

1971

Form D1

**Waterfowl Production
Surveys**

Units 1-23

[illegible]

[illegible]

Observer: Norton

WATERFOWL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1971

Unit No.	Transect No.	First Observation			Nest Status				Cover Type											Fate		Remarks	(No. & expl. on back)																		
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Uba	Cx	Ex			Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Flooded	Unknown							
3	85	5/27	150	Ma	3				X																		5/27	X													
"	"	"	151	Ma	2		X																				6/23	X	8												
"	93	"	152	Shov	2		X																				6/24														
"	"	"	153	Ma	6		X																				6/24	X	6												
"	101	"	154	Ma	2		X																				6/24														
"	"	"	155	Ma	3																						5/27														
"	"	"	156	Ma	7		X																				6/24														
"	93	6/24	258	Ma	6		X																				7/16	X	6												
"	"	"	259	Cox Bunt	4		X																				7/16	X	9												
"	"	"	260	Ma	7		X																				7/19	X	9												
"	101	"	265	Pd	9		X																				7/19	X	1												
"	"	"	216	Ga	8		X																				7/19	X	1												
"	"	"	217	Pi	5		X																				7/19	X	6												
"	"	"	218	Ga	10		X																				7/19	X	10												
"	"	"	219	Pi	6		X																				7/19	X	8												
"	125	"	181	Unk	1																						6/24														

Observer: W. J. J. J.

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year:

5

[illegible]

[illegible]

Unit No.	First Observation				Nest Status					Cover Type												Fate		Remarks (No. & expl. on back)											
	No.	Date	Nest	Species	No.	Eggs	Laying	Incub.	Covered	Desert.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Mx	uba	Cx	Ex	Tla		Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown
6	29	5/13	6	Pi	7		X	X																				6/9/71		7					magp
"	33	"	11	GWT	6		X	X								X												6/11/71		X					
"	33	"	12	Ma	37		X									X												6/11/71	X	7					
"	41	"	17	Ma	2		X									X												6/11/71		2					magp
"	29	6/9	20	Unk	4		X																					7/9/71		X					magp
"	33	6/10	26	Ma	6		X																					7/9/71		X					magp
"	"	7/8	48	Ga	9		X																					7/17	X	9					
"	"	"	49	Unk	?																							7/8/71	X	?					
"	"	"	50	Unk	?																							7/8/71	X	?					

Observer: Espinosa WATERFOWL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1971

Morton & Harberger 2nd

First Observation				Nest Status				Cover Type												Fate				Remarks												
Unit No.	Transect	Date	Nest No.	Species	Eggs No.	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Uba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown	(No. & expl. on back)	
7	49	5/20	203	Pi	8		X																					6/21								
7	53	"	205	unk	0				X																			6/21								magpie
7	57	"	206	Ma	7		X																				6/21								magpie	
7	69	"	207	Ma	8		X																				6/21	X								
"	53	6/21	169	Ma	8		X																				7/15								magpie	
"	"	"	170	Ma	8		X														X						7/15	X								

Unit No.	Transsect No.	First Observation				Nest Status				Cover Type												Fate				Remarks (No. & expl on back)										
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Uba	Cx	Ex	Tla	Sva	Dike		Ditch	Flooded	Date	Hatched	No. Hatch	Desert.	Destr.	Flooded	Unknown	
8	77	5/21	106	Ma	3				X						X													6/22								magpie
8	73	"	107	Ma	9	X																X					6/22	X	9							
8	73	"	128	EWCT	10	X																					6/22	X	10							
8	73	6/22	208	Ma	4	X																				7/15	X	5	3							
8	73	"	209	Pi	7	X									X											7/15	X	4								
8	73	"	211	Uak	?										X											6/22								magpie		
8	73	"	212	Uak	?										X											6/22								magpie		
8	81	"	253	Ma	7										X											6/22								magpie		

