

Wildlife Conservation in the Lower South Platte Basin of Colorado



GRAD 592 The South Platte River: Colorado's Lifeblood
October 31st, 2023







*Ducks Unlimited conserves
restores and manages wetlands
and associated habitats for
North America's waterfowl.*

*These habitats also benefit
other wildlife and people.*

DU has conserved more than 16 million
acres of waterfowl habitat



Wildlife Habitats Associated with the South Platte River (and its waters)

Riverine Habitats

Riparian Habitats

Agricultural/Municipal Habitats

Diversion, Storage & Conveyance

Irrigated Pasture, Hayland, & Croplands

Parklands





Wildlife of the Lower South Platte Basin in Colorado

FISH



Orangespotted sunfish (*Lepomis humilis*, Family Centrarchidae) are among the most colorful fish on Colorado's eastern plains. They are typically 2-3 inches long but can be up to 6 in.



Brassy minnows (*Hybognathus hankinsoni*, Family Cyprinidae) are small native fish of the Colorado plains. They inhabit pools and channels within small streams.



Redbelly dace (Family Cyprinidae) are small native fish of the Colorado plains. Their name comes from the red color of their undersides during the summer months.



Living only about four years, plains topminnows (*Fundulus sciadicus*, Family Fundulidae) are very small, growing to an average of 1.5 inches in Colorado.

Wildlife of the Lower South Platte Basin in Colorado

AMPHIBIANS & REPTILES



Two species of leopard frogs occur in Colorado. Northern leopard frogs (*Lithobates pipiens*; primary photo, brighter green) are more widespread than plains leopard frogs (*L. blairi*; inset).



Red-sided garter snakes (*Thamnophis sirtalis parietalis*, Family Colubridae) occur in wetlands on Colorado's northeastern plains.



Yellow mud turtles (*Kinostemon flavescens*, Family Kinosternidae) are found in wetlands on the far eastern plains of Colorado. They lay their eggs in sandy soil.

Wildlife of the Lower South Platte Basin in Colorado

MAMMALS



Preble's meadow jumping mouse (*Zapus hudsonius preblei*, Family Dipodidae) is a rare small mammal that lives in dense riparian vegetation along the Front Range.



© TOM KOBRNER, USFWS

Northern river otters (*Lontra canadensis*, Family Mustelidae) occupy streams and beaver ponds across Colorado's western slope.



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Wildlife of the Platte Basin in Nebraska

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM SPECIES



Wildlife of the Lower South Platte Basin in Colorado

BIRDS



© MICHAEL MENEFFEE, CNHP

Greater sandhill cranes (*Antigone canadensis tabida*, Family *Gruidae*) are impressive birds with a wide wingspan, red eye patch, and loud trumpeting call.



Lewis's woodpeckers (*Melanerpes lewis*, Family *Picidae*) nest in open cottonwood or ponderosa pine stands and hunt insect in flight.

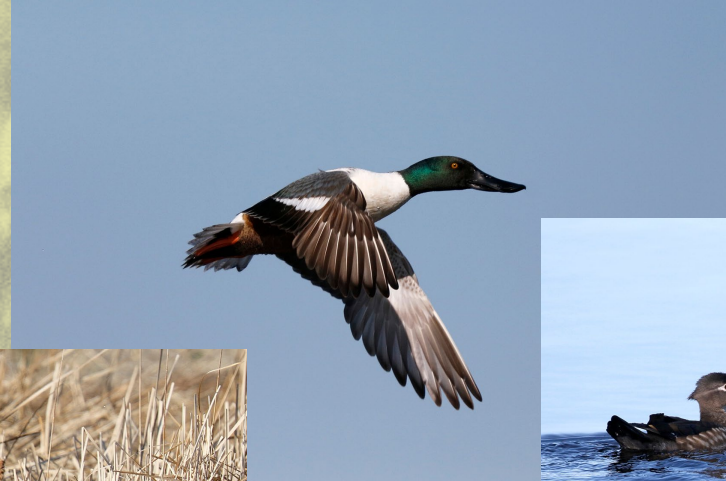


© MICHAEL MENEFFEE, CNHP

Short-eared owls (*Asio flammeus*, Family *Strigidae*) use both grasslands and wetlands for habitat. They hunt small mammals within the vegetation of wet meadows and marshes.

