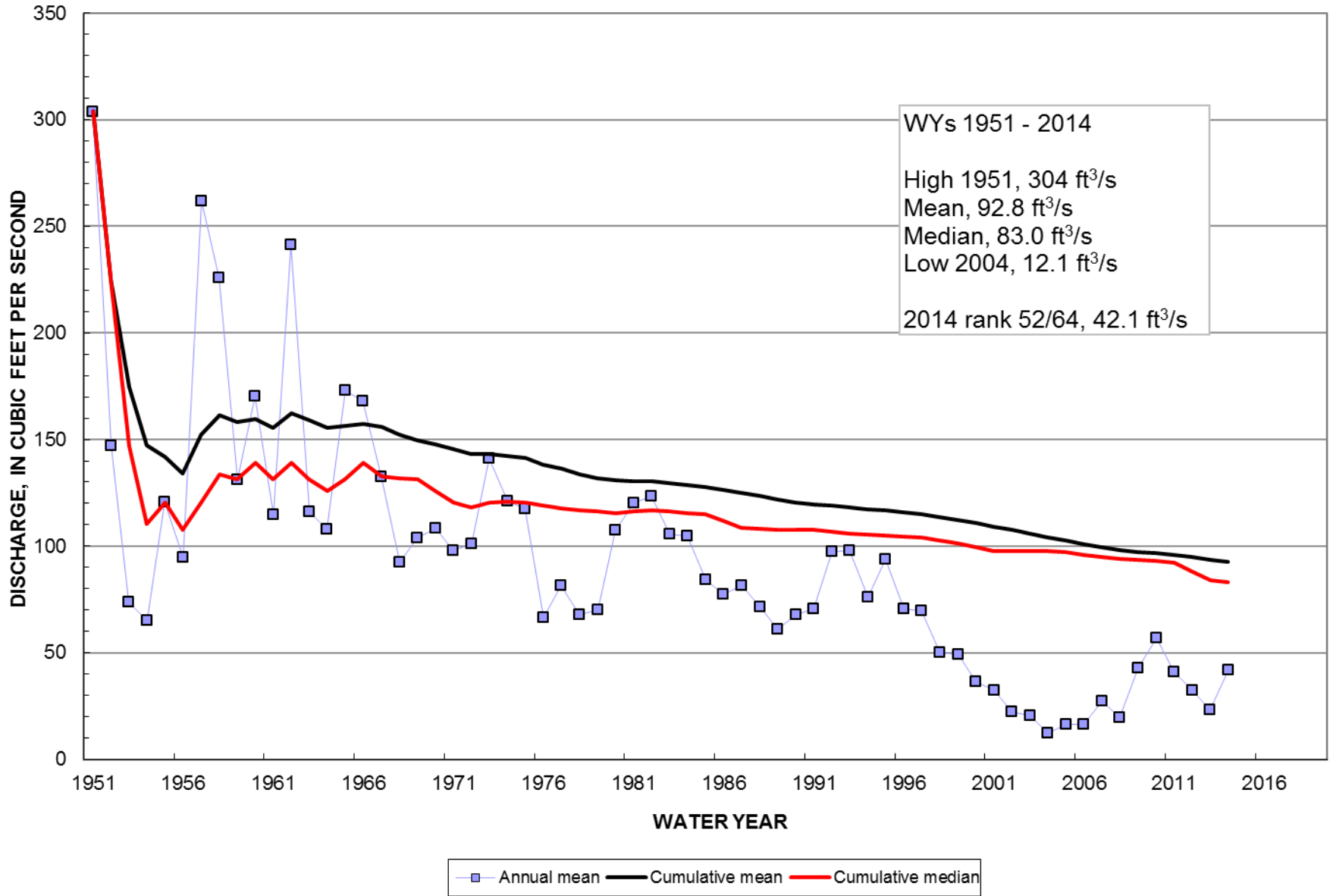


Republican River at Stratton, NE

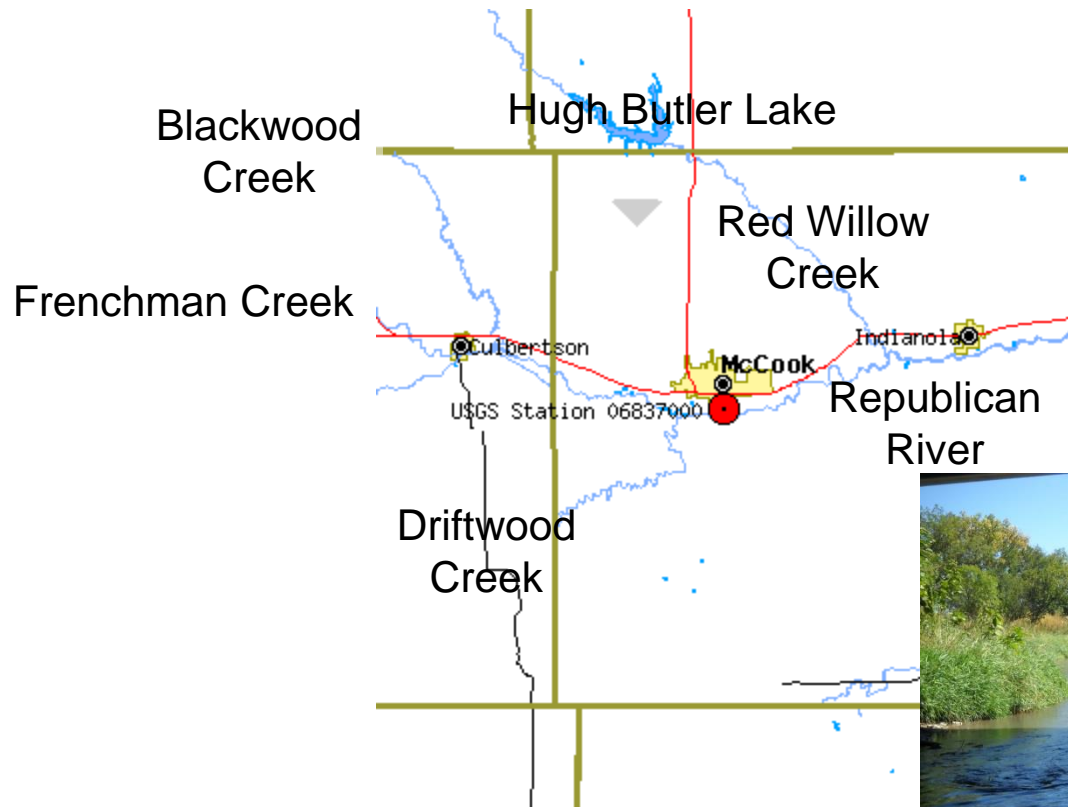




06828500 Republican River at Stratton, NE