Unit No.	Transsect No.	First Observation			Nest Status				Cover Type														Fate		Remarks (No. & expl. on back)								
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mot	Wx	Alba	Cx	Ex	Tla	Sva	Dike		Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Flooded	Unknown
0	85	5/25	122	Ma	10	X																			✓	6/23							
"	"	"	123	Tx	1			X																	✓	5/25		X					
"	"	"	124	Ma	7		X	X																	✓	5/25							
"	89	"	127	Ma	10	X																			✓	6/22	X	10					
"	"	"	128	Ma	6	X																			✓	6/22	X	8					
"	"	"	129	Ma	10	X																			✓	6/22							
"	"	"	130	Ma	7				X																✓	5/25							
"	"	"	131	Ma	4	X																			✓	6/23	X	42					
"	"	"	132	Ma	9	X																			✓	6/23	X	27					
"	"	"	133	Ma	12	X																			✓	6/23	X	18					
"	"	"	134	Unk	0									X											✓	5/25							
"	93	"	135	Ma	2								X												✓	5/25							
"	"	"	136	Unk	5								X												✓	5/25							
"	"	"	137	Cor-BWT	9	X																			✓	6/23	X	9					
"	"	"	138	Ma	9	X																			✓	6/23	X	81					
"	"	"	139	Ma	7	X	X																		✓	6/23							
"	"	"	140	Ma	1	X																			✓	6/23							
"	97	"	141	Unk	4									X											✓	5/25							
"	"	"	142	Tx	2	X																			✓	6/23							
"	"	"	143	Pi	8		X	X						X											✓	5/25							
"	101	5/26	144	Pi	7	X																			✓	6/23							
"	105	"	145	Ma	9	X																			✓	6/23							
"	89	6/22	175	Unk	2																				✓	6/22	X	8					
"	"	"	177	Ma	5									X											✓	6/23							

Unit No.	Transsect No.	First Observation				Nest Status						Cover Type										Fate				Remarks (No. & expl. on back)									
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Gve	Crx	Dst	Gx	Mot	Wx	Jba	Cx	Ex	Tla	Sva	Dike		Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown
"	89	6/23	170	Unk	2				X												X					✓	6/23						X		Major
"	"	"	180	Unk	2	Hatched															X				✓	6/23									
"	93	"	257	Unk	4			X		X											X						6/23						X		
"	105	"	213	P!	3			X													X				✓	6/23								Minor	
"	"	"	214	Unk	2				X																✓	6/23									

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Observer:

Year: 1951

Year:

[illegible]

[illegible]

First Observation				Nest Status						Cover Type										Rate		Remarks (No. & expl. on back)														
Unit No.	Transect No.	Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Gve	Crx	Dst	Gx	Mot	Wx	Jba	Cx		Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown	
15	37	6/18	166	Ma	9				X	X										X								No	6/18			X	X			magpie
"	41	"	167	Ma	8				X																				6/18			X			magpie	

Observer: Norton

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1971

Unit No.	First Observation				Nest Status							Cover Type										Fate						Remarks (No. & expl. on back)						
	No.	Date	Nest No.	Species	No.	Eggs	Laying	Incub.	Covered	Desert.	Flooded	Unknown	Sx	Gve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded		Date	Hatched	No. Hatch.	Desert.	Desert.	Flooded
1657	No Nest on 6/21	251	M2	1st	?			Rum	X																			6/21					X	magnetic

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Observer: Boston

Year:

1661

[illegible]

Observer: Norton

WATERFOWL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1971

Unit No.	Transsect	First Observation			Nest Status				Cover Type										Fate				Remarks (No. & expl. on back)													
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mot	Wx	Uba	Cx	Ex	Tla		Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Flooded	Unknown			
18	97	5/24	109	Ma	3	X													X								✓	6/22								
"	"	"	110	Ma	10	X													X							✓	6/22	X 9								
"	"	"	111	Ma	7	X													X							✓	6/22	X 6								
"	"	"	112	Rd	9	X													X							✓	6/22									
"	93	"	113	Ma	6	X													X							✓	6/22	X 8								
"	93	"	114	Rd	6														X							✓	5/24									
"	101	"	115	Ma	10	X													X							✓	6/22									
"	"	"	116	Unk	1														X							✓	5/24									
"	"	"	117	Ma	7	X													X							✓	6/22	X 7								
"	"	"	118	Pi	8	X													X							✓	6/22	X 6								
"	"	"	119	Unk	2														X							✓	5/24									
"	"	"	120	Ma	5	X													X							✓	6/22	X 7								
"	"	"	121	Shov	10	X													X							✓	6/22									
"	89	5/25	125	Ma	2	X													X							✓	6/22	X 8								
"	"	"	126	Pi	10	X													X							✓	6/22									
"	97	6/22	254	Ma	5														X							✓	6/22									
"	"	"	255	Ga	8	X													X							✓	7/16	X 8								
"	93	"	256	Tx	8														X							✓	6/22									
"	89	"	173	Ma	7	X													X							✓	7/16									
"	89	"	174	Tx	10														X							✓	6/22									