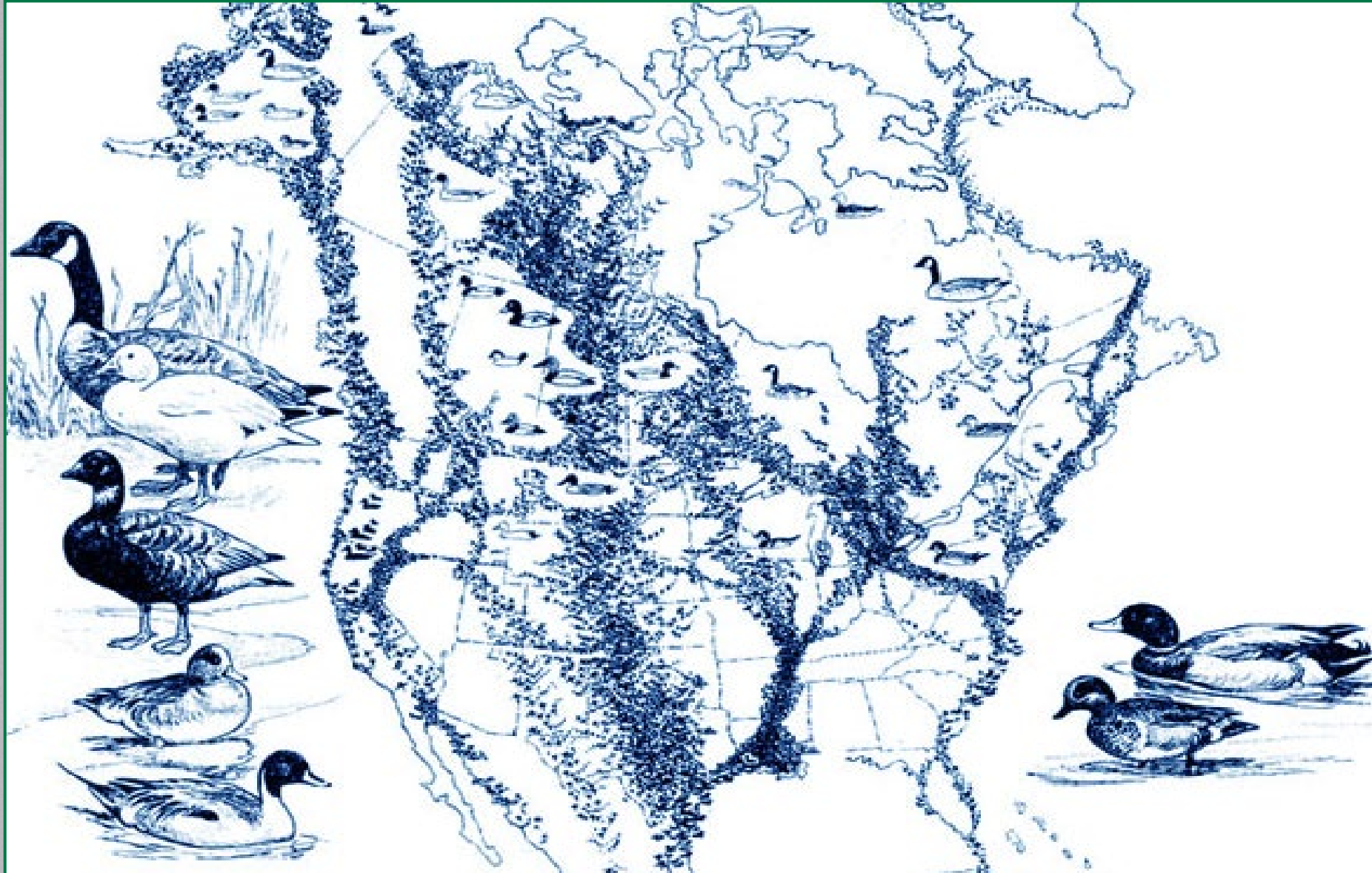
Wildlife of the Lower South Platte Basin in Colorado