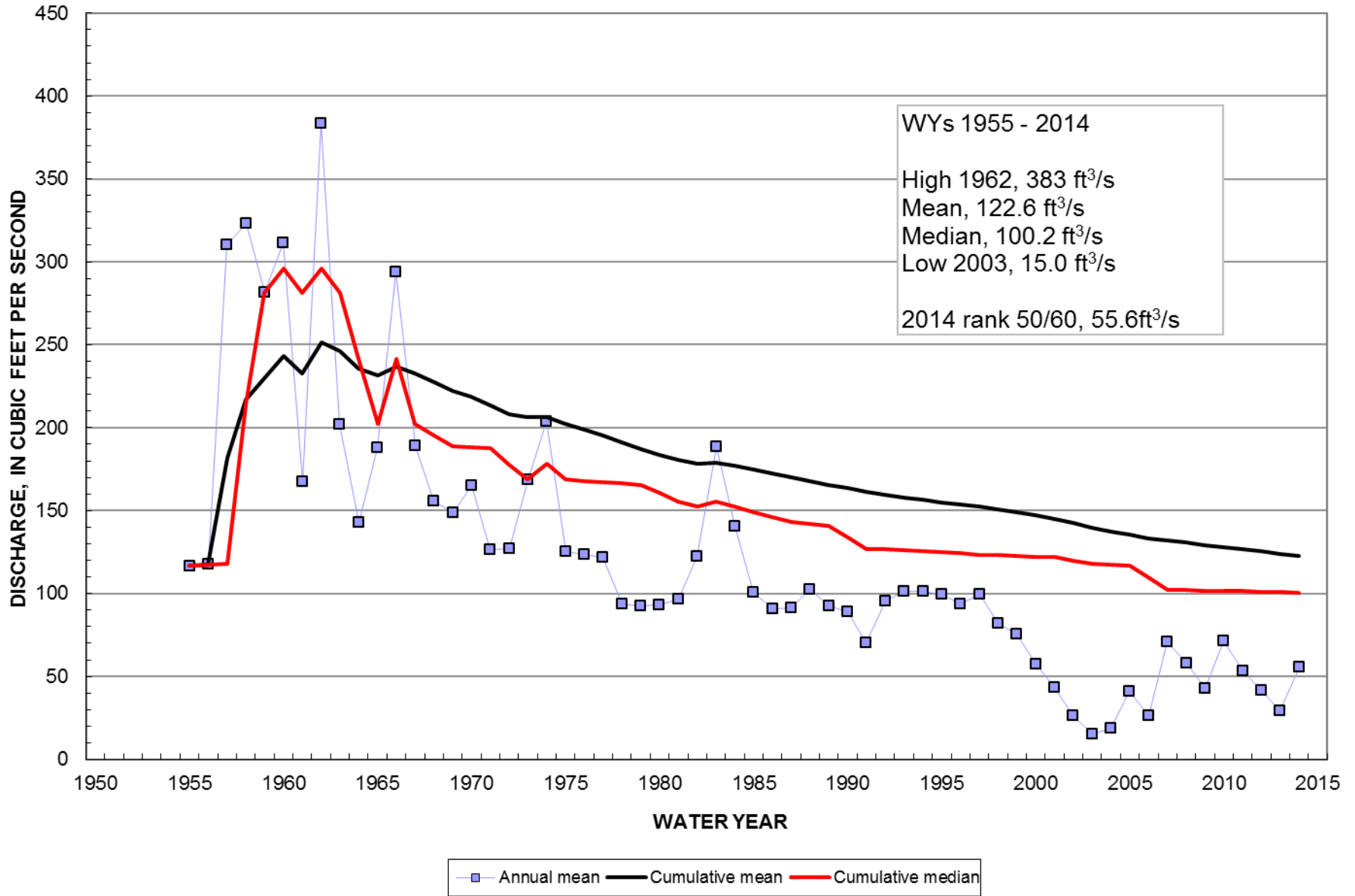


Republican River at McCook, NE

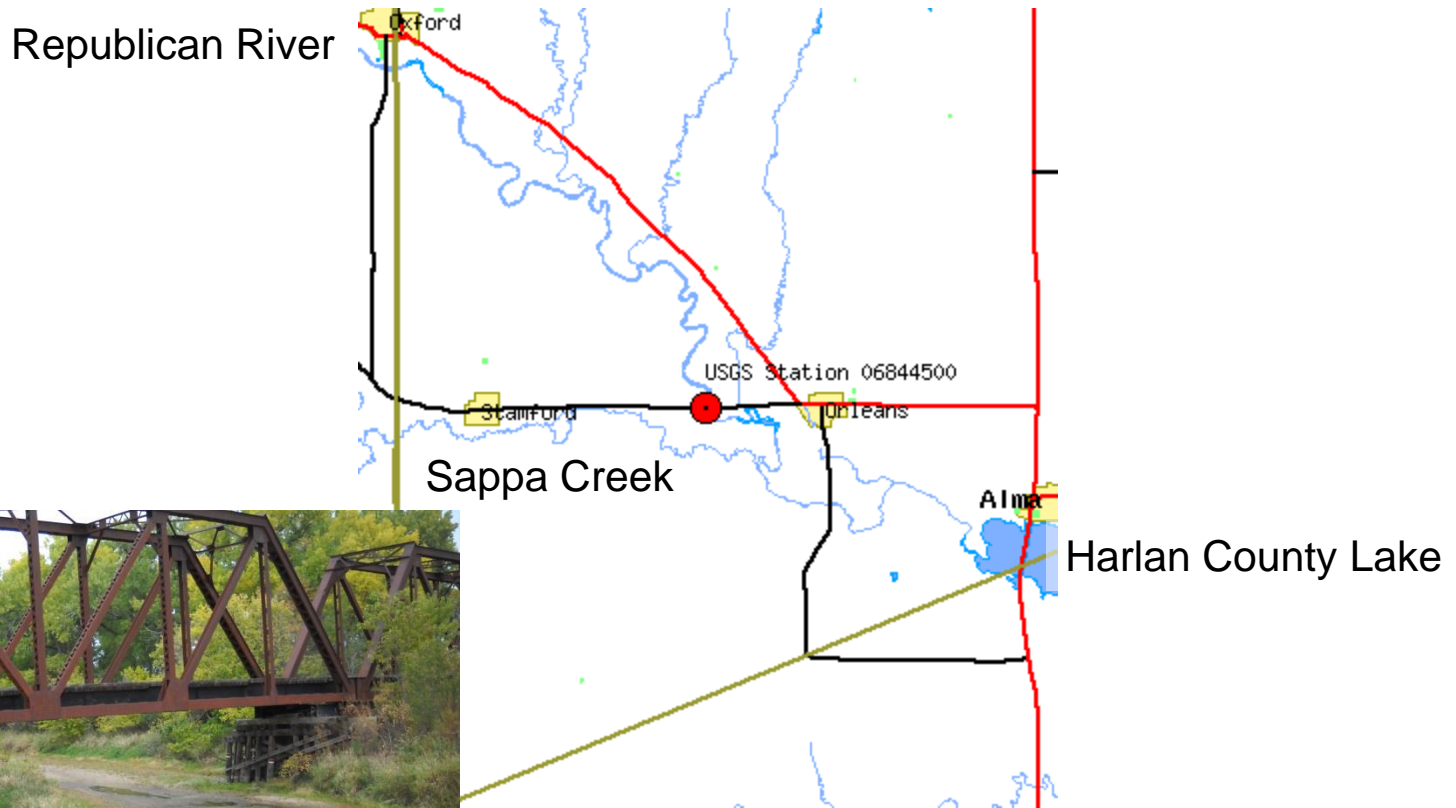




06837000 Republican River at McCook, NE



Republican River near Orleans, NE



