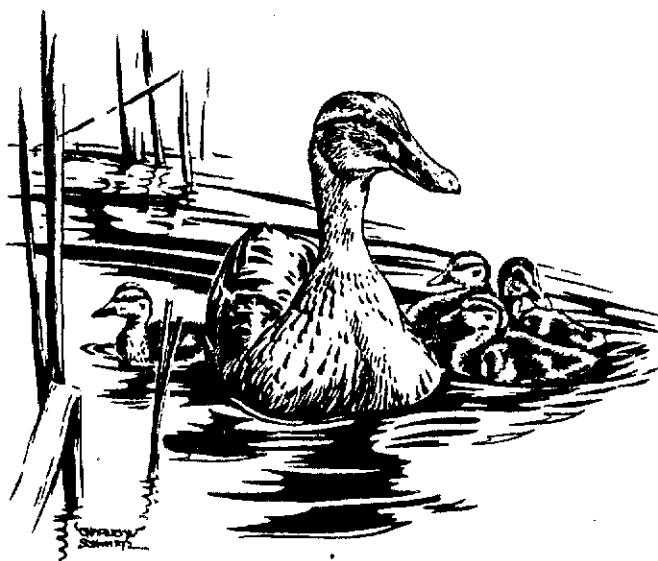


ILLINOIS NATURAL HISTORY SURVEY

CENTER FOR WILDLIFE ECOLOGY



**1994-1995 Aerial Waterfowl Inventories of Chautauqua National Wildlife
Refuge and Peoria Lake Environmental Management Program Sites**

Annual Report

by

**Stephen P. Havera
and
Michelle M. Georgi**

Illinois Natural History Survey

14 August 1995

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The purpose of this project was to aerially inventory waterfowl (ducks and geese), bald eagles, double-crested cormorants, and white pelicans during fall and spring, 1994-1995 at Upper Peoria Lake and Lake Chautauqua EMP sites. Inventories were conducted from light aircraft flying at low levels. Fall inventories were made on 6 and 12 September; 3, 11, 17, and 24 October; 1, 7, 14, 22, and 29 November; 8 and 13 December; and 3 January. Spring inventories were made on 14 and 21 February; 1, 6, 16, 22, and 28 March; and 4 April. Species of waterfowl and their respective numbers were recorded during each inventory (Table 1).

The Upper Peoria Lake EMP site was divided into two inventory areas, the lake segment and the Forested Wetland Management Area (FWMA). There were no waterfowl observed at the FWMA during the fall or spring migrations. We are still uncertain if the FWMA can be accurately inventoried as a result of the difficulty in identifying and enumerating waterfowl in flooded timber. Perhaps once the FWMA is completed we can better assess the possibilities of censusing the area.

The inventory data are summarized by site in tabular form displaying the peak (highest number counted for all inventories) population count by species for each compartment at each site and also for the entire site during fall (Sept.-Jan.) and spring (Feb.-Apr.) (Tables 2 and 8). The peak number for the entire site may not represent the sum of the peaks for all the compartments because the peak numbers in the various compartments could have occurred on different flight dates. Additionally, the results of each waterfowl inventory are provided by date for each site (Tables 3, 4, 9, and 10). As a result of the flood, the fall of 1993 was an extremely poor year for waterfowl food production; conversely the fall of 1994 was an excellent year for waterfowl food in the Illinois Valley. At the Lake Chautauqua EMP site, because of construction, water was

drained early and moist soil plants flourished, especially in the lower portion of the lake. This provided migrating waterfowl a substantial food supply. The fall 1994 peak number for total ducks at Lake Chautauqua was 368,800, noticeably higher than the 1993 peak of 16,330.

Copies of maps delineating the areas inventoried at each site are also provided (Figures 1 and 5). Figures depicting the distribution of wetlands and deepwater habitats as classified by the U.S. Fish & Wildlife Service's (USFWS) National Wetlands inventory (NWI) are also provided for each site (Figures 2-4, 6-8). Wetland and deepwater habitat acreage summaries for each site are provided in tables 5-7 and 11-13. Interpretations and classifications of wetlands and deepwater habitats by the USFWS for the NWI were done using aerial color infrared photographs taken from the spring of 1980 through the spring of 1987. The USFWS defines wetlands as "lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water (<2m deep)." Deepwater habitats are defined as "permanently flooded lands lying below the deepwater boundary of wetlands. Deepwater habitats include environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live, whether or not they are attached to the substrate" (Cowardin et al. 1979).

For the purpose of this report, NWI data was grouped into wetlands and deepwater habitats then subdivided into system, class, and subclass categories. In tables 5-7 and 11-13, wetland and deepwater habitat acreage are divided into natural and modified/artificial categories (Suloway and Hubbell 1994). Natural means neither diked, impounded, excavated, drained, farmed, nor artificially flooded. Modified/artificial means diked, impounded, excavated, drained, farmed, or artificially flooded.

Table 1. Common names of waterfowl aerially inventoried and abbreviations used in the report.

Common name		Abbreviation
Dabbling ducks		
Mallard	=	MALLARD
American black duck	=	BLK
Northern pintail	=	PNT
Blue-winged teal	=	BWT
Green-winged teal	=	GWT
American wigeon	=	WIG
Gadwall	=	GAD
Northern shoveler	=	SH
Diving ducks		
Lesser and greater scaup	=	SCAUP
Ring-necked duck	=	RN
Canvasback	=	CNVB
Redhead	=	RH
Ruddy duck	=	RDY
Common goldeneye	=	GLD
Bufflehead	=	BH
Mergansers		
Common merganser	=	CM
Red-breasted merganser	=	RBM
Hooded merganser	=	HM
Geese		
Canada goose	=	CG
Snow goose	=	SG
American coot	=	COOT
Bald Eagles		
Adult	=	AD
Immature	=	IMM
Double-crested cormorant	=	CORM
White pelican	=	PEL