BIRDS – MIGRATORY WATERFOWL

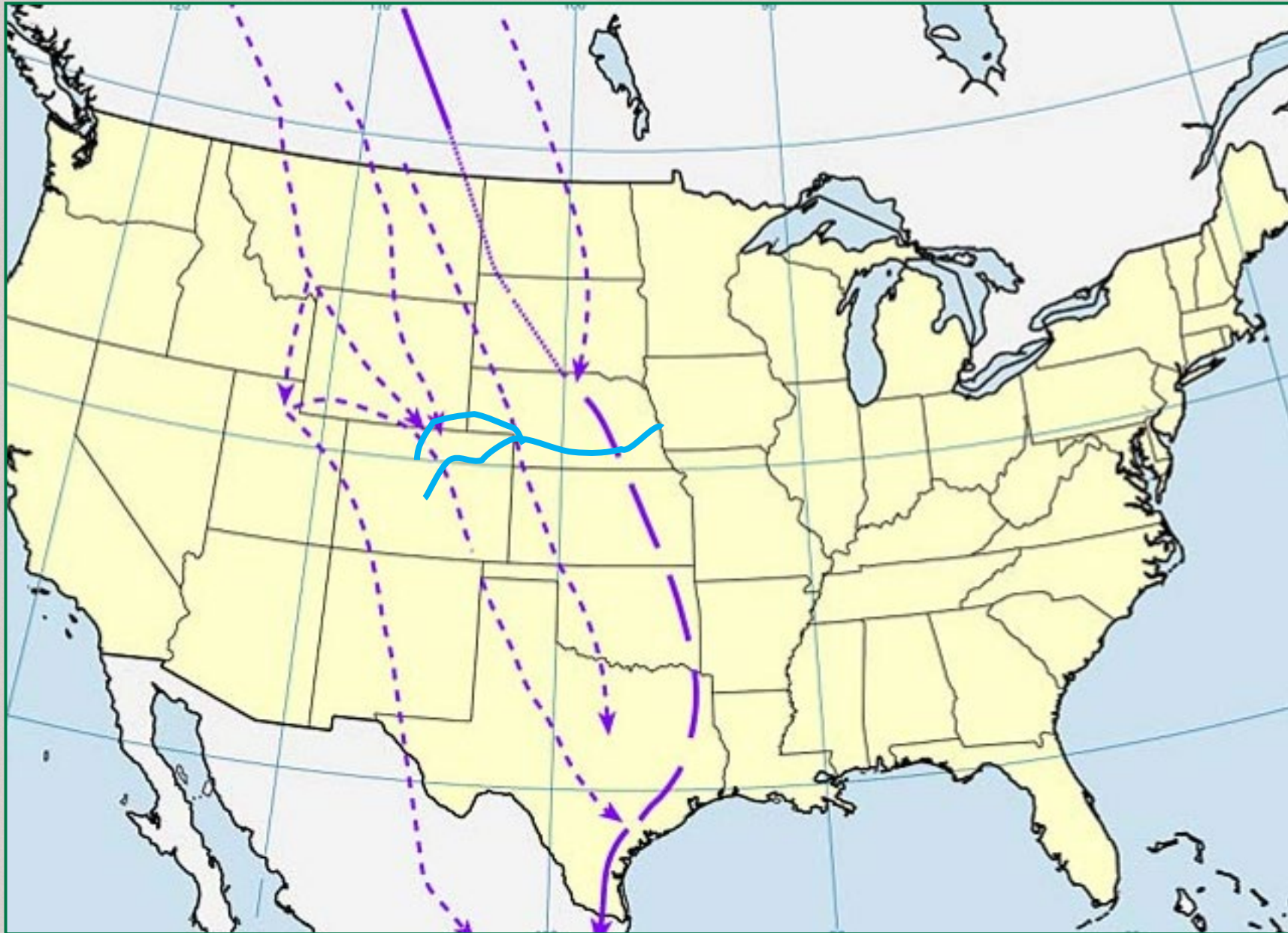




The Platte River & Migratory Waterfowl



The Platte River & Migratory Waterfowl



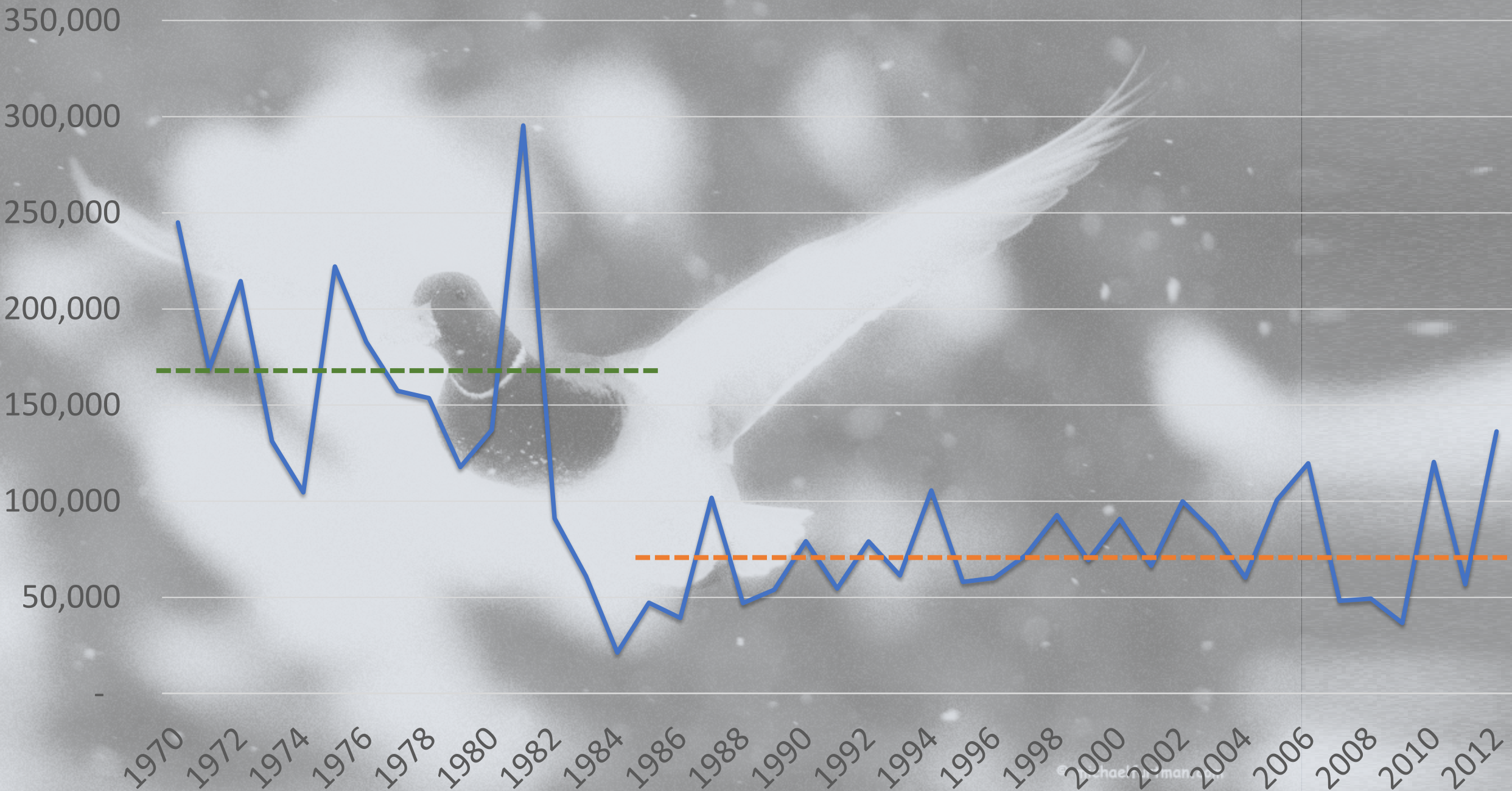


YEAR	CO	WY	ND	MT	SD	NE	KS	OK	NM	TX	TOTAL		
1948	180,743	(36,607)	68,380	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	473,575	1,385,400
1949	216,280	(1,070)	48,000	(13,777)	3,434	153,451	104,390	183,026	80,800	132,720	187,910	429,850	1,539,860
1950	366,625	149,275	60,410	(1,367)	427	163,378	169,511	271,591	76,920	65,075	73,640	611,810	1,859,380
1951	271,600	54,200	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	629,080	1,720,910
1952	319,100	101,700	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	381,600	1,623,590
1953	379,345	161,900	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	504,420	1,655,000
1954	321,565	104,200	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	449,240	1,773,400
1955	310,826	93,400	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	603,994	2,060,260
1956	258,214	40,800	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	1,004,201	2,011,880
1957	556,393	339,000	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	420,438	2,294,840
1958	686,339	468,900	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	738,490	4,213,480
1959	427,870	210,900	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	469,904	2,461,380
1960	397,781	180,400	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	610,307	1,952,550
1961	335,728	118,900	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	176,116	1,668,500
1962	266,573	49,200	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	397,480	1,463,590
1963	246,465	29,000	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	259,981	1,657,630
1964	332,377	115,000	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	604,576	2,313,030