Observer: Norton

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1971

Year: 1971

[illegible]

Observer:

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year:

1951

[illegible]

Observer: Espinoza

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year:

1651

1651

[illegible]

Observer:

Winton

Year: 1971

Year:

[illegible]

Forms D3-D4

D3 – WPS Duck Brood Sample Data

D4 – WPS Duck Nesting Transects:
Individual Unit Summaries

Monte Vista National Wildlife Refuge
P.O. Box 511
Monte Vista, Colorado 81144

October 13, 1971

Dr. Fred A. Glover, Leader
Colorado Cooperative Wildlife Research Unit
Cooperative Units Building
Colorado State University
Fort Collins, Colorado 80521

Dear Dr. Glover:

Shown below is the species composition of the 1971 duck breeding population on the Monte Vista National Wildlife Refuge. The composition was determined on May 14, 1971. Duck brood information is attached on Form D-3.

SPECIES COMPOSITION OF BREEDING POPULATION

<u>Species</u>	<u>No. Breeding Ducks</u>	<u>Composition in %</u>
Mallard	14,035	49.2
Pintail	5,000	17.5
Gadwall	2,900	10.2
Shoveller	1,850	6.5
Blue-winged Teal	1,200	4.2
Cinnamon Teal	1,500	5.3
Green-winged Teal	1,150	4.1
Redhead	210	0.7
Ruddy	475	1.7
Scaup	180	0.6
	28,500	100 %

Sincerely yours,

Charles R. Bryant

LEH/mg

Observer:

Date	Mallard	Pintail	Gadwall	Shoveller	B-W Teal	G-W Teal	Redhead
No.	No. duckl. Class IIC & III Br.	No. duckl. Class IIC & III Br.	No. duckl. Class IIC & III Br.	No. duckl. Class IIC & III Br.	No. duckl. Class IIC & III Br.	No. duckl. Class IIC & III Br.	No. duckl. Class IIC & III Br.
Unit	No.	No.	No.	No.	No.	No.	No.
Pond	No.	No.	No.	No.	No.	No.	No.
No.	No.	No.	No.	No.	No.	No.	No.
6/29		6 B-1	5				
6/30	7 P2	6					
7/6		16 p1	7				
7/7	4 Warm Drain	7					
7/7	4 P2	6					
7/8	7 P1	6					
7/10	7 P1	6					
7/12	21	4					
7/17				14 P4	9	17 P3	6
7/18						6 BL	5
7/19	19 Goose Pens	3		14 P4	6		
7/19				6 A2	8		
7/20	14 P2	5	17 P3	7			
7/20	14 P2	6	17 P3	7			
7/22			14 P4	4	17 P3	6	7
7/22				14 P4	8	14 P4	7
7/26	17 P3	7	17 P3	4	17 P3	14 P4	9
7/26	18 Wash Drain	4				19	6
7/26	18	7	17 P3	5			
				19	8		
TOTALS	67	34	25	57	39	25	25

Observer:

[illegible]

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 1Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Primary Covery Type (No. of nests in each primary tvpe)												
		No. Hatched	% Hatched							Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard																						
Pintail	1	0	0		1										1							1
Gadwall	1	1	100												1							1
Shoveller																						
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown																						
Total	2	1	50		1										2							2
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 2Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary tyne)															
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded		
Mallard																								
Pintail																								
Gadwall																								
Shoveller																								
Teal																								
B-W & Cinn.	/	/	100												/								/	
G-W Teal																								
Ruddy																								
Unknown Teal	/				/										/								/	
Unknown	/				/										/									
Total	3	1	33%		2										3								2	
Coot																								

