Abundant waterfowl food resources at many refuges and wetlands in both river systems likely enhanced waterfowl stopover duration (O'Neal et al. 2012) during fall 2012 which perhaps contributed to the large numbers of ducks observed during fall inventories and use-day estimates. Additionally, waterfowl forage was available well past the average freeze-up date of 8 December for central Illinois. Despite brief periods of extensive ice coverage, above normal temperatures and relatively mild weather persisted until 22 December when significant portions of the IRV wetlands froze. Significant ice coverage was not observed in the CMRV until 27 December when most of the side and main channel areas of Pool 19 froze. Ample food resources and ice-free wetlands provided ideal waterfowl migration habitat during fall 2012. Waterfowl inventories revealed that migrating ducks responded to the available wetland habitats when large numbers of ducks occupied both river systems creating a spectacular duck migration during fall 2012 in central Illinois.

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Literature Cited

Fredrickson, L.H., and T.S. Taylor. 1982. Management of seasonally flooded impoundments for wildlife. United States Department of the Interior, Fish and Wildlife Service Resource Publication 148. Washington, DC, USA.

Havera, S.P. 1999. Waterfowl of Illinois: status and management. Illinois Natural History Survey Special Publication 21, Urbana, IL, USA.

Illinois Natural History Survey (INHS) 2013. Aerial inventories. Online: http://www.bellrose.org.

O'Neal, B.J., J.D. Stafford, and R.P. Larkin. 2012. Stopover duration of fall-migrating dabbling ducks. Journal of Wildlife Management 76:285–293.

Stafford, J.D., M.M. Horath, R.V. Smith, A.P. Yetter, and C.S. Hine. 2010. Historical and contemporary characteristics and waterfowl use of Illinois River valley wetlands. Wetlands 30:565–576.

Stafford, J.D., M.M. Horath, A.P. Yetter, C.S. Hine, and S.P. Havera. 2007. Wetland use by mallards during spring and fall in the Illinois and central Mississippi river valleys. Waterbirds 30:394–402.

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Table 1. Peak abundance estimates of waterbirds by species and guild during falls 2011 and 2012, the average for $2007-2011 \ (\bar{x})\bar{x}$ and the percent change between 2012 and 2011 (ΔYR) and the 2007-2011 average (ΔAV).

Abundance					Use Days					
Species and Regions	2011	2012	\bar{x}	$\Delta_{\mathbf{YR}}$	$\Delta_{ extbf{AV}}$	2011	2012	\bar{x}	$\Delta_{\mathbf{YR}}$	Δ_{AV}
Mallard (Anas platyrhynchos)										
Illinois River	159,155	488,570	156,634	207	212	6,758,160	9,762,533	6,066,090	44	61
Central Mississippi River	220,810	321,310	230,649	46	39	5,937,088	7,175,330	5,931,076	21	21
Illinois & Mississippi Rivers	379,965	809,880	373,662	113	117	12,695,248	16,937,863	11,989,735	33	41
American Black Duck (Anas rubripes)										
Illinois River	1,310	1,980	1,689	51	17	38,205	52,223	47,313	37	10
Central Mississippi River	300	1,260	1,294	320	-3	4,113	7,798	19,736	90	-60
Illinois & Mississippi Rivers	1,460	2,930	2,533	101	16	42,318	60,020	67,035	42	-10
Northern Pintail (Anas acuta)										
Illinois River	67,070	56,830	38,468	-15	48	2,746,323	2,782,958	1,394,819	1	100
Central Mississippi River	60,700	75,205	39,715	24	89	2,116,765	2,971,035	1,471,940	40	102
Illinois & Mississippi Rivers	103,185	132,035	68,489	28	93	4,863,088	5,753,993	2,871,113	18	100
Blue-winged Teal (Anas discors)										
Illinois River	24,685	49,630	18,881	101	163	749,058	445,243	462,777	-41	-4
Central Mississippi River	2,230	11,080	4,209	397	163	67,633	234,833	69,008	247	240
Illinois & Mississippi Rivers	26,915	60,710	22,995	126	164	816,690	680,075	533,385	-17	28
Green-winged Teal (Anas crec	ca)									
Illinois River	59,140	52,275	35,463	-12	47	3,283,950	2,778,785	1,576,319	-15	76
Central Mississippi River	49,895	40,175	28,970	-19	39	1,979,580	2,162,323	1,183,032	9	83
Illinois & Mississippi Rivers	99,275	85,495	61,715	-14	39	5,263,530	4,941,108	2,755,761	-6	79

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