1965	195,784	(21,900)	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	494,623	1,821,150
1966	224,669	7,000	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	233,826	1,689,680
1967	288,736	71,300	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	144,550	2,128,700
1968	329,763	112,400	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	367,232	2,421,660
1969	273,285	55,900	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	143,165	1,672,430
1970	430,708	213,900	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	433,217	2,485,460
1971	294,996	77,600	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	381,305	2,130,250
1972	341,232	123,800	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	1,163,150	3,363,010
1973	233,038	15,600	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	454,973	2,342,320
1974	156,535	(60,400)	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	518,495	1,562,620
1975	281,570	64,200	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	541,192	1,880,870
1976	271,100	53,700	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	413,369	2,065,630
1977	231,200	13,800	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	590,627	2,245,550
1978	273,600	56,200	60,410	6,603	12,048	199,759	184,447	109,740	42,300	19,850	94,565	186,300	2,194,900
1979	184,379	(32,971)	21,346	(39,831)	1,660	25,381	144,879	244,249	310,341	121,605	76,734	428,400	1,559,770
1980	221,400	4,050	7,200	(54,577)	8,100	39,500	168,200	371,821	293,200	102,276	34,378	277,200	1,523,270
1981	376,400	159,050	90,000	28,223	15,500	28,000	246,500	487,089	448,400	120,078	31,152	379,300	2,222,410
1982	174,700	(42,650)	49,800	(11,977)	4,700	22,700	65,400	259,138	497,200	138,535	17,200	236,400	1,465,770
1983	106,344	(111,006)	33,065	(28,712)	6,000	21,113	223,500	314,115	345,959	101,000	33,600	169,400	1,354,090
1984	79,395	(137,955)	37,552	(24,225)	952	10,004	37,612	69,304	233,282	220,990	36,000	252,300	977,300