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 3Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Cover Type (No. of nests in each primary type)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	8	3	38%		5						1				7								6
Pintail	2	2	100%												1	1							2
Gadwall	2	1	50%	1											2								1
Shoveller	1	0			1										1								1
Teal																							
B-W & Cinn.	1	1	100%												1								1
G-W Teal																							
Ruddy																							
Redhead	1	1	100%												1								1
Unknown	1	0		1											1								1
Total	16	8	50%	2	6						1				14	1							13
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 4Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary type)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	1	0			1													1					
Pintail																							
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.																							
G-W Teal																							
Ruddy																							
Unknown																							
Total	1	0	0		1													1					
Coot																							

*Obtain data from Field Form D-1

Unit No. 5 Recorder: Norton Year: 1971
Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 6Recorder: SchroederYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Cover Type (No. of nests in each primary type)													
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	3	1	33		2				6													3
Pintail	1	0			1										1							1
Gadwall	1	1	100												1							1
Shoveller																						
Teal																						
B-W & Cinn.																						
G-W Teal	1	0		1					1													1
Ruddy																						
Unknown	3	2	66		1										3							3
Total	9	4	44	1	4				4						5							9
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 7Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
		No. Hatched	% Hatched																			
Mallard	4	2	50		2				1						3							2
Pintail	1	0		1											1							
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown	1	0			1										1							
Total	6	2	33	1	3				1						5							2
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 8Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary tvpe)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	4	2	50		2										3		1						3
Pintail	1	1	100												1								1
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.	1	1	100												1								1
G-W Teal																							
Ruddy																							
Unknown	2	0			2										2								2
Total	8	4	50%		4										7		1						7
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 9Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary type)													
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	16	7	44		4	3	2		1						15							13
Pintail	3	0		1		1	1		1						2							0
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.	1	1	100												1							1
G-W Teal																						
Ruddy																						
Unknown Teal	2	0		1			1								2							2
Unknown	7	1			5	1									7							6
Total	29	9	31%	2	9	5	4		2						27							22
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 10Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Primary Cover Type (No. of nests in each primary type)												
		No. Hatched	% Hatched							Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	3	2	66%		1									2			1					2
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.	1	1	100											1								
G-W Teal																						
Ruddy																						
Unknown																						
Total	4	3	75%		1									3			1					2
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 11Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Primary Covery Type (No. of nests in each primary tvpe)															
		No. Hatched	% Hatched							Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded			
Mallard																									
Pintail																									
Gadwall																									
Shoveller																									
Teal																									
B-W & Cinn.																									
G-W Teal																									
Ruddy																									
Unknown																									
Total	0																								
Coot																									

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS---INDIVIDUAL UNIT SUMMARY*

Unit No. 14Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary tvpe)													
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	3	1	33		2				1						2							6
Pintail																						
Gadwall																						
Shoveller	1	0		1												1						1
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Redhead	1	1	100												1							1
Unknown																						
Total	5	2	40%	1	2				1						3	1						5
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 15Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covey Type (No. of nests in each primary type)													
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	2	0			2							1			1							1
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.																						
GrW Teal																						
Ruddy																						
Unknown																						
Total	2	0	0		2							1			1							1
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS----INDIVIDUAL UNIT SUMMARY*

Unit No. 16Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary type)													
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	1	0			1										1							1
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown																						
Total	1	0			1										1							1
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 17Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Primary Covery Type (No. of nests in each primary type)												
		No. Hatched	% Hatched							Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	3	1	33		2										3							3
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown																						
Total	3	1	33%		2										3							3
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 18Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Primary Cover Type (No. of nests in each primary type)												
		No. Hatched	% Hatched							Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	10	6	60%	1	1	1	1		1						9							9
Pintail	2	1	50			1									2							2
Gadwall	1	1	100												1							1
Shoveller Teal	1	0			1										1							1
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown Teal	2	0													2							2
Redhead	2	0			2										2							2
Unknown	2	0			2										2							2
Total	20	8	40%	1	6	2	1		1						19							19
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 19Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Sve	Primary Cover Type (No. of nests in each primary type)												
		No. Hatched	% Hatched							Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	3	1	33		2									1	2							1
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown	1	0			1										1							
Total	4	1	25		3									1	3							1
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 20Recorder: NortonYear: 1971

