

Enclosure 1. Fifteen Year Review, Nebraska Game and Parks Commission's Instream Flow Appropriations, For The Central and Lower Platte River.

Table 1. Platte River instream flow applications filed with NDNR on November 30, 1993.

Application Number	Purpose	River Reach	Time Period	Flow requested in cubic feet per second
A-17329	Maintain fish community	From J-2 Power Plant return to Loup Power Canal return	All year	1,000
A-17330	Maintain fish community	From Loup Power Canal return to confluence with Elkhorn River	All year	1,800
A-17331	Maintain fish community	From confluence of Elkhorn River to confluence with Missouri River	All year	3,700
A-17332	Maintain whooping crane roost habitat	From J-2 Power Plant return to Grand Island	April 1 – May 10	2,400
			Oct. 1 – Nov. 10	2,000

Note: The J-2 return enters the Platte River between Lexington and Overton.

After the Nebraska Game and Parks Commission (NGPC) filed the above applications and following official public notice of the original instream flow applications by the Nebraska Department of Natural Resources (NDNR) and because of opposition, a contested administrative hearing was initiated on September 25, 1996. The legal hearing lasted a total of 39 days over an extended timeframe and concluded on April 8, 1997. Following due process in reviewing over 7,700 pages of transcribed testimony and over 200 exhibits, the Director of the Nebraska Department of Natural Resources issued an Order dated June 26th, 1998 **approving each application with provisions (Table 2).**

Table 2. NGPC Platte River instream flow appropriation applications in cubic feet per second approved with provisions in the June 26th, 1998 NDNR Order.

Original Application	Purpose	Approved River Reach	Approved Time Period	Approved Central Platte		Approved Lower Platte	
				Odessa & Grand Island gages	Duncan gage	North Bend gage	Louisville gage
A-17329 1,000 cfs Jan-Dec	Maintain fish community	Kearney Canal Diversion Dam downstream to Loup Power Canal return at Columbus	Jun 1- Jun 23 Jun 24- Jul 31 Aug 1- Aug 22 Aug 23- Aug 31	500 400 200 300	500 400 300 400		
A-17330 1,800 cfs Jan-Dec.	Maintain fish community	Loup Power Canal return downstream to confluence with Elkhorn River	Entire year			1,800	
A-17331 3,700 cfs Jan – Dec.	Maintain fish community	Elkhorn River downstream to mouth of Platte River	Jan 1 - 31 Feb 1- Jul 31 Aug 1 - 31 Sept 1 - 30 Oct 1- Dec 31				3,100 3,700 3,500 3,200 3,700
A-17332 2,400 cfs Apr 1-May 10 2,000 cfs Oct 1-Nov 10	Maintain whooping crane roosting habitat	Kearney Canal Diversion downstream to U.S. Hwy 281 bridge at Grand Island	Apr 1- Apr 14 May 4 - May 10 Oct 1- Oct 11	50 1,350 1,350			

When approved NGPC instream flow appropriations are combined with approved Central Platte Natural Resource District (CPNRD) instream appropriations by time period and gage location, the total quantities and purposes are illustrated in **Table 3**.

Table 3 (purposes specified). Total instream flows in cubic feet per second granted for the central and lower Platte River when CPNRD appropriations (effective priority date of July 25, 1990) are combined with NGPC appropriations (effective priority date of November 30, 1993) by time period (calendar date sequence) and gage location. Yellow = NGPC appropriations and non-yellow = CPNRD appropriations.

Time Period	Central Platte River reach			Lower Platte River reach	
	Overton gage	Odessa & Grand Island gages	Duncan gage	North Bend gage	Louisville gage
	Purpose ¹	Purpose ^{1,3}	Purpose ^{1,3}	Purpose ³	Purpose ³
January 1 - 31	500 Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,100 ¹⁰ Fish community
February 1 - 28	500 Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
March 1 - 31	1,100 Maint. Sandhill crane habitat	1,100 ¹ Maint. Sandhill crane habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
April 1 - 14	1,300 Maint. WC & Sandhill crane habitat	1,350 ² Maint. WC & Sandhill habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
April 15 - 30	1,500 Maint. WC & Sandhill crane habitat	1,500 ¹ Maint. WC & Sandhill habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
May 1 - 3	1,500 Maint. WC & Sandhill crane habitat	1,500 ¹ Maint. WC & Sandhill habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
May 4 - 10	500 Maint. Fish & macroinvert for t & p	1,350 ³ Maint. Whooping Crane habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
May 11 - 31	500 Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macro for t & p	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
June 1 - 23	500 Maint. Fish & macroinvert for t & p	1,000 ⁴ Maint. Fish comm. & macro for t & p	1,000 ⁴ Fish comm. & macroinvert for t & p	1,800 Fish community	3,700 Fish community
June 24 - 30	600 Maint. Fish & macroinvert for t & p	1,000 ⁵ Maint. Fish comm. & macro for t & p	1,000 ⁵ Fish comm. & macroinvert for t & p	1,800 Fish community	3,700 Fish community
July 1 - 31	600 Maint. Fish & macroinvert for t & p	1,000 ⁵ Maint. Fish comm. & macro for t & p	1,000 ⁵ Fish comm. & macroinvert for t & p	1,800 Fish community	3,700 Fish community
August 1 - 22	600 Maint. Fish & macroinvert for t & p	800 ^{6,10} Maint. Fish comm. & macro for t & p	900 ^{8,10} Fish comm. & macroinvert for t & p	1,800 Fish community	3,500 ¹⁰ Fish community
August 23 - 31	500 Maint. Fish & macroinvert for t & p	800 ^{7,10} Maint. Fish comm. & macro for t & p	900 ^{9,10} Fish comm. & macroinvert for t & p	1,800 Fish community	3,500 ¹⁰ Fish community
Sept 1 - 30	500 Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,200 ¹⁰ Fish community
October 1 - 11	1,100 Maint. Sandhill crane habitat	1,350 ³ Maint. Whooping Crane habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
October 12 - 31	1,500 Maint. WC & Sandhill crane habitat	1,500 ¹ Maint. Whooping Crane habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
Nov 1 - 10	1,500 Maint. WC & Sandhill crane habitat	1,500 ¹ Maint. WC & Sandhill habitat	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
Nov 11 - 30	500 Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community
December 1 - 31	500 Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	500 ¹ Maint. Fish & macroinvert for t & p	1,800 Fish community	3,700 Fish community