UPPER PEORIA LAKE

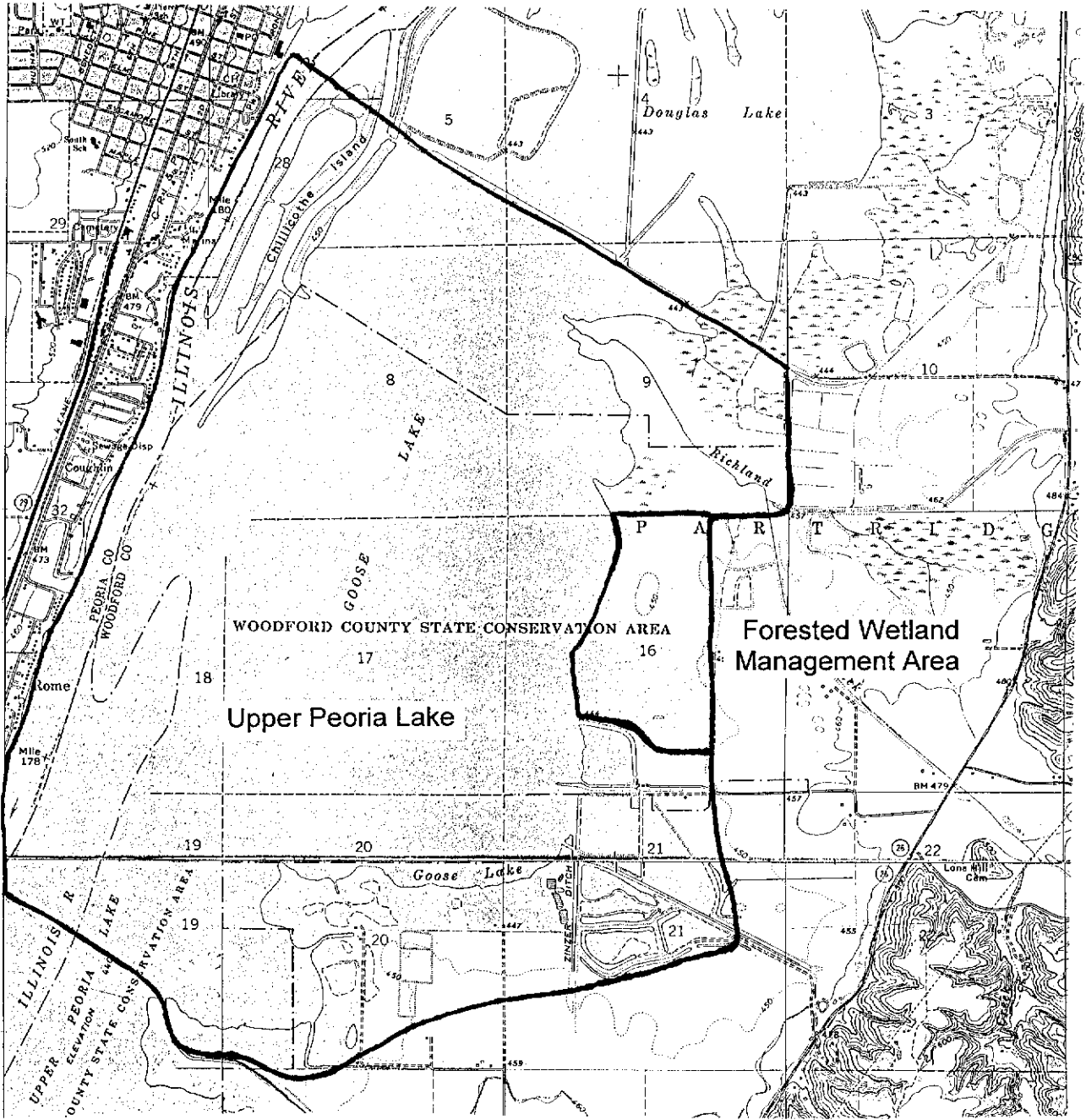


Figure 1. The Upper Peoria Lake EMP site with boundaries drawn delineating the area.

Table 2. Peak numbers of waterfowl aerially inventoried by the Illinois Natural History Survey at Upper Peoria Lake EMP site, fall 1994 and spring 1995^a.

	Upper Peoria Lake		Forested Wetland Management Area		Total EMP site	
	Fall	Spring	Fall	Spring	Fall	Spring
Dabbling ducks						
Mallard	400	1,800	0	0	400	1,800
American black duck	50	100	0	0	50	100
Northern pintail	0	0	0	0	0	0
Blue-winged teal	0	0	0	0	0	0
Green-winged teal	300	0	0	0	300	0
American wigeon	0	0	0	0	0	0
Gadwall	0	0	0	0	0	0
Northern shoveler	0	0	0	0	0	0
All dabbling ducks	700	1,900	0	0	700	1,900
Diving ducks						
Lesser & greater scaup	0	0	0	0	0	0
Ring-necked duck	100	0	0	0	100	0
Canvasback	0	0	0	0	0	0
Redhead	0	0	0	0	0	0
Ruddy duck	0	0	0	0	0	0
Common goldeneye	200	0	0	0	200	0
Bufflehead	0	0	0	0	0	0
All diving ducks	200	0	0	0	200	0
Mergansers						
Common merganser	0	0	0	0	0	0
Red-breasted merganser	0	0	0	0	0	0
Hooded merganser	0	0	0	0	0	0
All mergansers	0	0	0	0	0	0
All ducks	800	1,900	0	0	800	1,900
Geese						
Canada goose	100	100	0	0	100	100
Snow goose	0	0	0	0	0	0
American coot	1,000	200	0	0	1,000	200
Bald eagles						
Adult	0	3	0	0	0	3
Immature	0	2	0	0	0	2
All eagles	0	5	0	0	0	5
Double-crested cormorant	0	0	0	0	0	0
White pelican	0	0	0	0	0	0

^a The peak number for the entire site may not represent the sum of the peaks for all the compartments because the peak numbers in the various compartments could have occurred on different flight dates.

Table 3. Waterfowl aerial inventory data for each individual flight for Upper Peoria Lake EMP site, fall 1994.

	MALLARD	BLK	PNT	BWT	GMT	WIG	GAD	SH	SCAUP	RN	CNVB	RH	RDY	GLD	BH	CM	RBM	HM	DABBLERS	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	BALD EAGLE			
																									DUCKS	CG	SG	COOT
Upper Peoria Lake																												
09/06/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09/12/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/03/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/11/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/17/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/24/94	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	
11/01/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/07/94	400	0	0	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	
11/14/94	400	50	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	700	0	0	0	0	0	0	0	
11/22/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	450	0	0	0	0	0	0	0	0	
11/29/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/08/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/13/94	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	200	0	0	0	0	0	0	0	
01/03/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Forested Wetland Management Area																												
09/06/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09/12/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/03/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/11/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/17/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/24/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/01/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/07/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/14/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/29/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/08/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/13/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01/03/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Upper Peoria Lake EMP Area Total																												
09/06/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09/12/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/03/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/11/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/17/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/24/94	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	
11/01/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/07/94	400	0	0	300	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	
11/14/94	400	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	700	0	0	0	0	0	0	0	
11/22/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	450	0	0	0	0	0	0	0	0	
11/29/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/08/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/13/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01/03/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL																												
09/06/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09/12/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/03/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/11/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/17/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/24/94	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	
11/01/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/07/94	400	0	0	300	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	
11/14/94	400	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	700	0	0	0	0	0	0	0	
11/22/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	450	0	0	0	0	0	0	0	0	
11/29/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/08/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/13/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01/03/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL																												
09/06/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09/12/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/03/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/11/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/17/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/24/94	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	
11/01/94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/07/94	400	0	0	300	0	0	0	0	100	0	0																	

Table 4. Waterfowl aerial inventory data for each individual flight for Upper Peoria Lake EMP site, spring 1995.

	MALLARD	BLK	PNT	BMT	GMT	WIG	GAD	SH	SCAUP	RN	CNVB	RH	RDY	GLD	BH	CM	RBM	HM	TOTAL DABBLERS	TOTAL DIVERS	TOTAL MERG. DUCKS	CG	SG	COOT	BALD EAGLE		TOT CORM	PEL				
																									AD	IMM						
Upper Peoria Lake																																
02/14/95	1,800	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,900	100	0	0	0	3	2	5	0	0		
02/21/95	50	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0	0	0	0	0	0	
03/01/95	500	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525	0	0	0	0	0	0	0	0	0	0	
03/16/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03/22/95	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	
03/28/95	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	0	0	200	0	0	0	0	0	0	0	
04/04/95	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	0	0	0	0	
Forested Wetland Management Area																																
02/14/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02/21/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/01/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/16/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/22/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/28/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04/04/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upper Peoria Lake EMP Area Total																																
02/14/95	1,800	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,900	100	0	0	0	3	2	5	0	0	0	
02/21/95	50	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0
03/01/95	500	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525	0	0	0	0	0	0	0	0	0	0	0
03/16/95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/22/95	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0
03/28/95	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	0	0	200	0	0	0	0	0	0	0	0
04/04/95	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	0	0	0	0	0