Transect Coverage in % _____ (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary tyne)																
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded			
Mallard																									
Pintail																									
Gadwall																									
Shoveller																									
Teal																									
B-W & Cinn.																									
G-W Teal																									
Ruddy																									
Unknown																									
Total	0																								
Coot																									

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 21Recorder: NortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary tyne)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	2	0			2										2								1
Pintail																							
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.																							
G-W Teal																							
Ruddy																							
Unknown																							
Total	2	0			2										2								1
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 22Recorder: WortonYear: 1971Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary type)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	2	1	50		1									2									1
Pintail																							
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.																							
G+W Teal																							
Ruddy																							
Unknown																							
Total	2	1	50		1										2								1
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----INDIVIDUAL UNIT SUMMARY*

Unit No. 23

Recorder: Norton

Year: 1971

Transect Coverage in % 25 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Sx	Primary Covery Type (No. of nests in each primary tvpe)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard																							
Pintail																							
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.																							
G-W Teal																							
Ruddy																							
Unknown																							
Total	10																						
Coot																							

*Obtain data from Field Form D-1

Forms D5-D10

D5 – Duck Nesting Transects: Refuge Annual Summary

D6 – Calculations for Determination of Corrected Species Composition

D6a – Calculations for Determination of Ducks Produced by Species

D7 – WPS Duck Nesting Transects: Habitat Unit Summary by Years

D8 – WPS Waterfowl Production Estimates: Refuge Summary by Years

D9 – WPS Primary Duck Nesting Cover Types: Refuge Annual Summary

D10 – WPS Primary Duck Nesting Cover Types: Refuge Summary by Years

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS-----REFUGE ANNUAL SUMMARY*

Recorder: WootenYear: 1951Transect Coverage in % 25 (All transects 100%, every other transect 50%, etc.)

Species			Unit No.																						
(1) No. Nests in transect	(2) % Refused	(3) % Hatched	1	2	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	21	22	23	Total	
Mallard	(1)				8	1			3	4	4	16	8		3	2	1	3	10	3		2	2		65✓
	(2)																								
	(3)	27		3	0			1	2	2	7	2		1	0	0	1	6	1		0	1			42%
Pintail	(1)		1	2				1	1	1	3							2							11✓
	(2)																								
	(3)	4	0	2				0	0	1	0							1							36%
Gadwall	(1)		1	2				1										1							5✓
	(2)																								
	(3)	4	1	1				1										1							80%
Shov.	(1)			1										1				1							3✓
	(2)																								
	(3)	0		0										0				0							0%
B-W & Cinn.	(1)		1	1						1	1	1			0				0						5✓
	(2)																								
	(3)	5	1	1						1	1	1													100%
Teal	(1)		1	1																					1✓
G-W Teal	(2)																								
	(3)	0						0																	0%
Redhead	(1)			1										1				2							4✓
	(2)																								
	(3)	2		1										1				0							50%
Ruddy	(1)																								
	(2)																								
	(3)																								
Unknown Teal	(1)		1									2							2						5✓
	(2)																								
	(3)	0	0									0							0						0%
	(1)																								
	(2)																								
	(3)																								
Unknown	(1)		1	1				3	1	2	7								2	1					18✓
	(2)																								
	(3)	3	0	0				2	0	0	1								0	0					17%
Total	(1)		2	3	1/2	1	0	9	6	8	29	4	0	5	2	1	3	20	4	0	2	2	0		117
% Success	(2)		50	33	50	0	0	44	33	50	31	75	0	40	0	0	33	40	25	0	0	50	0		38%
	(3)		1	1	8	0	0	4	2	4	9	3	0	2	0	0	1	8	1	0	0	1	0		45
Coot	(1)																								
	(2)																								
	(3)																								

* Obtain data from Summary Form D-4

CALCULATIONS FOR DETERMINATION OF CORRECTED SPECIES COMPOSITION

[illegible]