MIDWINTER COUNTS

South Platte River Basin Migratory Waterfowl Midwinter Count Trend Data



OCT 20 1938

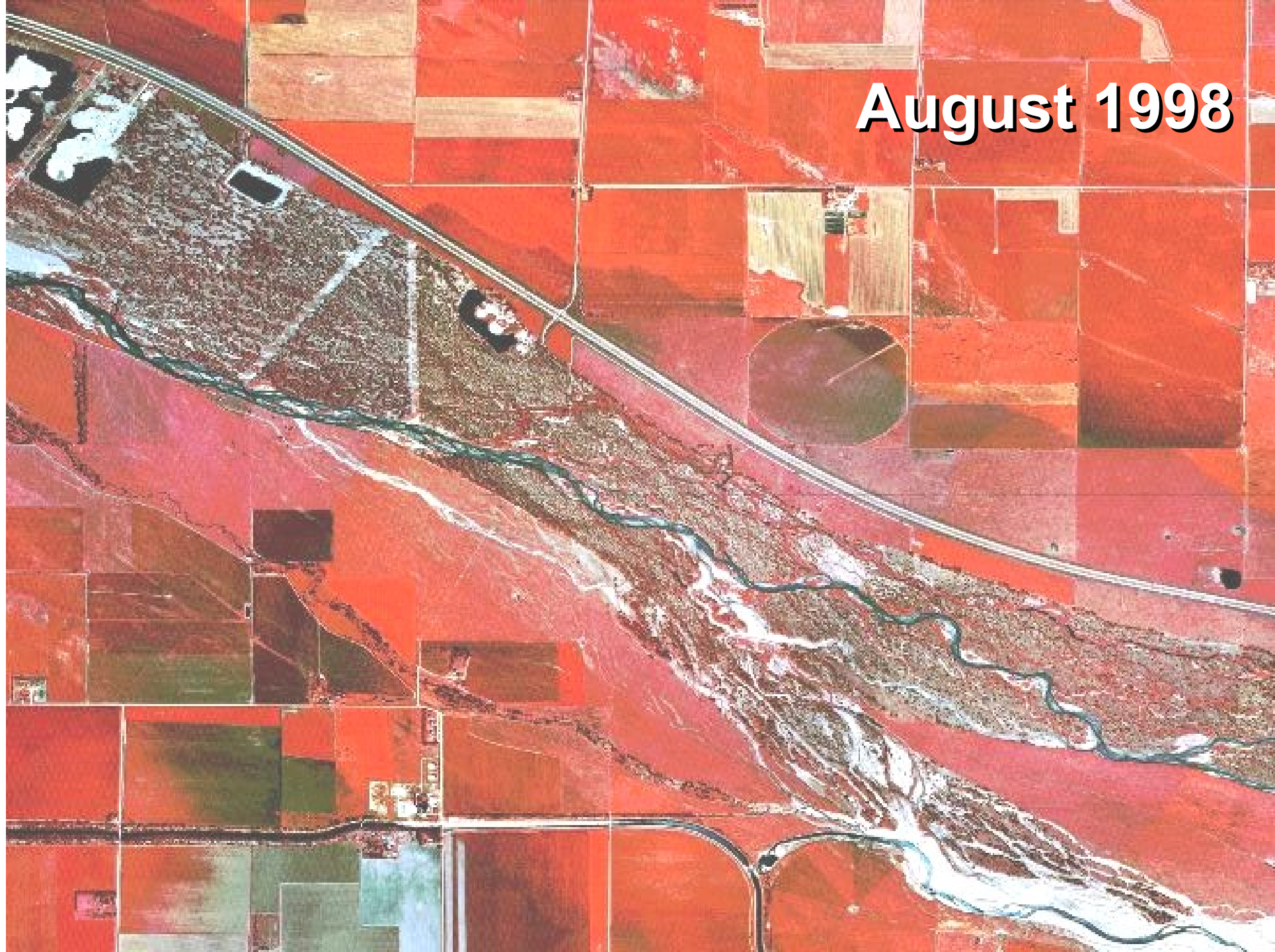
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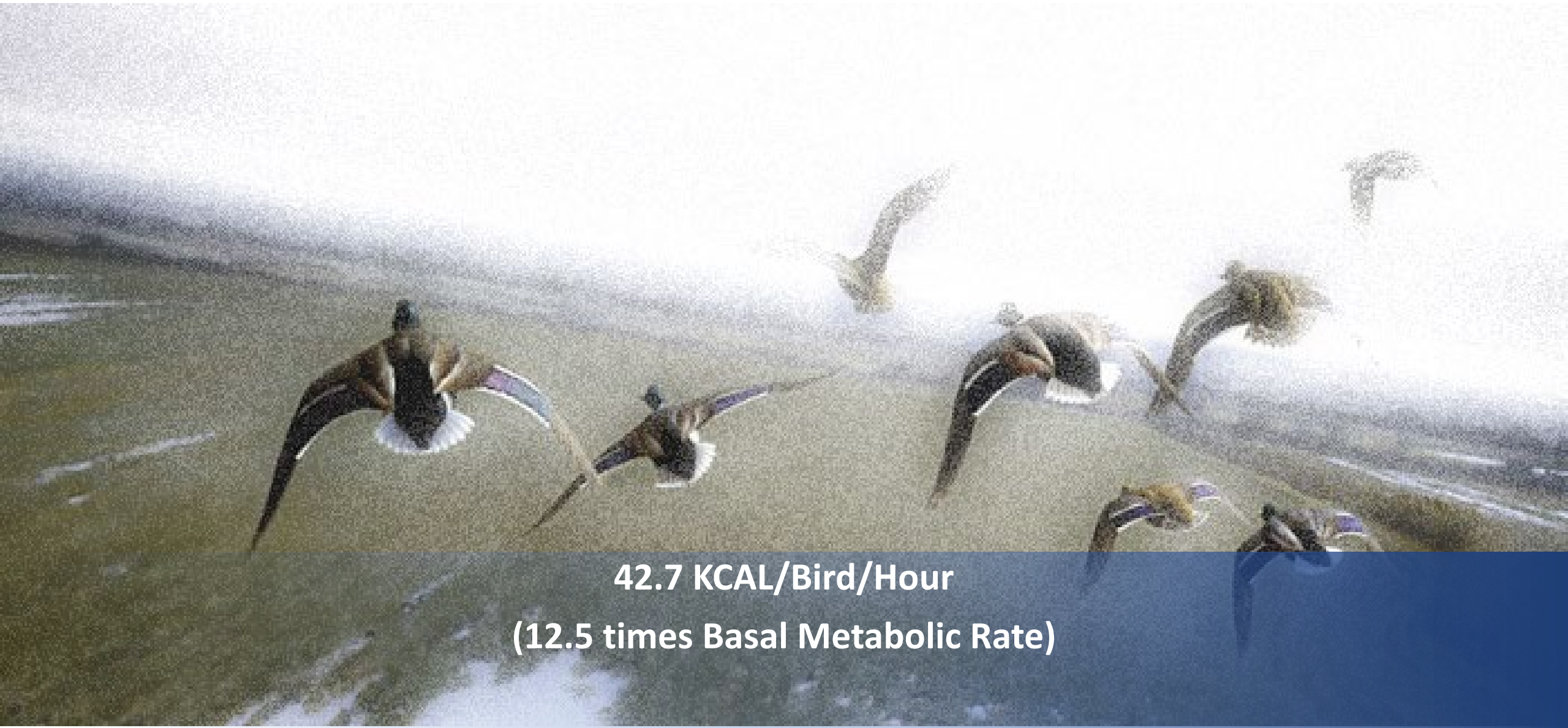
October 1938