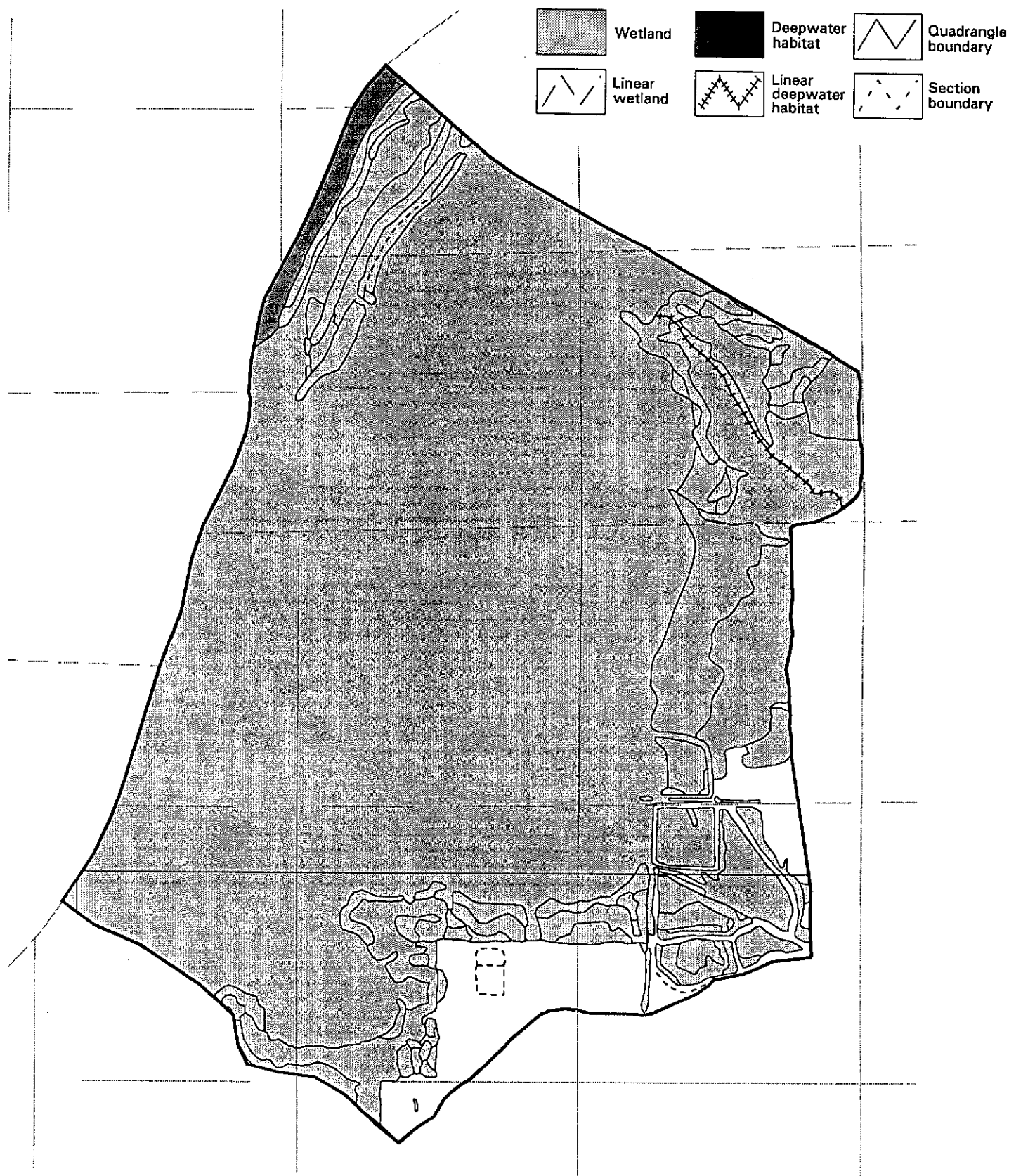


Figure 2. Distribution of wetlands and deepwater habitats at Upper Peoria Lake EMP site.

Table 5. Summary of wetland and deepwater habitat acreages at Upper Peoria Lake EMP site, based on classifications by the National Wetlands Inventory.

Classification category	Acres	% of Site	% Wetland	Natural		Modified/Artificial	
				Acres	%	Acres	%
Total site acreage = 4,254 acres							
WETLANDS							
Palustrine	984	23.1	25.1	42	4.3	942	95.7
Open water	97	2.3	2.5	0	0.0	97	100.0
Aquatic bed	23	0.5	0.6	0	0.0	23	100.0
Emergent	71	1.7	1.8	<1	0.4	71	99.6
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Scrub-shrub	75	1.8	1.9	0	0.0	75	100.0
Forested wetlands	718	16.9	18.3	42	5.9	675	94.1
Swamp	0	0.0	0.0	0	0.0	0	0.0
Bottomland forest	718	16.9	18.3	42	5.9	675	94.1
Lacustrine wetlands	2,941	69.1	74.9	0	0.0	2,941	100.0
Littoral lake	2,920	68.6	74.4	0	0.0	2,920	100.0
Littoral aquatic bed	18	0.4	0.5	0	0.0	18	100.0
Littoral emergent	0	0.0	0.0	0	0.0	0	0.0
Littoral shore	2	0.1	0.1	0	0.0	2	100.0
Riverine wetlands	0	0.0	0.0	<1	100.0	0	0.0
Lower perennial	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Upper perennial	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Intermittent	0	0.0	0.0	<1	100.0	0	0.0
Streambed	0	0.0	0.0	<1	100.0	0	0.0
Total wetlands	3,926	92.3	100.0	43	1.1	3,883	98.9
DEEPWATER HABITAT							
Lacustrine	49	1.2	-	0	0.0	49	100.0
Limnetic lake	49	1.2	-	0	0.0	49	100.0
Limnetic aquatic bed	0	0.0	-	0	0.0	0	0.0
Riverine	4	0.1	-	2	63.5	1	36.5
Lower perennial	4	0.1	-	2	63.5	1	36.5
Upper perennial	0	0.0	-	0	0.0	0	0.0
Total deepwater habitat	53	1.3	-	2	4.5	51	95.5
TOTAL	3,979	93.5	-	45	1.1	3,934	98.9