Republican River

Oxford

Stamford

USGS Station 06844500

Orleans

Sappa Creek

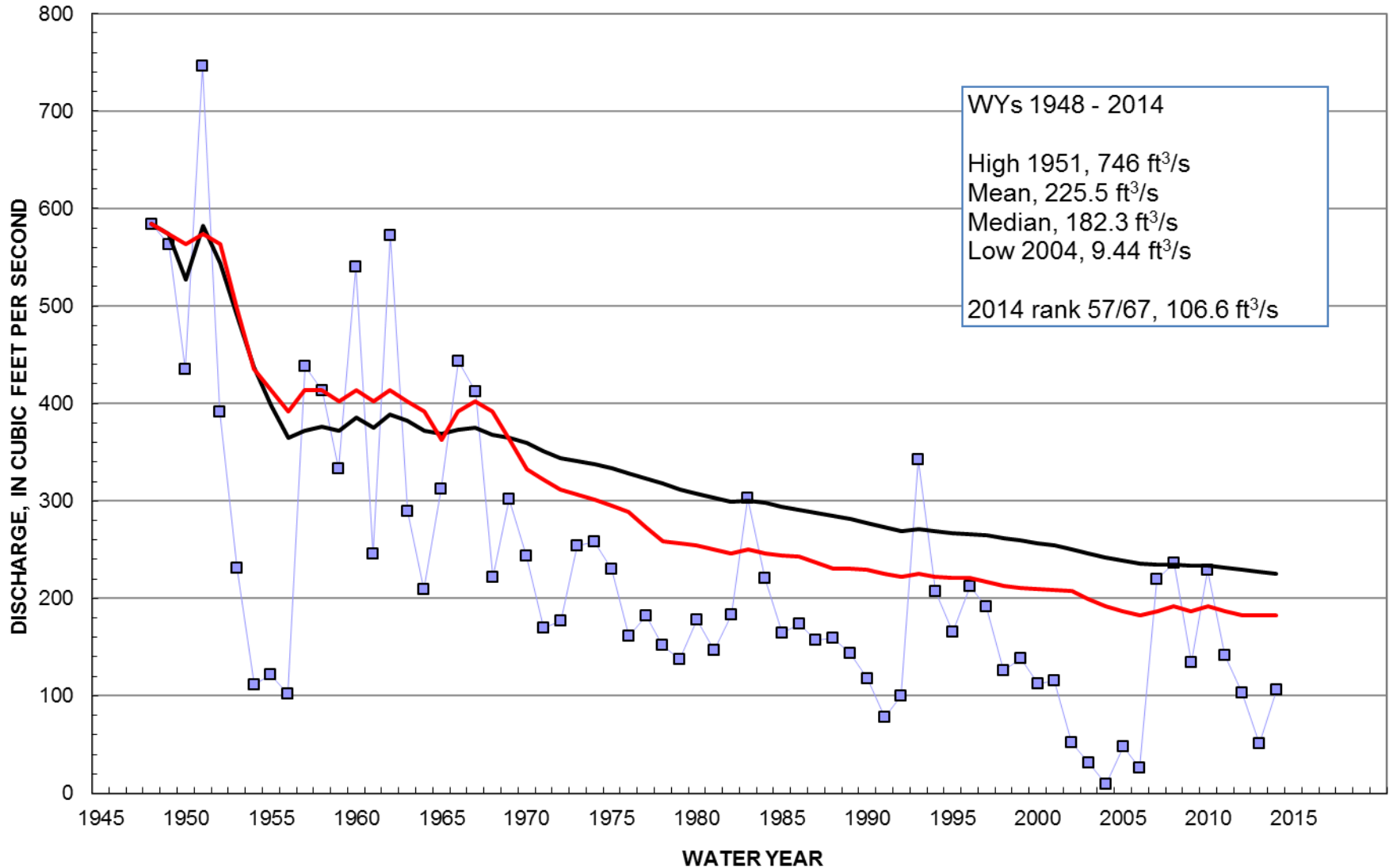
Alma

Harlan County Lake





06844500 Republican River near Orleans, NE