August 1998

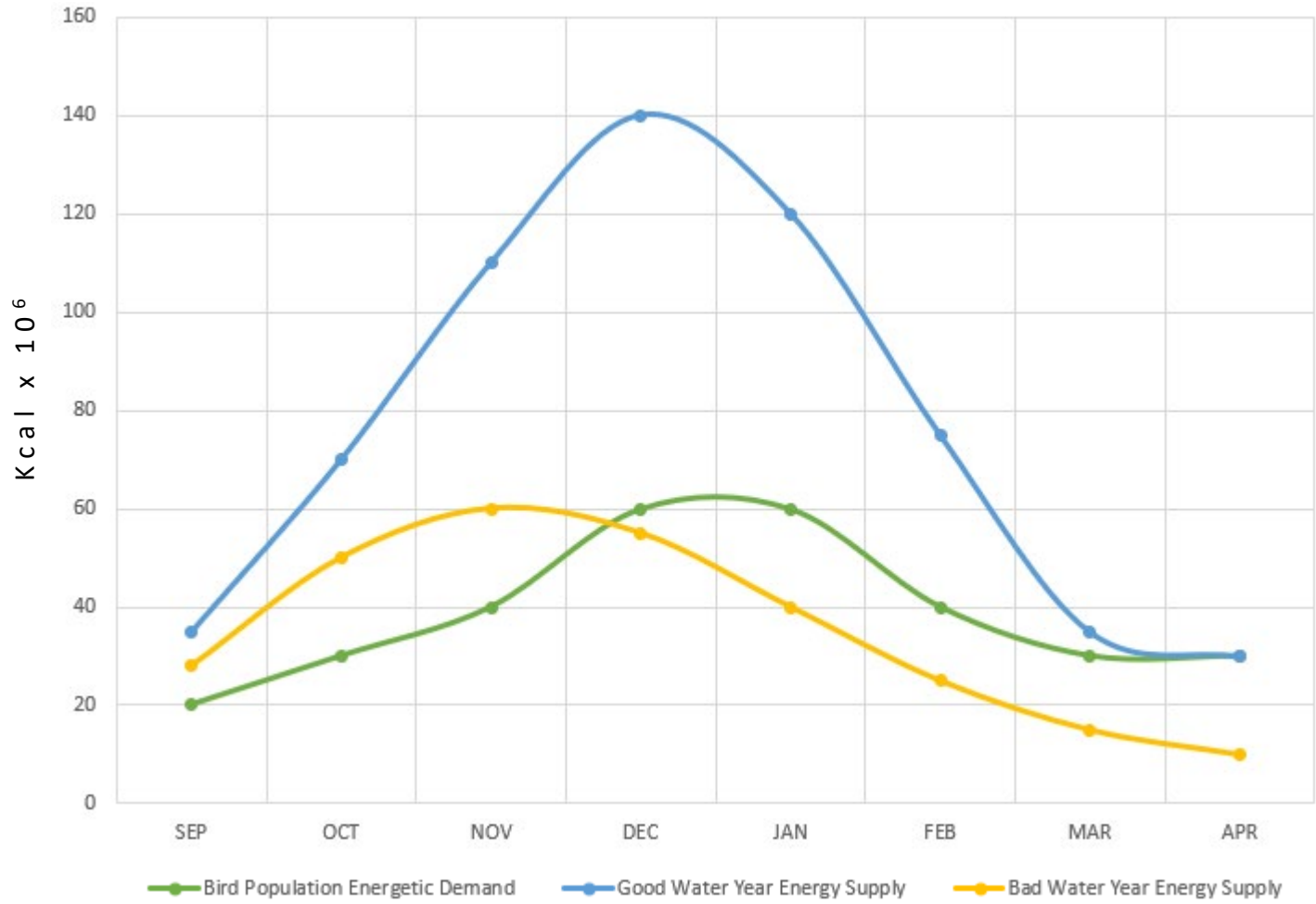


Energetic Cost of Flight



42.7 KCAL/Bird/Hour
(12.5 times Basal Metabolic Rate)

BIOENERGETIC GAPS



ON THE SOUTH PLATTE





Water Supply Gaps in the South Platte Basin

(Doesn't represent environmental and recreational water needs in the Basin)