Superscript notes for Table 3 (purposes specified) continued:

1 = CPNRD

2 = NGPC (50 cfs for maintaining whooping crane roost habitat) plus CPNRD (1,300 cfs for maintaining staging and roosting stopover habitat for whooping and sandhill cranes).

3 = NGPC

4 = NGPC (500 cfs for maintaining the fish community) plus CPNRD (500 cfs for maintaining fish and macroinvertebrates as food for least terns and piping plovers).

5 = NGPC (400 cfs for maintaining the fish community) plus CPNRD (600 cfs for maintaining fish and macroinvertebrates as food for least terns and piping plovers).

6 = NGPC (200 cfs for maintaining the fish community) plus CPNRD (600 cfs for maintaining fish and macroinvertebrates as food for least terns and piping plovers).

7 = NGPC (300 cfs for maintaining the fish community) plus CPNRD (500 cfs for maintaining fish and macroinvertebrates as food for least terns and piping plovers).

8 = NGPC (300 cfs for maintaining the fish community) plus CPNRD (600 cfs for maintaining fish and macroinvertebrates as food for least terns and piping plovers).

9 = NGPC (400 cfs for maintaining the fish community) plus CPNRD (500 cfs for maintaining fish and macroinvertebrates as food for least terns and piping plovers).

10 = NDNR reduced the instream flow request because it was higher than the 20 percent exceedance probability flow limit set by statute.

Note: WC = Federal and State listed Endangered Whooping Crane, Interior Least Tern = Federal and State listed Endangered, Piping plover = Federal and State listed Threatened.

Note: For an additional reference for Table 3, see NDNR (2010). Table A – 1 of this reference combines NGPC and CPNRD instream flow quantity numbers and consolidates some time frames, otherwise all numbers are the same as in Table 3 above. This reference also contains Tables A – 2 and A – 3 which depict Platte River Recovery Implementation Program (PRRIP) Species Target Flows during wet, normal, and dry periods for the critical reach between Lexington and Chapman, Nebraska.

Instream Flow Purposes

By passing LB 1106 in 1984, the Nebraska Legislature gave responsibility and authority to the Nebraska Game and Parks Commission and Natural Resource Districts to obtain instream flows for fish, wildlife, and recreation purposes. There are over 23,686 miles of small streams, rivers and canals in Nebraska (Zuerlein 1983). If one counts only the 12,371 miles of fishable streams and rivers, only 285 miles (2.3%) have instream flow appropriation protection under the Prior Appropriation System adopted (1895) and used by the State of Nebraska. Riverine values are best maintained by preserving processes and functions (Annear et al. 2002 and Annear et al. 2004) which help ensure river ecosystems are sustainable for present and future generations to deliver public goods and services. Since fish and wildlife are state public trust natural resources dependent upon water for their life cycle needs, it is only prudent that they be protected for the enjoyment of all citizens on a sustainable basis.

Nebraska Revised Statute § 46-2,112 requires the Nebraska Department of Natural Resources (NDNR) to review instream flow appropriations every fifteen years from the date granted based on the rebuttable presumption. This review entails reviewing written documentation of the continued use of said appropriation/s. The Director of NDNR must be satisfied that the information provided for said appropriations demonstrates that they continue to be used beneficially and are in the public interest. The Central Platte NRD (CPNRD) instream flow appropriations on the Platte River came up for their 15 year review during 2009 and were subsequently approved with no modifications in a NDNR Order dated October 5, 2009. No party objected to the CPNRD instream appropriations and two parties (CPNRD and NGPC) wrote letters in support of said appropriations. The Nebraska Game and Parks Commission's instream flow appropriation purposes for maintaining fishery resources and whooping crane habitat, in concert with appropriations of CPNRD, are important components of the Platte River Recovery Implementation Program (USDI 2006, NDNR 2010). Consequently, the NGPC vigorously supports continuation of their instream appropriations without diminishment.