—□— Annual mean — Cumulative mean — Cumulative median

Summary Charts – NDNR Stations

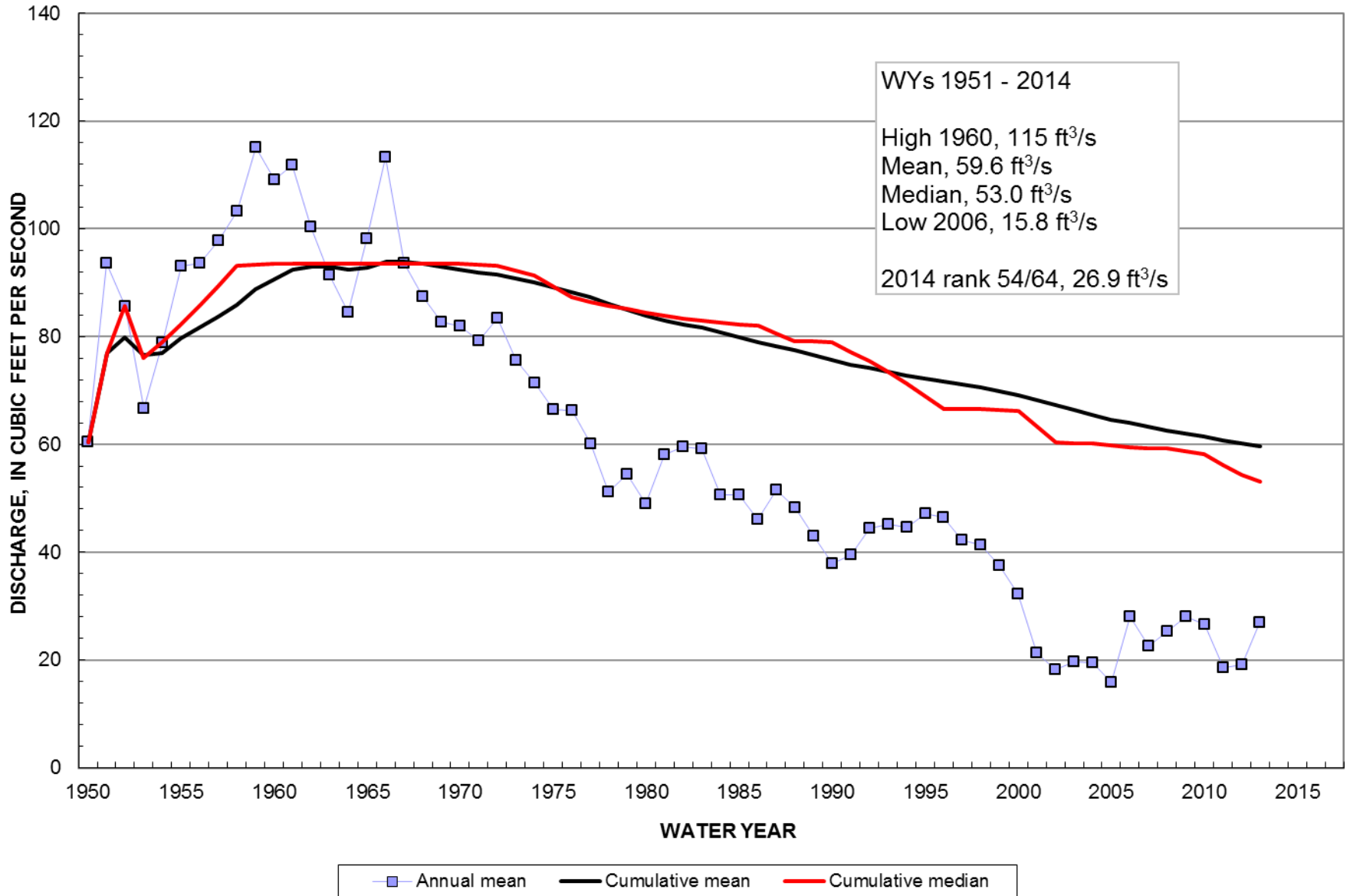
- Published data for Water Year 2014
- Operated by Nebraska Department of Natural Resources (NDNR)
- Stations funded by:
 - NDNR – Field operation
 - USGS, USACE, and NDNR – DCP support, Web display, data review, and publication by USGS