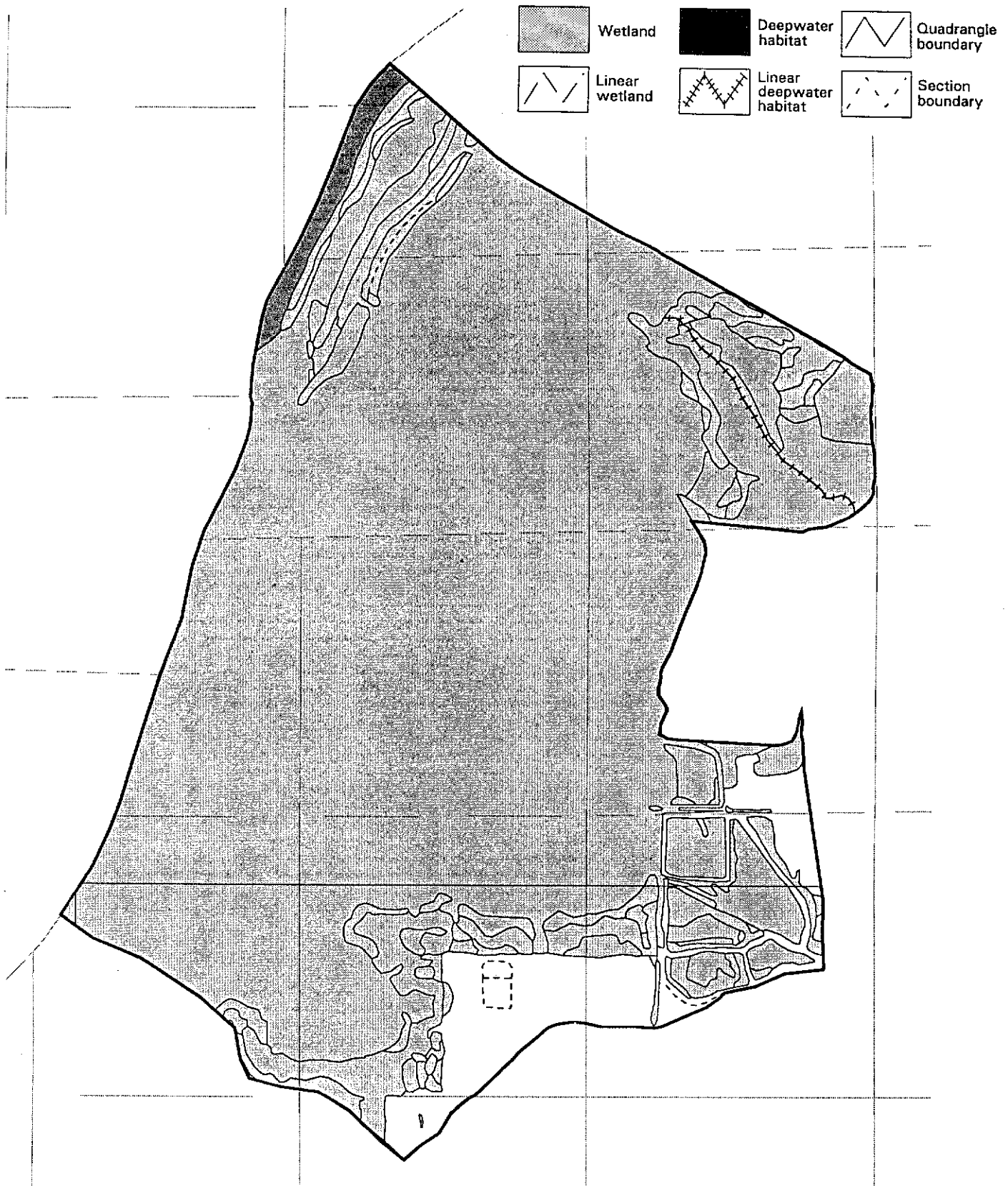


Figure 3. Distribution of wetlands and deepwater habitats at Upper Peoria Lake EMP site not including the Forested Wetland Management Area.

Table 6. Summary of wetland and deepwater habitat acreages at Upper Peoria Lake EMP site not including Forested Wetland Mangement Area, based on classifications by the National Wetlands Inventory.

Classification category	Acres	% of Site	% Wetland	Natural		Modified/Artificial	
				Acres	%	Acres	%
Total site acreage = 4,047 acres							
WETLANDS							
Palustrine	778	19.2	20.9	42	5.5	736	94.5
Open water	97	2.4	2.6	0	0.0	97	100.0
Aquatic bed	23	0.6	0.6	0	0.0	23	100.0
Emergent	71	1.8	1.9	<1	0.4	71	99.6
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Scrub-shrub	72	1.8	1.9	0	0.0	72	100.0
Forested wetlands	515	12.7	13.8	42	8.2	472	91.8
Swamp	0	0.0	0.0	0	0.0	0	0.0
Bottomland forest	515	12.7	13.8	42	8.2	472	91.8
Lacustrine wetlands	2,941	72.7	79.1	0	0.0	2,941	100.0
Littoral lake	2,920	72.2	78.5	0	0.0	2,920	100.0
Littoral aquatic bed	18	0.5	0.5	0	0.0	18	100.0
Littoral emergent	0	0.0	0.0	0	0.0	0	0.0
Littoral shore	2	0.1	0.1	0	0.0	2	100.0
Riverine wetlands	0	0.0	0.0	<1	100.0	0	0.0
Lower perennial	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Upper perennial	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Intermittent	0	0.0	0.0	<1	100.0	0	0.0
Streambed	0	0.0	0.0	<1	100.0	0	0.0
Total wetlands	3,719	91.9	100.0	43	1.2	3,676	98.8
DEEPWATER HABITAT							
Lacustrine	49	1.2	-	0	0.0	49	100.0
Limnetic lake	49	1.2	-	0	0.0	49	100.0
Limnetic aquatic bed	0	0.0	-	0	0.0	0	0.0
Riverine	4	0.1	-	2	63.5	1	36.5
Lower perennial	4	0.1	-	2	63.5	1	36.5
Upper perennial	0	0.0	-	0	0.0	0	0.0
Total deepwater habitat	53	1.3	-	2	4.5	51	95.5
TOTAL	3,772	93.2	-	45	1.2	3,727	98.8

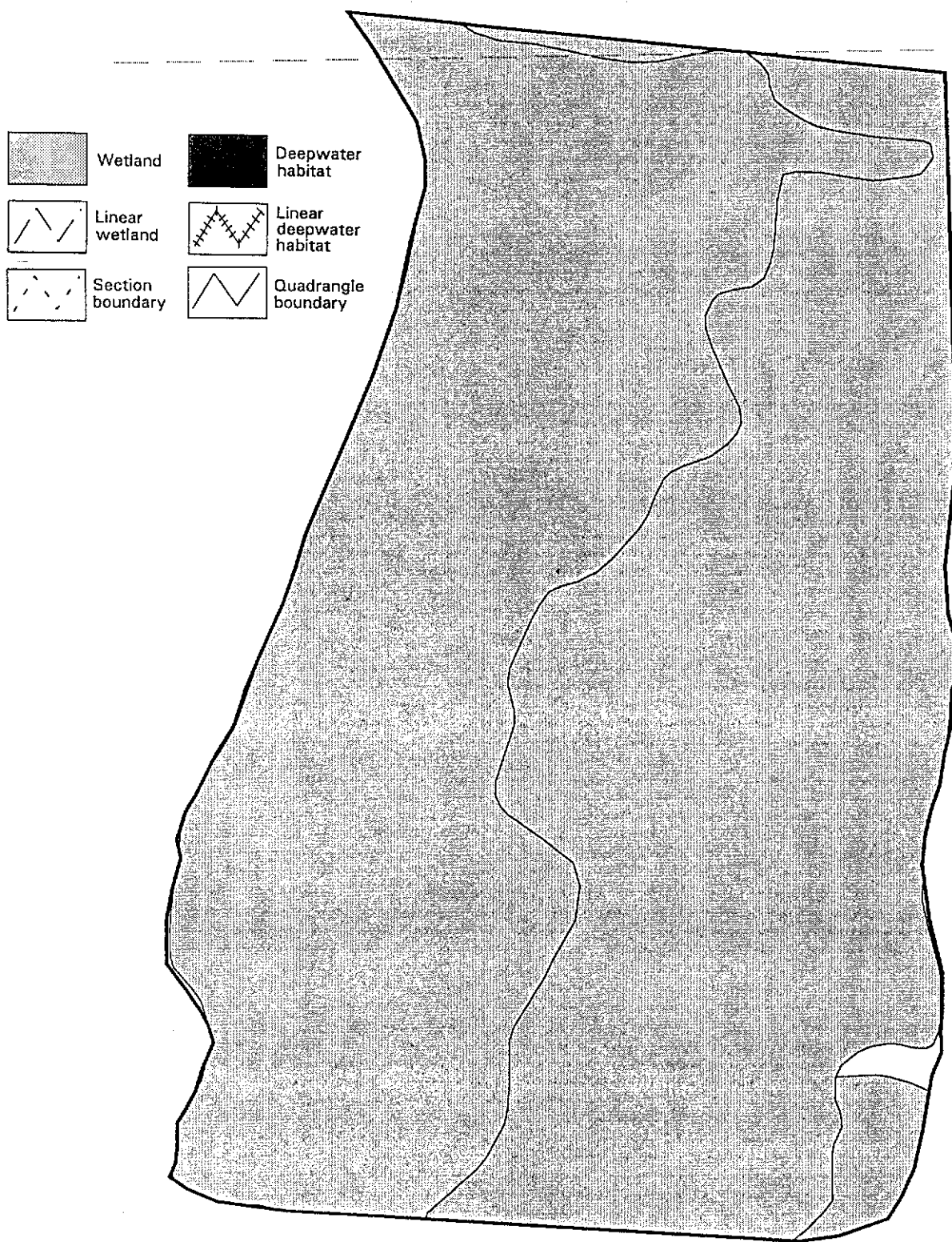


Figure 4. Distribution of wetlands and deepwater habitats at the Forested Wetland Management Area at the Upper Peoria Lake EMP site.

Table 7. Summary of wetland and deepwater habitat acreages at Upper Peoria Lake EMP site, Forested Wetland Management Area, based on classifications by the National Wetlands Inventory.