The Nebraska Game and Parks Commission was granted the following instream flow appropriations on June 26, 1998. Their purposes for the first 15 year review in 2013 are as follows:

Approved A-17329 was requested for the purpose of maintaining the fish community from the Kearney Canal diversion downstream to the Loup Power Canal return at Columbus (**Table 2**).

Approved A- 17330 was requested for the purpose of maintaining the fish community from the Loup Power Canal return on the Platte River downstream to the confluence with the Elkhorn River (**Table 2**).

Approved A-17331 was requested for the purpose of maintaining the fish community from the Elkhorn River downstream to the mouth of the Platte River (**Table 2**).

Approved A-17332 was requested for the purpose of maintaining whooping crane roosting habitat from the Kearney Canal diversion downstream to U.S. Highway 281 bridge at Grand Island (**Table 2**).

Continued Use / Used Beneficially / In The Public Interest

Continued Use / Used Beneficially – Maintain the Fish Community

Fish species make up more than half of the approximately 54,711 recognized living vertebrate species on the planet. In this role, fish are important taxa for biodiversity conservation and resiliency of ecosystems to change. As such, they serve as symbols of health and integrity of their habitats, and for all practical purposes constitute the aquatic version of “canaries in a coal mine” (Lynch and Taylor 2013).

The fish community of the central and lower Platte River, like all communities of fish in other streams and rivers of Nebraska, is dependent upon the quantity and quality of the habitat or environment supporting them. A healthy riverine system can only be maintained by preserving enough of the structure, processes and functions that make it a riverine ecosystem. Generally, these can be categorized into five important components: hydrology, geomorphology, biology, water quality, and connectivity (Annear et al. 2004). The NGPC central and lower Platte River instream flow appropriations were developed with hydrology and biology for the fish communities residing in the different reaches in mind as well as the hydrology and biology for maintaining whooping crane roost habitat in the river during their spring and fall migrations through Nebraska. Approval for the central Platte River reach fish community was also based on water temperature modeling that demonstrated river flow to summer water temperature relationships were important and justified in supporting the application. For an in-depth look at the effort to obtain instream flows on the Platte River by the Central Platte Natural Resource District and the Nebraska Game and Parks Commission, please refer to Eisel and Aiken (1997) and/or Chapter 7 in Locke et al. (2008).

The central and lower Platte River in Nebraska provide riverine and hydrologically connected riparian wetland habitats used by a variety of resident and migratory fish and wildlife species, including 230 bird species (Currier et al. 1985) and over 55 fish species (Johnson 1942, Morris 1960, Peters et al. 1989 and 1992). Additional field sampling since these earlier studies by Schainost and Koneya (1999) and Peters and Schainost (2005) documented one hundred species of fish (76 native and 24 non-native) in the Platte River. In 1976, the Cooperative Instream Flow Service Group was formed under the sponsorship of the U.S. Fish and Wildlife Service to address and interrelate major components of instream flow activities (Hilgert 1978). Subsequently, in 1982 the Nebraska Game and Parks Commission initiated a local, state and federal cooperative effort using the newly minted Instream Flow Incremental Methodology (IFIM) and Physical Habitat Simulation (PHABSIM) model to determine instream flow needs for fish and wildlife on the central and lower Platte River. During this development process, various life stages (juvenile and adult) of 12 resident fish species were selected and utilized to be *representative of the fish community* in formulating instream flow quantities for the central and lower Platte River. For additional information on IFIM and PHABSIM, as well as other methods to quantify instream flows, see Annear et al. (2004).

Although the federal and state-listed endangered pallid sturgeon was known to occur in the lower Platte River below Columbus during the instream flow field investigations of the Nebraska Game and Parks Commission, the extent of their presence was unknown and sufficient scientific information was unavailable for this species. Consequently, pallid sturgeon were not included as one of the representative fish species for instream flow quantity formulation during this instream

flow effort. Scientific evidence gathered since then for pallid sturgeon presence in the lower Platte River indicates that much higher flows would have been needed for a spring migration hypothesized for spawning events and for river connectivity to allow for the free movement of pallid sturgeon in the lower Platte River (Parham 2007, Peters and Parham 2008a). In a recent 2008-2011 field study of pallid sturgeon in the lower Platte River, researchers examined local and regional scale factors that influenced the presence of pallid sturgeon. Effects of daily river discharge, daily flow variability, sampling season, and location were the most important and influential variables in pallid sturgeon logistic models. Probability of pallid sturgeon occurrence was always greatest during periods of high discharge during spring and fall (Hamel et al. 2013). In a recent defense of their Platte River field studies, Parham and Peters (2013) concluded that it is most probable that pallid sturgeon use the lower Platte River intentionally and that pallid sturgeon find suitable habitat for migration, spawning, and growth of adults, movement and growth of juveniles, and suitable conditions for larval drift in the lower Platte River. Although, not a species utilized in the current 15 year review process for the Nebraska Game and Parks Commission's instream flow appropriations for the central and lower Platte River, the recent U.S. Fish and Wildlife Service Draft Revised Recovery Plan for the Pallid Sturgeon (*Scaphirhynchus albus*) specifically identifies recovery activities associated with 1. Conserve and Restore Pallid Sturgeon Habitats, Individuals and Populations, of which Recovery Section: 1.1.4 states: Provide and Protect Instream Flows in riverine reaches important to pallid sturgeon (Jordan 2013).