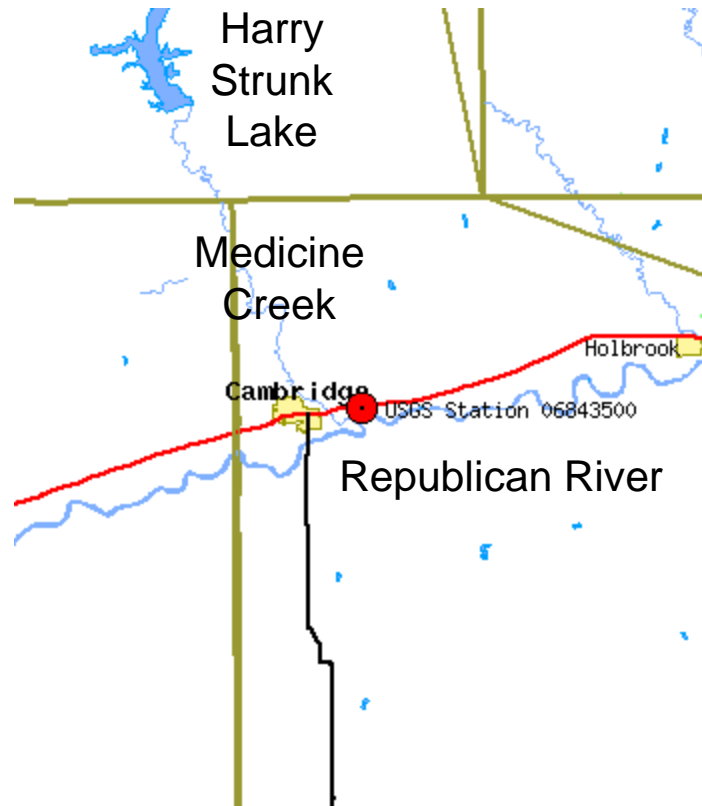
Frenchman Creek at Palisade, NE



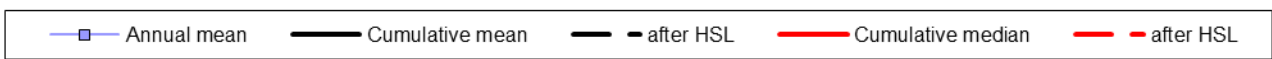
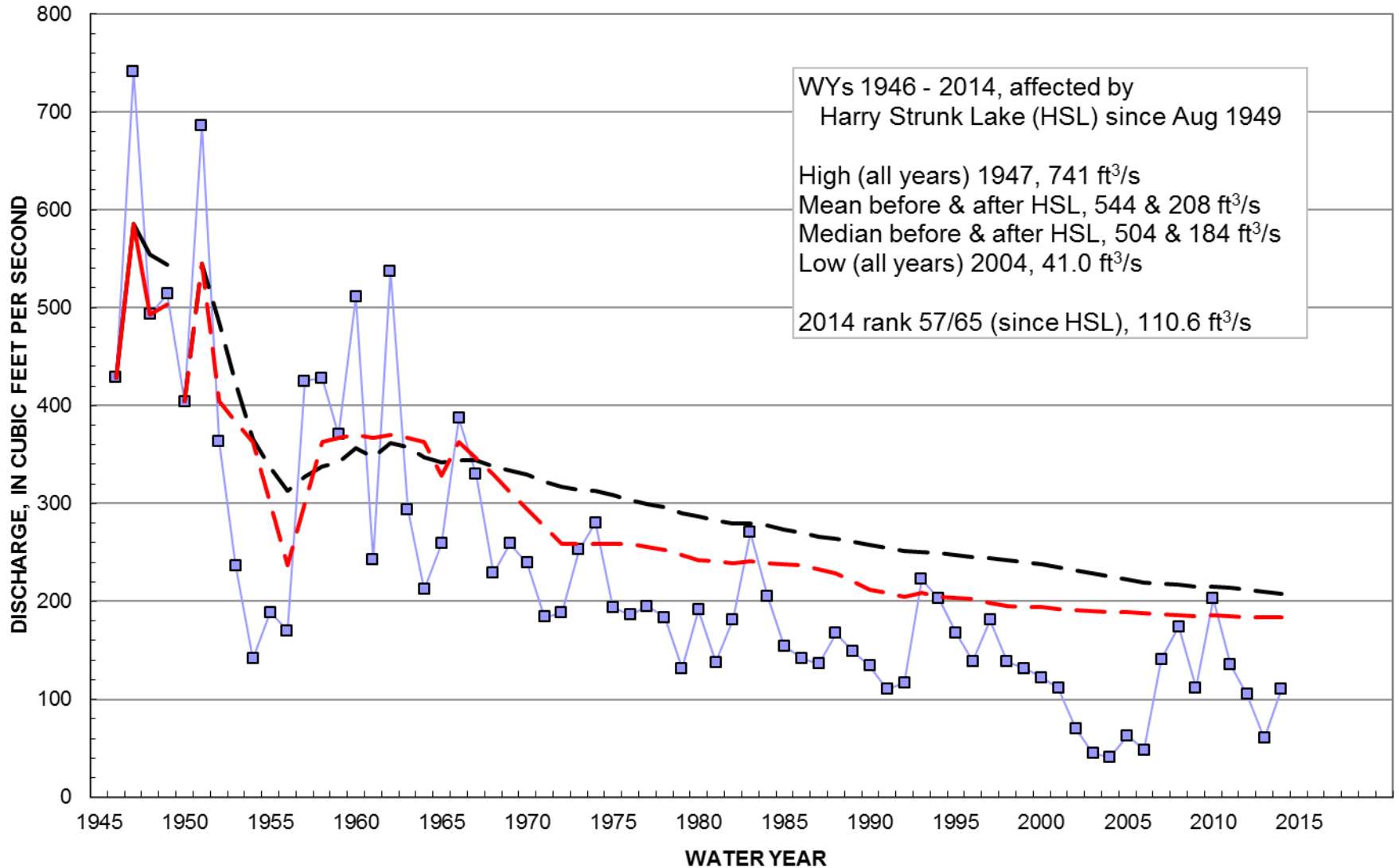
06834000 Frenchman Creek at Palisade, NE



Republican River at Cambridge, NE



06843500 Republican River at Cambridge, NE



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