CALCULATIONS FOR DETERMINATION OF DUCKS PRODUCED BY SPECIES

(10) Sp. Comp. in Nos. (Col. 9 x total	Hatching Success of Nests			Average Class Iic & III Broods			Sp. Comp. of Ducks Produced to Flight Age	
	(11) No. Nests Hatched on Transsects (From Form D-5)	(12) Hatching Success in % (Col. 11 x Col. 2)	(13) Total Nests Matched (Col. 10 x Col. 12)	(14) No. Broods Recorded (From Form D-3)	(15) No. Ducklings Recorded (From Form D-3)	(16) Average Brood Size (Col. 15 x Col. 14)	(17) No. Ducks Produced (Cols. 13 x 16)	(18) Sp. Comp. in %
Species								
Mallard	3581	27	1504	12	67	5.6	8422	60.3
Pintail	787	4	283	6	34	(5.7) 6.2	1755	12.6
Gadwall	405	4	153	4	25	(6.3) 6.2	949	6.8
Shoveller	250	0	95	8	57	(7.1) 6.3	589	4.3
B.W. Teal	220	}	84	}	39	(6.5) 6.2	521	3.8
Cinn. Teal	274		104			6.2	645	4.6
G.W. Teal	215		82			6.2	508	3.7
Redhead	179	2	68	4	25	(6.3) 6.2	422	3.0
Ruddy	36	—	14			6.2	87	1.6
Scaup	12	—	5			6.2	31	1.2
Widgeon	}	one brood of	each of each species was observed				6	Trace
Canvasback							7	Trace
Unknown	3	17%						
TOTAL	5959	45	2392	40	247	6.2	13942	
Coot								

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS----HABITAT UNIT SUMMARY BY YEARS*

Recorder: DARRELL Norton

Year		Unit No.																							
(1) No. Nests	(2) Corr. No. Nests**	(3) % Hatch	% Cov- erage	1	2	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	21	22	23	Total
1964	(1)			2	2	12	2	0	11	20	21	30	6	10	8	24	5	27	12	4	5	5	5	0	261
	(2)	100%		100	50	25	50	0	45	25	43	30	67	80	25	58	100	85	44	50	60	40	80	-	54.8%
	(3)																								
1965	(1)			6	1	10	2	2	11	13	16	38	5	12	3	13	2	25	35	3	2	6	6	1	212
	(2)	100%		67	0	20	0	50	36	38	44	48	0	58	33	54	50	64	76	66	100	83	66	0	55.7%
	(3)																								
1966	(1)			5	2	17	2	0	23	9	4	54	13	4	10	17	11	20	38	4	5	12	8	1	259
	(2)	100%		60	100	88	0	0	48	67	100	78	54	25	80	82	64	55	71	75	20	68	38	100	72.0%
	(3)																								
1967	(1)			1	2	27	1	1	16	23	14	46	14	10	2	14	4	27	46	5	4	5	1	0	263
	(2)	100%		0	100	66	0	100	31	70	57	74	50	50	50	57	75	70	65	80	75	20	0	0	64.7%
	(3)																								
1968	(1)			9	5	34	9	0	23	24	21	57	9	5	3	21	10	20	38	7	0	6	6	1	311
	(2)	100%																							
	(3)			44	20	62	33	0	57	63	57	58	93	0	67	52	40	50	39	43	0	83	67	0	54.02%
1969	(1)			12	1	28	2	0	10	19	11	44	9	2	4	11	9	9	25	6	0	7	9	0	218
	(2)	50%		75	100	57	100	0	40	68	23	64	89	100	25	55	23	78	64	66	0	0	56	0	62.38%
	(3)																								
1970	(1)			15	9	16	1	0	15	6	16	44	7	2	4	7	2	6	46	6	2	5	7	1	217
	(2)	50%		33	0	50	0	0	38	50	50	57	43	0	50	43	100	66	63	33	50	20	28	0	48.4%
	(3)																								
1971	(1)			2	3	16	1	0	9	6	8	29	4	0	5	2	1	3	20	4	0	2	2	0	117
	(2)	25%		50	33	50	0	0	44	33	50	31	25	0	40	0	0	33	40	25	0	0	50	0	38.5%
	(3)																								
	(1)																								
	(2)																								
	(3)																								
	(1)																								
	(2)																								
	(3)																								