For the A-17329, A-17330, and A-17331 process, the 12 *representative fish species* utilized by the NGPC for determining habitat needs versus flow relationships included: Western silvery minnow, Plains minnow, Speckled chub (also now called Shoal chub), Flathead chub, River shiner, Red shiner, Sand shiner, River carpsucker, Channel catfish, Flathead catfish, Plains killifish, and Carp. For A-17332, the whooping crane was used (Wingfield 1993).

Maintaining a viable fish community in the central and lower Platte River is important to Nebraska because they constitute public trust natural resources and the community is part of the biota supporting the aquatic food chain. Numerous species contribute to sport fishing enjoyed by anglers as part of their quality of life experiences. In a 1981 Nebraska statewide angler survey, the Platte River ranked second only to the Missouri River in terms of angler use for rivers in Nebraska (Zuerlein 1984). According to the Nebraska State Comprehensive Outdoor Recreation Plan (SCORP), the Platte River accounted for 1,021,348 fishing trips by Nebraskans age 6 and above or older (NGPC 1991) in 1984. This represented approximately 30% of all stream/river fishing in 1984. Use of the lower Platte River represented 38% of the anglers who fished the Platte River with a mean of 8.5 trips per angler in this reach of river. Other research on the lower Platte fishery has demonstrated that the channel catfish population represents a sizable percentage of the numbers and biomass of sport fish in the river (Peters et al. 1992). An on-site evaluation of fishing pressure, harvest, and angler characteristics was conducted during 1992 and 1993 (Holland and Peters 1994). Anglers caught and sometimes harvested 12 species including: shovelnose sturgeon, longnose gar, gizzard shad, skipjack herring, goldeye, carp, river carpsucker, channel catfish, flathead catfish, white bass, largemouth bass, and freshwater drum. In results of a 2002 survey of licensed anglers, both male and female anglers age 16 to over 65 reported fishing the Platte River, however, younger anglers showed a higher propensity to fish (Hurley and Hurley 2005). During April 15 – 18, 2012 the Lower Platte River Corridor Alliance conducted a research survey of residents living within 3 miles of the Platte in Butler,

Cass, Colfax, Dodge, Douglas, Platte, Saunders, and Sarpy counties. When asked what was the first thing that comes to mind when thinking about the Lower Platte River Corridor, fishing was the second most popular response given (LPRCA 2012). The number one response was flooding and ice jams which attests to the fact that the lower Platte River maintains some dynamic hydrological features of value to maintaining resiliency and sustainability of this riverine ecosystem.

In more recent times (2010, 2011 and 2012), a field investigation entitled: *Platte River Catfish Population Dynamics and Tagging Study* was initiated with the objective of monitoring channel catfish and flathead populations in the central and lower Platte River (3 reaches: above Columbus, Columbus to Elkhorn River, and Elkhorn River to Missouri confluence). Emphasis was placed on these two particular species of the fish community because of their recreational sport fishery importance to anglers in the central and lower Platte River reaches. Locations where site sampling took place in the central Platte included near Elm Creek (Rkm 370), Bassway Strip (Rkm 328), Wild Rose Ranch (Rkm 290), and Clarks (Rkm 219). Sites in the lower Platte included Columbus (Rkm 161), Schuyler (Rkm 132), North Bend (Rkm 113), Leshara (Rkm 77), Louisville (Rkm 35), and Plattsmouth (Rkm 1). Hoop nets and pulsed DC electrofisher were used to sample fish populations during spring (March–May of 2010 and 2011).

During the 2010 sampling season of this field investigation, 42 fish species were collected and 10 of the original representative 12 species used to formulate instream flow quantities for the fish community were sampled (Blank and Pegg 2011)(**Enclosure 2**). During the 2011 sampling season, 37 fish species were collected and 9 of the original 12 species utilized to develop instream flow quantities for the fish community were captured (Blank and Pegg 2012)(**Enclosure 3**). In both years, channel catfish were the most abundant species sampled. Channel catfish and flathead catfish both turn piscivorous (fish eaters) fairly early in life which means that sufficient food sources must be available for them to grow into sizes large enough for anglers to desire/seek/and in many cases harvest for human consumption. Both performance reports substantiate the importance of recreational catfishing in the Platte River. Further detailed information on the population dynamics of channel catfish in the Platte River can be obtained in Blank (2012).