Classification category	Acres	% of Site	% Wetland	<u>Natural</u>		<u>Modified/Artificial</u>	
				Acres	%	Acres	%
Total site acreage = 208 acres							
WETLANDS							
Palustrine	206	99.4	99.8	0	0.0	206	100.0
Open water	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Emergent	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Scrub-shrub	3	1.6	1.6	0	0.0	3	100.0
Forested wetlands	203	97.8	98.2	0	0.0	203	100.0
Swamp	0	0.0	0.0	0	0.0	0	0.0
Bottomland forest	203	97.8	98.2	0	0.0	203	100.0
Lacustrine wetlands	<1	0.2	0.2	0	0.0	<1	100.0
Littoral lake	<1	0.2	0.2	0	0.0	<1	100.0
Littoral aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Littoral emergent	0	0.0	0.0	0	0.0	0	0.0
Littoral shore	0	0.0	0.0	0	0.0	0	0.0
Riverine wetlands	0	0.0	0.0	0	0.0	0	0.0
Lower perennial	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Upper perennial	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Intermittent	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Total wetlands	207	99.5	100.0	0	0.0	207	100.0
DEEPWATER HABITAT							
Lacustrine	0	0.0	-	0	0.0	0	0.0
Limnetic lake	0	0.0	-	0	0.0	0	0.0
Limnetic aquatic bed	0	0.0	-	0	0.0	0	0.0
Riverine	0	0.0	-	0	0.0	0	0.0
Lower perennial	0	0.0	-	0	0.0	0	0.0
Upper perennial	0	0.0	-	0	0.0	0	0.0
Total deepwater habitat	0	0.0	-	0	0.0	0	0.0
TOTAL	207	99.5	-	0	0.0	207	100.0

LAKE CHAUTAUQUA

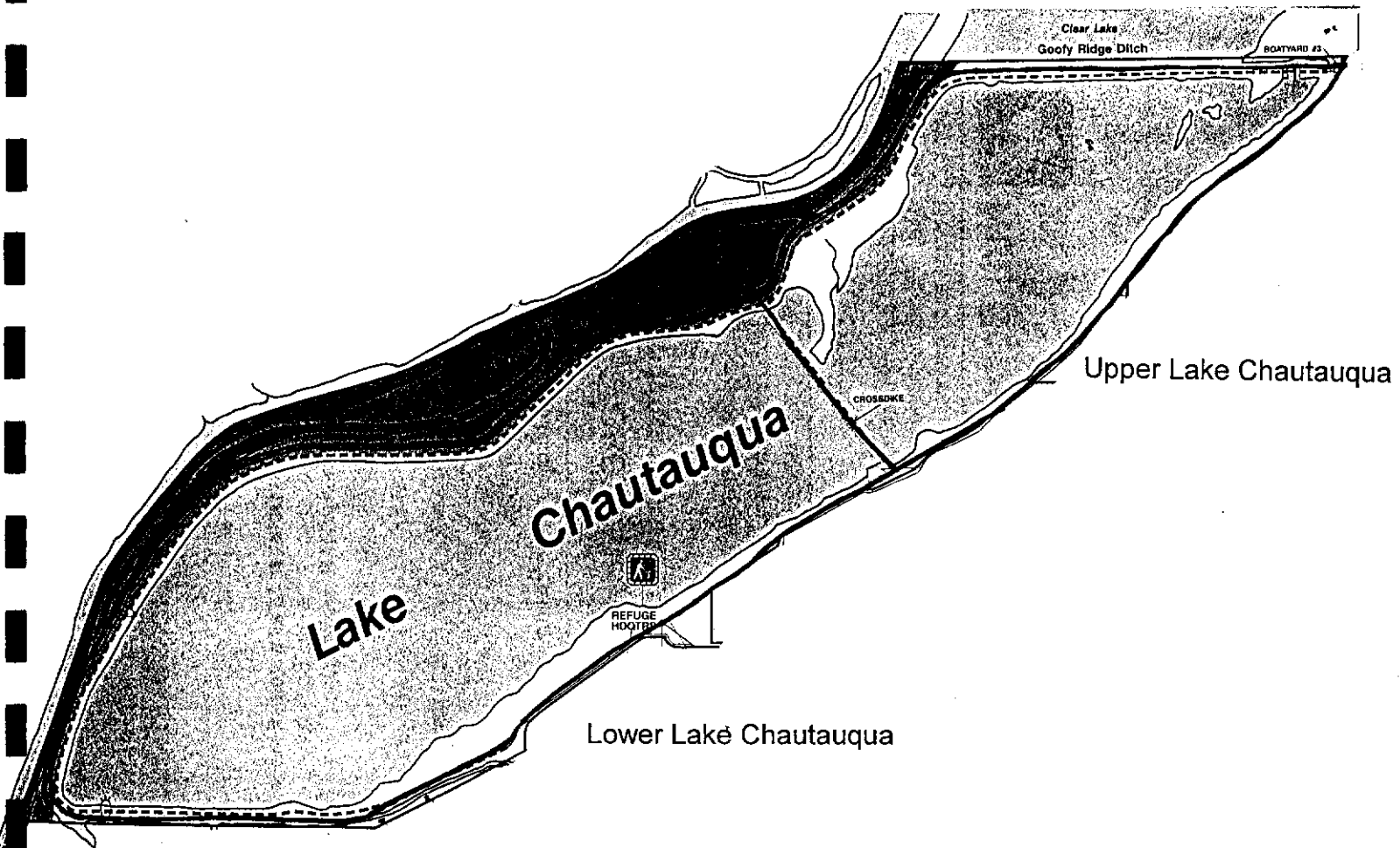


Figure 5. The Lake Chautauqua EMP site with boundaries drawn delineating the area.

Table 8. Peak numbers of waterfowl aerially inventoried by the Illinois Natural History Survey at Lake Chautauqua EMP site, fall 1994 and spring 1995^a.

	Upper Chautauqua		Lower Chautauqua		Total EMP site	
	Fall	Spring	Fall	Spring	Fall	Spring
Dabbling ducks						
Mallard	73,000	5,200	320,000	7,400	320,300	12,600
American black duck	1,500	200	2,000	200	2,400	200
Northern pintail	9,000	2,700	20,000	1,100	20,000	3,200
Blue-winged teal	3,800	500	3,200	800	5,800	800
Green-winged teal	6,000	5,000	8,000	900	11,000	5,100
American wigeon	5,000	1,600	5,000	1,800	6,000	3,400
Gadwall	6,000	4,000	11,000	1,000	17,000	5,000
Northern shoveler	3,000	5,000	15,000	1,700	15,000	6,700
All dabbling ducks	86,500	15,700	368,500	9,600	368,800	25,300
Diving ducks						
Lesser & greater scaup	0	100	1,000	600	1,000	600
Ring-necked duck	5,000	0	3,000	1,500	5,000	1,500
Canvasback	0	0	4,000	1,000	4,000	1,000
Redhead	0	0	0	0	0	0
Ruddy duck	0	0	0	0	0	0
Common goldeneye	0	0	0	100	0	100
Bufflehead	0	0	0	0	0	0
All diving ducks	5,000	100	6,500	1,600	6,500	1,700
Mergansers						
Common merganser	0	25	0	4,500	0	4,500
Red-breasted merganser	0	0	0	0	0	0
Hooded merganser	200	0	300	0	400	0
All mergansers	200	25	300	4,500	400	4,500
All ducks	87,500	15,700	375,300	12,300	375,600	25,950
Geese						
Canada goose	5,000	5,800	60,000	3,400	60,200	9,200
Snow goose	700	0	15,000	0	15,000	0
American coot	30,000	1,000	45,000	4,500	50,000	5,500
Bald eagles						
Adult	3	6	13	19	13	19
Immature	4	7	16	18	16	20
All eagles	7	13	29	37	29	39
Double-crested cormorant	200	10	50	0	200	10
White pelican	0	0	0	0	0	0

^a The peak number for the entire site may not represent the sum of the peaks for all the compartments because the peak numbers in the various compartments could have occurred on different flight dates.