* Obtain data from Summary Form D-5

** Adjust figures to represent 100% transect coverage

WATERFOWL PRODUCTION SURVEY

WATERFOWL PRODUCTION ESTIMATES-----REFUGE SUMMARY BY YEARS*

Recorder: _____

Year	Mal- lard	Pin- tail	Gad- wall	Shov- eller	B-W Teal	Cinn. Teal	G-W Teal	Red- head	Ruddy	Baldpate	Scamp ** Total	*** Total	Conf. Limits of Data in %	Coot
1964	9,214	14,755	686	323	102	102	708	249	16	-	-	12,875	20.46	
1965	10,400	1200	1100	400	150	1000	150	450	120	20	-	15,010	-	
1966	16,718	2,110	786	686	72	1396	350	513	237	20	-	22,888	16.29	
1967	12,685	1,811	1,434	634	534	1,768	534	649	72	12	-	20,133	18.00	
1968	12,567	1,731	1,783	857	339	1,252	394	194	66	33	-	19,216	17.6	
1969	16,815	2,306	1,877	925	323	1,300	1,300	330	68	13	-	25,257	19.7	
1970	11,291	2,387	1,337	860	248	2046	1066	104	189	8	-	19,528	20.6	
1971	8,422	1,755	949	589	521	645	508	422	87	6	Scamp Can 317	13,942	23.1	

* Obtain data from Column 17, Summary Form D-6a

Obtain confidence limits from calculation (C) in text

** Confidence limits for total estimated production

*** Confidence limits for total estimated nests

WATERFOWL PRODUCTION SURVEY

PRIMARY DUCK NESTING COVER TYPES----REFUGE ANNUAL SUMMARY*

Recorder: NortonYear: 1971

(1) No. Nests	(2) % in Primary Type	Primary Type														
		Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
<u>Mallard</u>	65 (1)		6		1	1		1	53		1	2				49
	(2)	11%	11%						82%							
<u>Pintail</u>	11 (1)								10	1						7
	(2)								91%							
<u>Gadwall</u>	5 (1)								5							4
	(2)								100%							
<u>Shoveller</u>	3 (1)								2	1						3
	(2)								67%	33%						
<u>B-W & Cinn. Teal</u>	10 (1)								10							9
	(2)								100%							
<u>G.W. Teal</u>	1 (1)		1													1
	(2)		100%													
<u>Redhead</u>	4 (1)								4							4
	(2)								100%							
<u>Ruddy</u>	(1)															
	(2)															
	(1)															
	(2)															
<u>Unknown</u>	18 (1)								18							14
	(2)								100%							
<u>Total</u>	117 (1)		7		1	1		1	102	2	1	2				91
	(2)		6%		1%	1%		1%	87%	2%	1%	2%				78%
<u>Coot</u>	(1)															
	(2)															

* Obtain data from Summary Form D-4

WATERFOWL PRODUCTION STUDY

PRIMARY DUCK NESTING COVER TYPES----REFUGE SUMMARY BY YEARS*

Recorder: Norton

(1) No. Duck Nests (2) % in Primary Type	Primary Cover Type														
	Sx	Sve	Crz	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
1964 (1)	3	37		4	3		3	202	6		2		2	4	96
(2)	1.15	14.2		1.5	1.15		1.15	77.4	2.3		1.96		1.96	3.92	34.78
1965 (1)															212
(2)															
1966 (1)		21	2	2	12		3	212	5	1		1	5		107
(2)		8.1	.8	.8	4.6		1.2	81.9	1.9	.4		.4	1.9		41.3
1967 (1)		23	3		4		1	225	2		2	3			102
(2)		8.7	1.5		1.5		.4	85.6	.8		.8	1.1			38.8
1968 (1)	3	61	0	5	4	0	6	225	6			1	1	10	10
(2)	1.0	19.6		1.6	1.3		1.9	72.3	1.9			.4	.4		3.2
1969 (1)		22		3	2		5	178	7	1			6	2	176
(2)		10.1		1.4	.9		2.3	81.6	3.2	.5			2.7	.9	80.7
1970 (1)															217
(2)															
1971 (1)		7		1	1		1	102	2	1	2				91
(2)		1.9%		1%	1%		1%	87%	2%	1%	2%				78%
(1)															
(2)															
(1)															
(2)															

* Obtain data from Summary Form D-9