In terms of processes and functions, instream flows distribute vital nutrients such as nitrogen, phosphorus, and carbon to the base of the aquatic food chain. Algae are the base (primary producers) of aquatic food webs. Organisms that utilize algae as food include zooplankton, macroinvertebrates and fish (Farrell and Tesar 1982). Aquatic macroinvertebrates are important food items in the diet of many fish and wildlife species. The fish community, especially sport species, in the Platte River depend upon macroinvertebrates as food during different stages of their life cycle. For illustrative purposes, channel catfish food habit studies conducted on the Niobrara and Missouri rivers demonstrate and substantiate the importance of macroinvertebrates in their diet (Zuerlein 1982). While studying shovelnose sturgeon food habits in the lower Platte, Peters and Parham (2008b) documented macroinvertebrates in the drift as well as the stomachs of this benthic fish species. Likewise, the catfish population inhabiting the central and lower Platte depend upon aquatic insects to sustain themselves. As members of the fish community, catfish are highly prized and sought after by Nebraska anglers. **In order to maintain the fish**

community in the central and lower Platte reaches. The Nebraska Game and Parks Commission vigorously supports continuation of A-17329, A-17330, and A-17331 without diminishment.

Continued Use / Used Beneficially – Maintain Whooping Crane Roosting Habitat

The last wild migratory flock of whooping cranes, numbering less than 300, migrates through Nebraska on their 2,500 mile journey between their nesting grounds in northern Canada and their wintering grounds along the Texas Gulf Coast. Critical habitat for whooping cranes along the central Platte River was officially designated by the USFWS as follows: An area of land, water, and air-space in Dawson, Buffalo, Hall, Phelps, Kearney, and Adams Counties with the following boundaries: Platte River bottoms – a strip of river bottom with a north-south width of 3 miles, a south boundary paralleling Interstate 80, beginning at the junction of U.S. Highway 283 and Interstate 80 near Lexington, and extending eastward along Interstate 80 to the interchange for Shelton and Denman, Nebraska near the Buffalo-Hall County line (43 FR 20938, USFWS 2006). This critical habitat is within the primary migration corridor for whooping cranes which averages 170 miles wide in Nebraska, stretching from just west of the City of North Platte to just east of Grand Island (USFWS 2006). Johnson (1982) estimated that 82% of all recent confirmed sightings have been made within this primary corridor. Overall, whooping cranes continue to use the central Platte River annually (NRC 2005, USFWS 2011).

A Cooperative Whooping Crane Tracking Project (CWCTP) was initiated in 1975 by a network of Federal and State cooperating agencies, the information of which is maintained at the U.S. Fish and Wildlife Service Field Office in Grand Island. The Whooping Crane Tracking Project database contains sighting locations and habitat evaluations collected between 1975 and 1999 (Austin and Richert 2001). In fall 2007, the CWCTP database was converted to a GIS format (ArcGIS 9.2) to facilitate input, updates, and output options in a spatial context. The CWCTP-GIS database (CWCTP-GIS) is updated annually following the Fall migration and distributed to State cooperators and U.S. Fish and Wildlife Service Ecological Services Field Offices in the Central Flyway. Contact information for these offices can be found at <http://www.fws.gov/offices>. See **Enclosure 4** for a map of the central Platte River depicting confirmed whooping crane sightings from 1942-2011, especially in the critical habitat designated zone on the Platte River. Analysis of these sightings from the database shows that 15% of them (84/558) fall in the critical habitat designated zone.

The migration corridors depicted in **Enclosure 4** are based on 1,981 confirmed whooping crane sightings in the U.S. portion of the Central Flyway through the 2008 spring migration (Brei et al. 2009). Because much of the Central Flyway is sparsely populated, only a small percent of stopovers are observed, those observed may not be identified, those identified may not be reported, and those reported may not be confirmed (only confirmed sightings are included in the CWCTP-GIS database). It has been estimated that as little as 4% of crane stopovers are reported based on the crane population and average flight distances of this species. Whooping cranes regularly use the central Platte River (see **Enclosure 4**). Analysis of all confirmed observations from the 1942-2011 data shows that 25% of them (140/558) fall within 1.5 miles of the centerline of the Platte River between Lexington and the Hall/Merrick County line. When just the last 5 years of available data are used (2007-2011), the figure is 30% (43/143). However, confirmed records of Whooping Crane are a function of both bird use and detection rates. The central Platte likely received better coverage by observers in the past when compared to other habitats and systems. Certainly, the central Platte River has received better coverage between

2007-2011 as the Platte River Recovery Program conducted regularly (daily or near daily) monitoring during migration periods. None the less, confirmed sighting data indicate Whooping Cranes regularly use the central Platte River reach.

A-17332 which is for 50 cfs to maintain endangered whooping crane roosting habitat is essential because it is added to the appropriations held by the Central Platte NRD to maintain staging and roosting habitat for whooping and sandhill cranes in the central Platte River reach during their spring and fall migrations through Nebraska during the April 1–14th and October 1–11th timeframe (**Table 2 and 3**); A-17332 also includes 1,350 cfs for maintaining endangered whooping crane roosting habitat for the May 4–10 and October 1–11 timeframes (**Table 2 and 3**). When the spring and fall appropriations of NGPC are combined with the spring and fall appropriations of CPNRD, the timeframes cover the migration dates for which instream flows are needed for this species. Consequently, to maintain whooping crane roosting habitat from the Kearney canal diversion downstream to the U.S. Highway 281 bridge at Grand Island, the Nebraska Game and Parks Commission supports continuation of A-17332 without diminishment.