Table 10. Waterfowl aerial inventory data for each individual flight for Lake Chautauqua EMP site, spring 1995.

	MALLARD	BLK	PNT	BWT	GWT	WIG	GAD	SH	SCAUP	RN	CNVB	RH	RDY	GLD	BH	CM	RBM	HM	DABBLERS	TOTAL DIVERS	TOTAL MERG.	TOTAL DUCKS	CG	SG	COOT	BALD EAGLE		PEL				
																										AD	TOT					
Upper Lake Chautauqua																																
02/14/95	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	300	0	25	325	2,200	0	0	6	7	13	0		
02/21/95	1,800	0	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,400	0	0	2,400	5,800	0	0	0	2	2	0	0	
03/01/95	5,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,200	0	0	5,200	2,600	0	0	0	1	5	6	0	
03/06/95	4,000	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,200	0	0	4,200	5,000	0	0	3	0	3	0	0	
03/16/95	3,600	0	2,700	0	0	0	5,000	0	0	0	0	0	0	0	0	0	0	0	0	11,300	0	0	11,300	800	0	800	0	0	0	0	0	
03/22/95	4,000	0	1,000	0	4,000	4,000	1,100	0	0	0	0	0	0	0	0	0	0	0	0	15,700	0	0	15,700	150	0	1,000	0	0	0	0	10	0
03/28/95	1,200	0	0	0	5,000	0	3,000	100	0	0	0	0	0	0	0	0	0	0	0	9,200	100	0	9,300	25	0	300	0	0	0	0	0	0
04/04/95	1,300	0	0	500	1,200	100	200	50	0	0	0	0	0	0	0	0	0	0	0	3,350	0	0	3,350	50	0	200	0	0	0	0	0	0
Lower Lake Chautauqua																																
02/14/95	100	0	0	0	0	0	0	0	0	200	0	0	0	0	0	500	0	0	100	200	500	800	300	0	0	0	2	3	5	0	0	
02/21/95	5,300	0	600	0	0	0	0	0	150	1,200	0	0	0	100	0	4,500	0	0	5,900	1,450	4,500	11,850	3,400	0	0	19	18	37	0	0	0	
03/01/95	7,400	0	700	0	0	0	0	0	0	0	0	0	0	0	0	600	0	0	8,100	0	600	8,700	300	0	0	4	6	10	0	0	0	
03/06/95	7,000	0	1,100	0	500	0	0	0	600	900	0	0	0	0	0	2,200	0	0	8,600	1,500	2,200	12,300	3,000	0	0	9	16	25	0	0	0	
03/16/95	4,000	0	500	0	500	200	300	1,700	0	300	1,000	0	0	0	0	0	0	0	7,200	1,300	0	8,500	50	0	1,000	0	1	1	1	0	0	0
03/22/95	6,000	200	600	0	1,800	1,000	0	150	500	0	0	0	0	0	0	0	0	0	9,600	650	0	10,250	20	0	4,500	1	1	2	0	0	0	0
03/28/95	4,500	0	0	800	100	0	0	0	0	1,500	100	0	0	0	0	0	0	0	5,400	1,600	0	7,000	0	0	2,500	0	0	0	0	0	0	0
04/04/95	4,800	0	0	0	900	200	0	0	400	200	0	0	0	0	0	0	0	0	5,900	600	0	6,500	0	0	300	0	0	0	0	0	0	0
Lake Chautauqua Total																																
02/14/95	400	0	0	0	0	0	0	0	0	200	0	0	0	0	0	525	0	0	400	200	525	1,125	2,500	0	0	8	10	18	0	0	0	
02/21/95	7,100	0	1,200	0	0	0	0	0	150	1,200	0	0	0	100	0	4,500	0	0	8,300	1,450	4,500	14,250	9,200	0	0	19	20	39	0	0	0	
03/01/95	12,600	0	700	0	0	0	0	0	0	0	0	0	0	0	0	600	0	0	13,300	0	600	13,900	2,900	0	0	5	11	16	0	0	0	0
03/06/95	11,000	200	1,100	0	500	0	0	0	600	900	0	0	0	0	0	2,200	0	0	12,800	1,500	2,200	16,500	8,000	0	0	12	16	28	0	0	0	
03/16/95	7,600	0	3,200	0	500	200	300	6,700	0	300	1,000	0	0	0	0	0	0	0	18,500	1,300	0	19,800	850	0	1,800	0	1	1	1	0	0	0
03/22/95	10,000	200	1,600	0	4,000	3,400	5,000	1,100	150	500	0	0	0	0	0	0	0	0	25,300	650	0	25,950	170	0	5,500	1	1	2	10	0	0	0
03/28/95	5,700	0	0	800	5,100	0	3,000	0	100	1,500	100	0	0	0	0	0	0	0	14,600	1,700	0	16,300	25	0	2,800	0	0	0	0	0	0	0
04/04/95	6,100	0	0	500	2,100	300	200	50	400	200	0	0	0	0	0	0	0	0	9,250	600	0	9,850	50	0	500	0	0	0	0	0	0	0