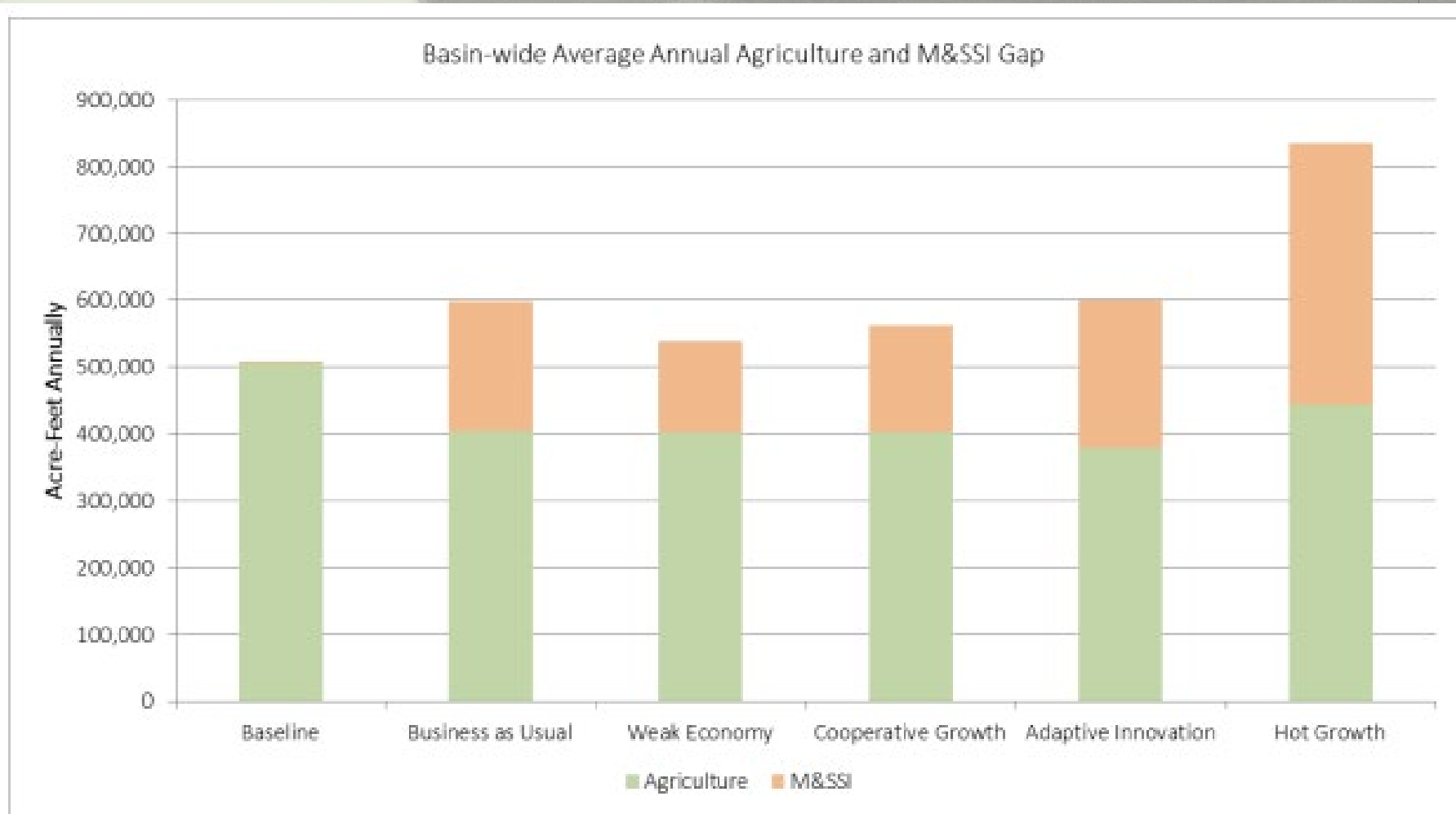
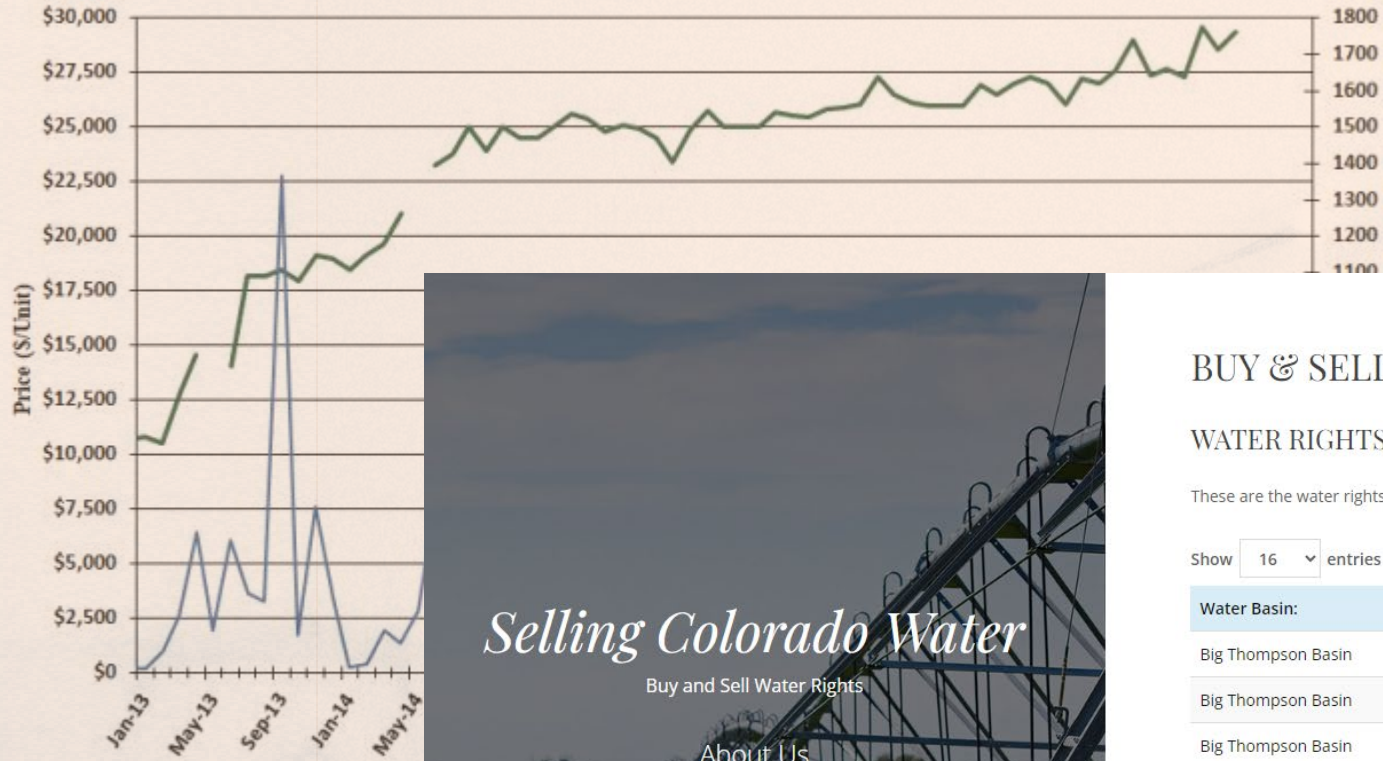


Figure 118: South Platte River Basin Comparison of Average Annual Gaps



Prices and Units Traded in Colorado-Big Thompson Project
(2013-2018)



Selling Colorado Water

Buy and Sell Water Rights

About Us

History

Value of Water

Buy & Sell Water

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BUY & SELL WATER

WATER RIGHTS FOR SALE:

These are the water rights available for sale. For more information, or to make an offer, contact us.

Show entries

Search:

Water Basin:	Description:	Quantity:	Price per share:	Availability
Big Thompson Basin	EBT	20	\$65,000.00	Sold
Big Thompson Basin	Home Supply	+	\$250,000.00	Sold
Big Thompson Basin	Loveland Waterbank	20	Negotiable	Sold
Cache la Poudre	Cache la Poudre River-Direct	8	\$43,000.00	Sold
Cache la Poudre	Larimer & Weld Irrigation System	4	\$75,000.00	Available
Cache la Poudre	Whitney-Ditch	+	\$165,000.00	Sold
South Platte River Basin	Fort Morgan Ditch	20	Negotiable	Available
South Platte River Basin	Fulton; with 70 acres	30	\$2,500,000 total	Sold
South Platte River Basin	Fulton	4.1	\$50,000	Available
South Platte River Basin	Highland-Ditch	5	\$275,000	Sold
South Platte River Basin	Lake McIntosh	2	\$9,500	Available
South Platte River Basin	Lower Latham	+	\$700,000.00	Sold
South Platte River Basin	Mountain Mutual Reservoir Company	12	\$50,000.00	Sold
South Platte River Basin	Slate-Ditch	4	\$25,000.00	Sold



Conservation
Easement
Acquisitions
on the Platte
to Protect
Habitats in
Perpetuity