The Nebraska Department of Economic Development, Division of Travel and Tourism is promoting Nebraska's Platte River Valley as a great gathering place to view sandhill cranes, whooping cranes, waterfowl, eagles, prairie grouse, and black-tailed prairie dogs. People around the world flock to see the magical happenings in the heart of the Great Plains and Platte River instream flows contribute significantly to helping make this happen (NDED-T&T no date and NDED-T&T 2012). Non-Government Organizations such as the Audubon Society and its local chapters have also played an instrumental part in showcasing the central Platte birding opportunities. In 1973 the National Audubon Society established the Lillian Annette Rowe Wildlife Sanctuary southwest of Grand Island as a first step to protect critical habitat in the central Platte River (Jenkins and Konecny 1996). During March 2013, the 43rd annual Rivers and Wildlife Celebration will be held in Kearney, Nebraska. This conference, organized by Audubon Nebraska, is a testament to the importance people place on the central Platte River and the habitats supporting one of North America's greatest migration spectacles (Wachiska Audubon Society 2013). A great deal of use information for cranes and a Central Nebraska Viewing Guide can also be found in the February and March Issues of *Prairie Fire* (2013a and 2013b).

Established in 1978, the Platte River Whooping Crane Maintenance Trust, more informally known as the Platte River Trust or just the Crane Trust, is another non-profit organization dedicated to the protection and maintenance of critical habitat for cranes and other migratory birds through science, habitat management, community outreach, and education (Bzdek 2008, Zuerlein 2013). Many of their efforts are headquartered out of the Crane Trust Nature & Visitor Center near Wood River (I-80 Alda Exit 305) in south central Nebraska (Harner 2013). For an excellent video of crane use in the central Platte River see their web site at www.NebraskaNature.org, click on Watch the Great Crane Migration. This video contains a whooping crane in it. Overall, instream flows for whooping cranes also help many other species, especially sandhill cranes, the likes of which are proudly displayed on the front cover of the Official 2013 Travel Guide for Nebraska (Nebraska Tourism Commission 2013). In 2012, the Nebraska Legislature created the Nebraska Tourism Commission and all powers and duties of the Travel and Tourism Division of the Nebraska Department of Economic Development were transferred to this newly formed agency on a vote of 47-0 under LB 1053.

In The Public Interest

The public trust doctrine is detailed in over 100 legal cases and publications (Pearson and Aiken 1987, Laitos et al. 2006a, Klass and Huang 2009, CPR 2009). Its basic premise is that some natural resources are so important to the public's well-being that they should never be destroyed by present generations, but should be retained in "trust" by the sovereign for the continued welfare of future generations. The public trust doctrine has served as the North American Model of Conservation policy for more than a century's worth of conservation in the United States and the Nebraska Game and Parks Commission's management and regulation of resources is aligned with and builds on the idea that fish and wildlife resources are owned by the people (NGPC 2011). Since water is also a public trust resource in Nebraska, it is vital to sustaining fish and wildlife resources in our streams and rivers. A clear and concise definition of the public trust doctrine follows:

Public Trust Doctrine

★★★★★

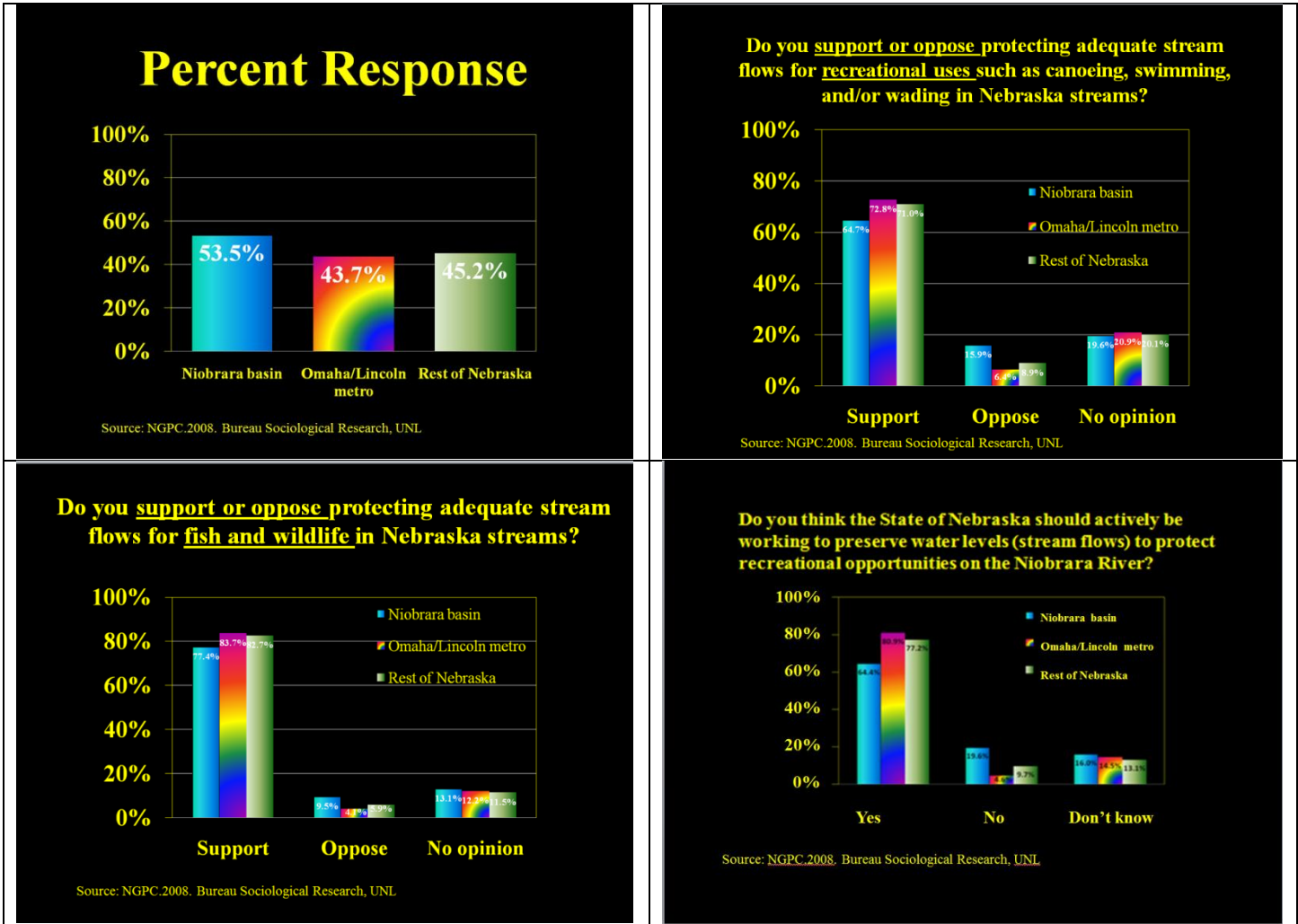
The **public trust doctrine** revolves around the concept that government owes its citizens special duties of **stewardship** regarding common property resources which **the state holds in trust for the public**. The public trust doctrine holds that **government must act as a fiduciary** (one to whom property or power is entrusted for the benefit of another) in its management of the trust resources. **The beneficiaries of this trust are the citizens of the state, including future generations**. Common property resources, including water, fish, wildlife, air, and land, are held by the states in their sovereign capacity and are subject to **the public trust**.

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The Constitution of the State of Nebraska of 1875 (as amended through December 2008), provides that: The use of water of every natural stream within the State of Nebraska is hereby dedicated to the people of the state for beneficial purposes (Article XV, Sec.5) and goes on to state in Sec. 6: "The right to divert unappropriated waters of every natural stream for beneficial use shall never be denied except when such denial is demanded by **the public interest**" (Clerk of the Legislature 2008-09). This language has been construed by the Nebraska Supreme Court as allowing the legislature to define the "public interest" (Zellmer and Harder 2007). In 1984, the Nebraska Legislature passed LB 1106 authorizing instream flows for the first time ever for recreation or fish and wildlife purposes. **State Statute 46-2,108 (2) further goes on to state that instream use of water for recreation or fish and wildlife shall be considered a beneficial use of water.**

In order to communicate and obtain feedback from the people of Nebraska, the Nebraska Game and Parks Commission contracted with the University of Nebraska, Bureau of Sociological Research to conduct a stakeholder survey on their views on streams/rivers, including the Niobrara River. On October 21, 2008 a cover letter, a survey, and a postage-paid envelope were mailed to 2,850 randomly selected households (950 in the Omaha and Lincoln metro area; 950 in

counties surrounding the Niobrara River; and 950 in the remainder of the state). On November 5, 2008 non-respondents were mailed a reminder postcard and on November 13, 2008, they received a second cover letter and survey. To ensure a sample of individuals (rather than households) was obtained, the cover letter included instructions to have the household member age 19 or older who most recently celebrated a birthday complete and return the survey.



Figures: Upper Left - Excellent response percentages from survey research respondents. Upper Right - High percentage of all respondents support protection of adequate stream flows for recreational uses on Nebraska streams. Lower Left - High percentage of respondents support protection of adequate stream flows for fish and wildlife purposes on Nebraska streams. Lower Right - High percentage of respondents support the State of Nebraska protecting stream flows for recreational opportunities on the Niobrara River.

Clearly, Nebraskans value adequate stream flows in streams and rivers for fish, wildlife and recreational purposes.