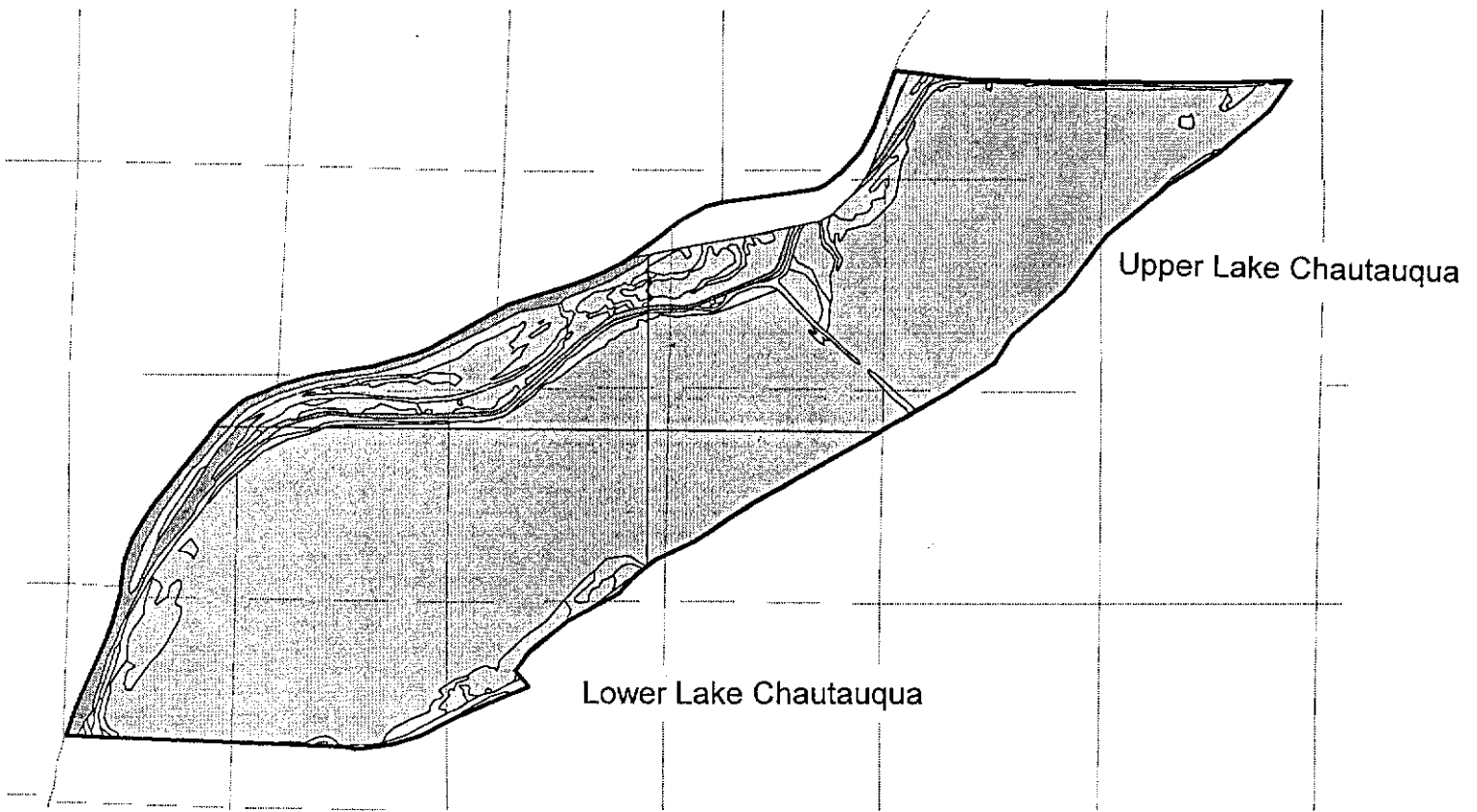


Figure 6. Distribution of wetlands and deepwater habitats at Lake Chautauqua EMP site.

Table 11. Summary of wetland and deepwater habitat acreages at Lake Chautauqua EMP site, based on classifications by the National Wetlands Inventory.

Classification category	Acres	% of Site	% Wetland	Natural		Modified/Artificial	
				Acres	%	Acres	%
Total site acreage = 4,587 acres							
WETLANDS							
Palustrine	758	16.5	18.2	0	0.0	758	100.0
Open water	40	0.9	1.0	0	0.0	40	100.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Emergent	224	4.9	5.4	0	0.0	224	100.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Scrub-shrub	166	3.6	4.0	0	0.0	166	100.0
Forested wetlands	328	7.1	7.9	0	0.0	328	100.0
Swamp	0	0.0	0.0	0	0.0	0	0.0
Bottomland forest	328	7.1	7.9	0	0.0	328	100.0
Lacustrine wetlands	3,412	74.4	81.8	0	0.0	3,412	100.0
Littoral lake	3,412	74.4	81.8	0	0.0	3,412	100.0
Littoral aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Littoral emergent	0	0.0	0.0	0	0.0	0	0.0
Littoral shore	0	0.0	0.0	0	0.0	0	0.0
Riverine wetlands	0	0.0	0.0	0	0.0	0	0.0
Lower perennial	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Upper perennial	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Intermittent	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Total wetlands	4,170	90.9	100.0	0	0.0	4,170	100.0
DEEPWATER HABITAT							
Lacustrine	191	4.2	-	0	0.0	191	100.0
Limnetic lake	191	4.2	-	0	0.0	191	100.0
Limnetic aquatic bed	0	0.0	-	0	0.0	0	0.0
Riverine	0	0.0	-	0	0.0	0	0.0
Lower perennial	0	0.0	-	0	0.0	0	0.0
Upper perennial	0	0.0	-	0	0.0	0	0.0
Total deepwater habitat	191	4.2	-	0	0.0	191	100.0
TOTAL	4,361	95.1	-	0	0.0	4,361	100.0

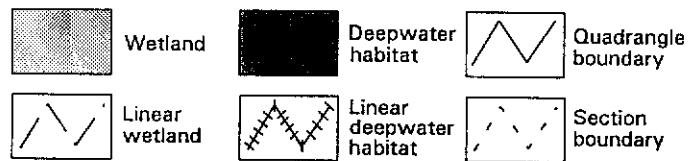
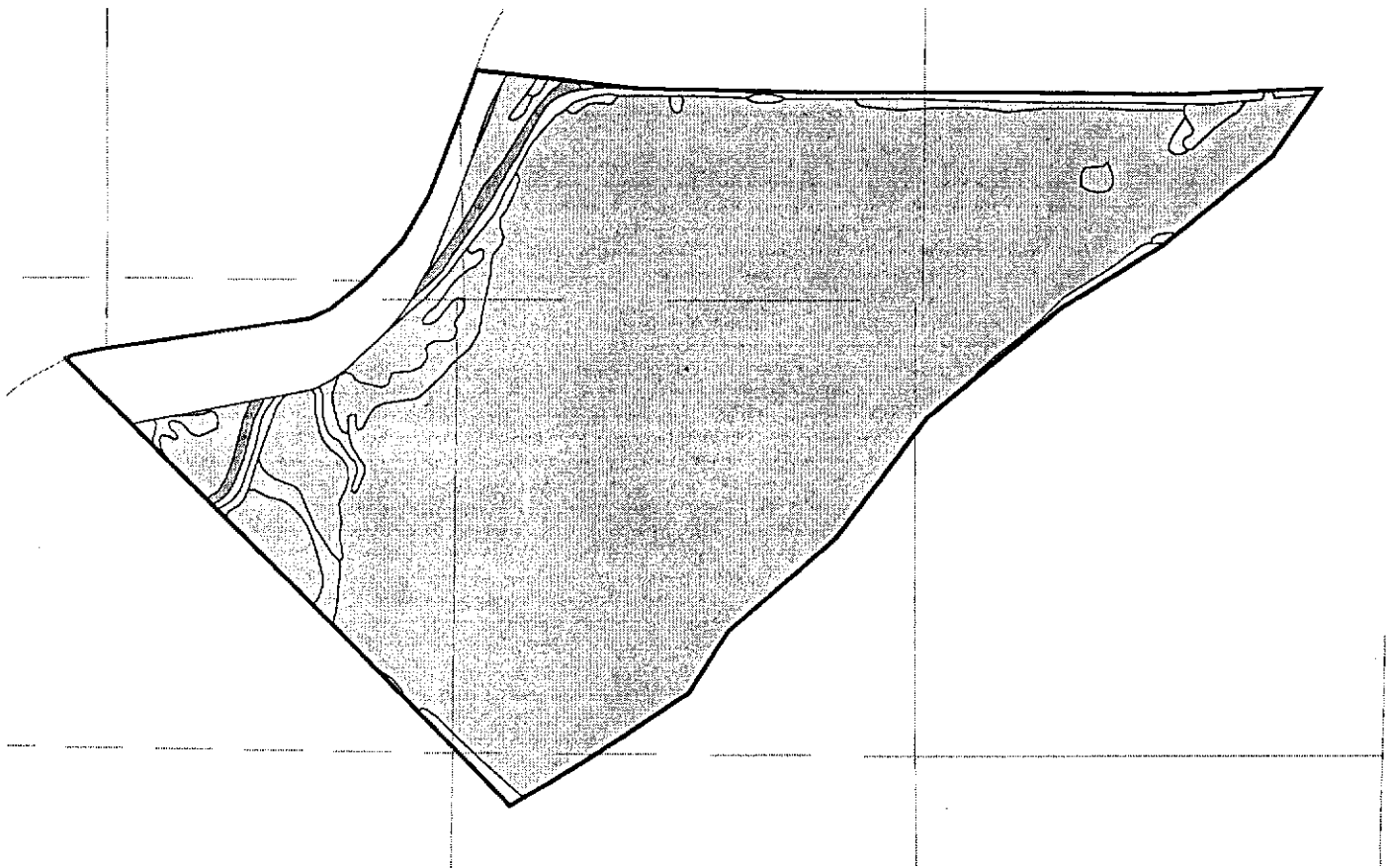


Figure 7. Distribution of wetlands and deepwater habitats at upper Lake Chautauqua EMP site.

Table 12. Summary of wetland and deepwater habitat acreages at Upper Lake Chautauqua EMP site, based on classifications by the National Wetlands Inventory.