Warmwater Slough Restoration on the Lower South Platte River in Colorado



Techniques of Wetland Conservation in a Water-short Basin



Shallow-water Wetland Enhancements on the lower South Platte River in Colorado





Augmentation Pond Development on the Lower South Platte River in Colorado



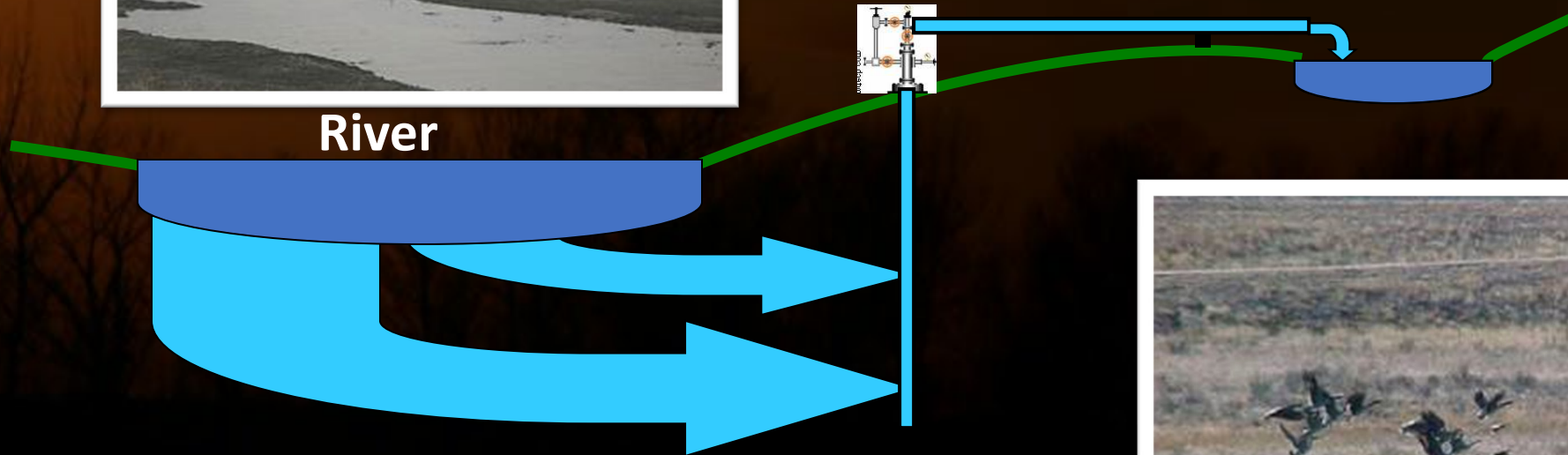
Managed Aquifer Recharge

At Higher River Stages in the Non-irrigation Season



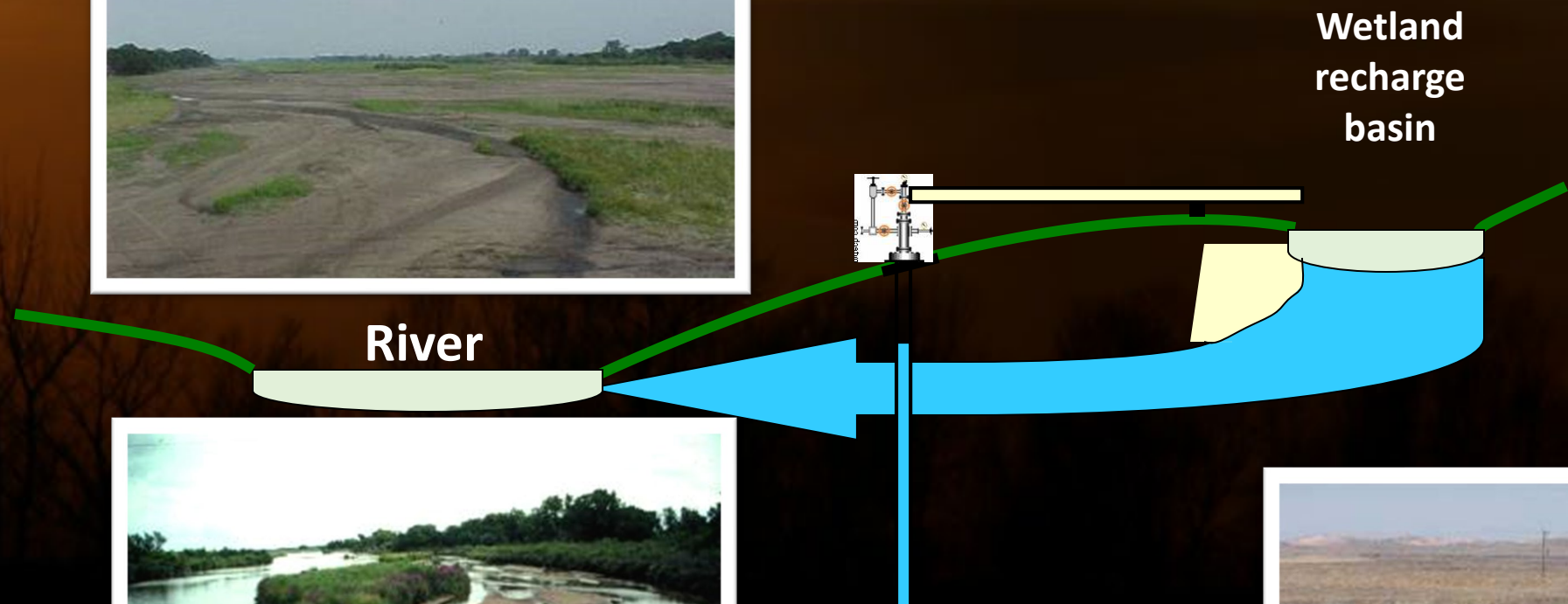
River

Wetland recharge basin



Managed Aquifer Recharge

At Low River Stages in Summer/Fall



**Managed Aquifer Recharge via
Wetland Habitat Development**





The End