Fulfillment of the Platte River Recovery Implementation Program (PRRIP) will take cooperation between the states of Colorado, Wyoming, Nebraska and the federal agencies (USDI 2006). In

the Need for the Program in the Final Environmental Impact Statement, the United States Fish and Wildlife Service determined objectives for the maintenance of river flows in the central Platte River for target species (whooping crane least tern and piping plover). Currently, river flows for the central Platte River fall short of target flows by roughly 417,000 acre feet on an average annual basis. The Program's First Increment (13 years) is geared to achieve roughly one third of this amount (130,000 to 150,000 acre feet) for flow improvement, while allowing for monitoring and research to increase understanding of the species needs. Because the central Platte River is one of four migrational habitat areas designated as critical habitat for whooping cranes, it is important to maintain roosting habitat for them. The others being the Salt Plains NWR in Oklahoma, and the Quivira NWR and Cheyenne Bottoms State Wildlife Area in Kansas. All four areas have geographic importance and have observations documenting high frequency of crane use in their migrational path (USFWS 2006). The whooping crane is the rarest of the world's 15 crane species and occurs exclusively in North America. One way to view whooping crane low numbers is a saying by William Bevee as follows:

<p style="text-align: center;">Species</p> <p style="text-align: center;">When the last individual of a race of living things breaths no more, another heaven and earth must pass before such a one can be again.</p> <p style="text-align: center;">William Bevee Conservation Biologist</p>

Besides maintaining the purposes for which they were originally applied for and granted, Nebraska Game and Parks Commission appropriations (A-17329, A-17330, A-17331, A-17332) help serve many other public interest values, especially when viewed in conjunction with Central Platte Natural Resource District instream appropriation quantities granted and identified in **Table 3**. Among them are groundwater recharge, helping curb vegetation encroachment in the channels of the Platte River; municipal induced recharge for Kearney, Wood River, Grand Island, Central City, Fremont, Lincoln, and the Omaha municipal well field, not to mention the counties and many other smaller communities along the Platte River.

Omaha has two well fields immediately adjacent to the Platte River as well as the Missouri River to the east as a source of water to supply the needs of its residents. Omaha's Municipal Utility District (MUD) newest west well field (called Platte West along the Platte River) near Two Rivers State Recreation Area and just upstream of the Lincoln well field at Ashland has induced recharge appropriations totaling 1,000 cfs (NDNR 2005-2006). Omaha's second Platte South well field is near the confluence of the Missouri River, which is well below Lincoln's well field, has induced recharge appropriations totaling 500 cfs. The lower Platte River flowing past Lincoln's Ashland well field adjacent to or in the Platte River generally has a median flow in early August close to 2,500 cfs, but according to Jerry Obrist, Lincoln's Municipal Water Manager, at least 2,000 cfs is necessary to have adequate recharge of this well field during extreme drought prone times such as the river experienced in 2012 (Obrist 2012). Currently, Lincoln only has induced recharge appropriations totaling 704 cfs from May 15 – September 15 and 200 cfs from September 16 – May 14. During somewhat normal years, NGPC instream

flows help recharge groundwater for the benefit of the Omaha and Lincoln well fields, but under extreme drought conditions such as 2012, they may be of marginal assistance because they are not senior enough. Other public interest values benefiting from instream flows include water quality, enhanced recreation and preservation values, there are many more (Niemi 2006, PNAS 2012, CEQ 2013).

The Nebraska Department of Economic Development, Division of Travel and Tourism in partnership with the Hastings/Adams County, Grand Island/Hall County, Bosselman Travel Center, and Kearney Visitors Center all promote the central Platte River reach in visitor brochures (NDED-DT&T no date), including a Central Nebraska Wildlife Viewing Guide with page titles including: *The Great Gathering Place* (Nebraska's Platte River Valley), *The Diversity of the Nebraska Prairie* (Audubon's Rowe Sanctuary), *The Diversity of the Nebraska Prairie* (Nebraska Nature & Visitor Center), *See Millions of Migrating Birds* (Nebraska's Rainwater Basins), and *Breathtaking Crane Viewing*. In March 2012, Governor Heineman hosted Governors Sam Brownback of Kansas and John Hickenlooper of Colorado in viewing the Sandhill cranes and other waterfowl that migrate through the Platte River Valley (Klataske 2013). Ecotourism and economic development were topics of discussion. Governor Heineman went on to say that the abundance of rivers and waterways in our state creates excellent opportunities for outdoor recreation (NDED-DT&T 2012). Such opportunities help grow the state's economy overall and contribute to the economic viability of local communities and the general quality of life for everyone. Economic value/estimates for birding, hunting, and fishing are substantial and can be found in Jenkins (1999). From these outdoor activities, wildlife associated recreation must be recognized as an industry of significant importance and potential in the central Platte River. Overall, human health, economic health, and social health are tied to the ecological health of the central and lower Platte River.



Photos: First - Public access sign at the start of the trail to the central Platte River for crane viewing enjoyment. Second - Public observers on old railroad bridge waiting for sandhill cranes in late afternoon. Third - sandhill cranes coming to the central Platte River for overnight roosting purposes. Fourth - Moon coming up in the east/downstream of railroad bridge used for viewing.

In summary, the Nebraska Game and Parks Commission believes the beneficial uses/purposes for which A-17329, A-17330, A-17331, and A-17332 were granted (maintaining the fish community and whooping crane roosting habitat) are still being served and that the appropriations are in the public interest. States have been identified as the trustee of public interest in fish and wildlife resources in a landmark decision handed down from the U.S. Supreme Court in 1842 which ruled that this trust responsibility, held by the states, should benefit all people and not just for the advantage of government or private individuals (NGPC 2011). “A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it” (Oliver Wendell Holmes, Laitos et al. 2006b).

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