Classification category	Acres	% of Site	% Wetland	Natural		Modified/Artificial	
				Acres	%	Acres	%
Total site acreage = 1,323 acres							
WETLANDS	1,188	89.8	100.0	0	0.0	1,188	100.0
Palustrine	150	11.4	12.6	0	0.0	150	100.0
Open water	17	1.3	1.4	0	0.0	17	100.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Emergent	4	0.3	0.4	0	0.0	4	100.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Scrub-shrub	47	3.6	4.0	0	0.0	47	100.0
Forested wetlands	82	6.2	6.9	0	0.0	82	100.0
Swamp	0	0.0	0.0	0	0.0	0	0.0
Bottomland forest	82	6.2	6.9	0	0.0	82	100.0
Lacustrine wetlands	1,038	78.4	87.4	0	0.0	1,038	100.0
Littoral lake	1,038	78.4	87.4	0	0.0	1,038	100.0
Littoral aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Littoral emergent	0	0.0	0.0	0	0.0	0	0.0
Littoral shore	0	0.0	0.0	0	0.0	0	0.0
Riverine wetlands	0	0.0	0.0	0	0.0	0	0.0
Lower perennial	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Upper perennial	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Intermittent	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Total wetlands	1,188	89.8	100.0	0	0.0	1,188	100.0
DEEPWATER HABITAT							
Lacustrine	12	0.9	-	0	0.0	12	100.0
Limnetic lake	12	0.9	-	0	0.0	12	100.0
Limnetic aquatic bed	0	0.0	-	0	0.0	0	0.0
Riverine	0	0.0	-	0	0.0	0	0.0
Lower perennial	0	0.0	-	0	0.0	0	0.0
Upper perennial	0	0.0	-	0	0.0	0	0.0
Total deepwater habitat	12	0.9	-	0	0.0	12	100.0
TOTAL	1,200	90.7	-	0	0.0	1,200	100.0

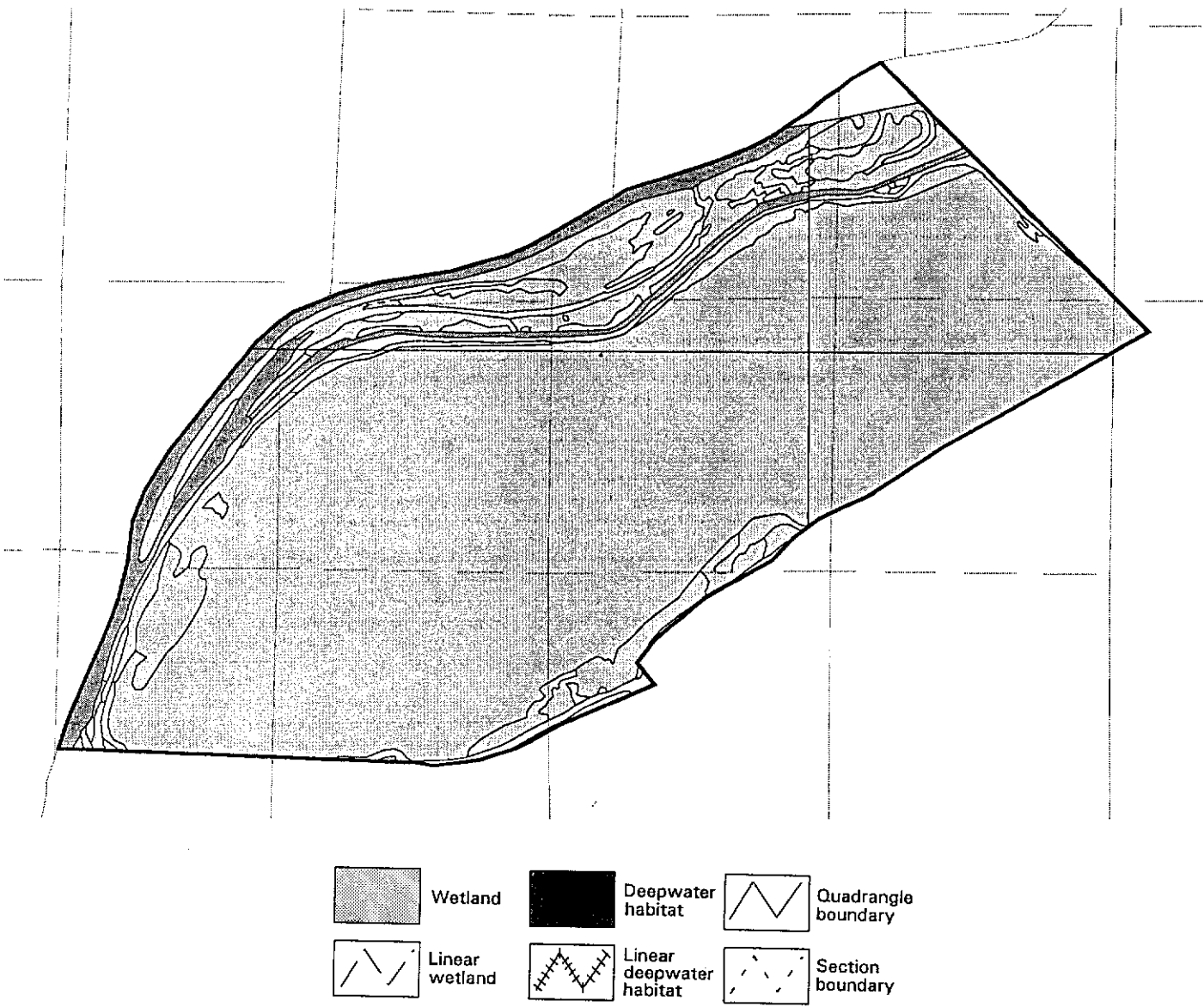


Figure 8. Distribution of wetlands and deepwater habitats at lower Lake Chautauqua EMP site.

Table 13. Summary of wetland and deepwater habitat acreages at Lower Lake Chautauqua EMP site, based on classifications by the National Wetlands Inventory.

Classification category	Acres	% of Site	% Wetland	Natural		Modified/Artificial	
				Acres	%	Acres	%
Total site acreage = 3,264 acres							
WETLANDS							
Palustrine	608	18.6	20.4	0	0.0	608	100.0
Open water	24	0.7	0.8	0	0.0	24	100.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Emergent	219	6.7	7.4	0	0.0	219	100.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Scrub-shrub	119	3.6	4.0	0	0.0	119	100.0
Forested wetlands	246	7.5	8.2	0	0.0	246	100.0
Swamp	0	0.0	0.0	0	0.0	0	0.0
Bottomland forest	246	7.5	8.2	0	0.0	246	100.0
Lacustrine wetlands	2,374	72.7	79.6	0	0.0	2,374	100.0
Littoral lake	2,374	72.7	79.6	0	0.0	2,374	100.0
Littoral aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Littoral emergent	0	0.0	0.0	0	0.0	0	0.0
Littoral shore	0	0.0	0.0	0	0.0	0	0.0
Riverine wetlands	0	0.0	0.0	0	0.0	0	0.0
Lower perennial	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Unconsolidated shore	0	0.0	0.0	0	0.0	0	0.0
Upper perennial	0	0.0	0.0	0	0.0	0	0.0
Aquatic bed	0	0.0	0.0	0	0.0	0	0.0
Intermittent	0	0.0	0.0	0	0.0	0	0.0
Streambed	0	0.0	0.0	0	0.0	0	0.0
Total wetlands	2,982	91.4	100.0	0	0.0	2,982	100.0
Deepwater habitat							
Lacustrine	179	5.5	-	0	0.0	179	100.0
Limnetic lake	179	5.5	-	0	0.0	179	100.0
Limnetic aquatic bed	0	0.0	-	0	0.0	0	0.0
Riverine	0	0.0	-	0	0.0	0	0.0
Lower perennial	0	0.0	-	0	0.0	0	0.0
Upper perennial	0	0.0	-	0	0.0	0	0.0
Total deepwater habitat	179	5.5	-	0	0.0	179	100.0
TOTAL	3,161	96.9	-	0	0.0	3,161	100.0

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