

1970

Form D1

**Waterfowl Production
Surveys**

Units 1-23

1ST RUN 1970

Form D-1
Observer: Glenn H. H. H. H.

Field Form
WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Unit No. 1
Year: 1970

Unit No.	Transect No.	First Observation			Nest Status						Cover Type										Date													
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Ost	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown
1	59	5-13-70	101	MA	4				X																		5/13							
1	63	5-13-70	301	PN	9	X																					6/7/70							
1	71	6/17/70	385	TX	10	V																					6/17							
"	"	"	386	UNK	6																						6/17							
"	69	"	387	UNK	2																						6/17							
"	71	"	388	MJA	6																						7/14							
"	"	"	389	UNK	?																						6/17							
"	67	"	390	MJA	6																						7/14							
"	"	"	391	TX	2																						6/17							
"	65	"	392	MJA	4																						6/17							
"	"	"	393	UNK	4																						7/14							
"	61	"	394	TX	10																						7/14							
"	59	6/18/70	395	MJA	6																						7/14							
"	57	"	397	MJA	1																						7/14							
"	"	"	398	UNK	8																						6/17							

Form D-1 *B/Sir*
 Observer: *Hafterman*

Not on
 WATERFOOT PRODUCTION SURVEY DUCK & COOT NESTING DATA

Field Form
 Unit No. 3
 Year: 1970

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.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date		Hatched	N. Hatch.	Desert.	Destr.	Flooded	Unknown	
3	85	5-14-70	162	M/A	0	X																						6/19		1						
3	89	5-14-70	163	Pt.	7	X																						6/19		7						
3	99	5-14-70	302	M/A	9	X																						6/19		9						
"	87	6/19/70	312	Muk	4	✓	✓																					7/16		17.2						
"	"	"	313	Tx	9	✓	✓																					7/16								
"	"	"	314	Muk	?																							6/19								
"	"	"	315	Tx	3																							7/16								
"	93	6/22	317	M/A	7	✓	✓																					7/16		17						
"	97	"	318	M/A	6	✓	✓																					7/16								
"	"	"	319	M/A	6	✓	✓																					7/16								
"	"	"	320	Mx	?																							6/22		17						
"	"	"	321	Pi	7	✓	✓																					7/16		16.1						
"	"	"	322	Tx	8	✓	✓																					7/16		15						
"	"	"	323	Sh	6	✓	✓																					7/16								
"	99	"	324	Tx	10																							6/22		10						
"	"	"	325	Mx	6																							6/22								
"	105	"	379	Lo	8	✓																						7/16								

✓ cattle
 female area

[illegible]

Unit No. 5Year: 1970[illegible]

Form D-1

Field Form

Unit No. 6

Observer: Robinson

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1920

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.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.		Flooded	Unknown		
35	5-13	1	Unknown	3	X																							6-10									1446 B.F. 82" W 2:02 N.F. 1" W
36	5-14	2	"	2																								5-14	0							8:55 8 yds 11" W 9:45 3 yds 3.0" W	
37	5-15	3	Mallard	9	X																							7-7	X 5							9:52 9 yds 5.1" W 9:25 N.F. 8.9" W 11:05 3 yds 11:15 2 yds 3.9" E 11:39 6 yds 2" E 11:50 N.F. 2.9" E 7:59 4 yds 4.9" W 12:38 3 yds 9.8" E 3:01 2 yds 25" E 10:58 1 yd 6.9" E 11:09 N.F. 20" W 11:18 N.F. 7.7" W 1:46 N.F. 5.4" E 12:05 N.F. 1.3" E 12:34 N.F. 5.3" W 12:40 6 yds 25" W 1:28 1 yd 9.5" W 3:10 9 yds 2.4" E 10:56 N.F. 7.9" E 10:55 2 yds 4" W	
39	"	4	"	2	X																							6-11									
39	"	5	Pintail	6	X																							5-16	0								
50	5-16	6	Unknown	5																								7-6									
28	6-9	20	Mallard	7	X																							7-6	X 7								
28	6-9	21	Teal	5	X																							7-6	X 4								
28	6-9	22	Mallard	4	X																							6-9									
28	6-9	23	"	1																								7-6	X 6								
28	6-9	24	Pintail	6	X																							7-6									
29	6-9	25	Mallard	5	X																							7-6									
31	6-9	26	"	5																								7-6	X 6								
33	6-10	27	"	8																								7-6	X 9								
33	6-10	28	Unknown	0?																								6-10									
33	6-10	29	"	4	X																							7-6									
34	6-10	30	"	1																								6-10									
34	6-10	31	"	0																								6-10									
35	6-10	32	"	6	X																							7-7									
35	6-10	33	Mallard	9	X																							7-7	X 9								
36	6-10	34	Shoveler	10	X																							7-7	X 10								
36	6-10	35	Mallard	11	X																							7-7									
40	6-11	36	Unknown	2	X																							7-7	X 7								
38	6-11	37	Mallard	10	X																							7-7	X 8								

Field Form

Unit No. 6 17 1233

Observer: K. D. RUSSELL WATERFOUL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1910

Unit No.	Transect No.	First Observation						Nest Status							Cover Type										Fate									
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown
39	6-11	38	Mallard	2	X																						7-7	X	8					11:23 7ds 89°E
44	6-11	39	Teal	8	X																						7-7	X	8				2:23 89ds 91°E	
44	6-11	40	Unknown	0?																							6-11						2:32 P.F. 41°W	
45	6-12	41	"	3	X																						7-8						8:57 P.F. 43°E	
44	6-15	44	Mallard	2	X																						7-10	X	2				10:29 37ds 51°E	
29	7-6	68	Unknown	0?																							7-6						9:00 P.F. 85°E	
30	"	69	"	3	X																						9-20						10:21 P.F. 84°W	
31	"	70	"	2	X																						"						11:14 P.F. 28°W	
33	"	71	Shoveler	8	X																						"						12:29 39ds 26°E	
36	7-7	72	Pintail	6	X																						7-7	X	6				8:45 14d 95°W	
41	"	73	Shoveler	9	X																						7-20	X	9				12:28 14d 10°W	

Form D-1 *Sheldon* *Not on* *Field Form* Unit No. 7
 Observer: *Anders* *WATERFOOT PRODUCTION SURVEY DUCK & COOT NESTING DATA* Year: 1970

Unit No.	Transect No.	First Observation			Nest Status							Cover Type													Fate										
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown	Remarks (No. & expl. on back)
7	49	5-12-70	203	UNK	2	X							X															7/14							
7	59	5-13-70	254	UNK	6		X													X								6/17		15					
7	71	5-13-70	255	UNK	1	X		X												X								6/17							
7	55	5-13-70	353	MA	7		X													X						X		6/17							
7	63	5-13-70	354	MA	5		X																		X			6/17		15					
"	69	6/17/70	205	Tx	9																							7/14		122					

Form D-1 *Version 1*
 Observer: *Anderson*

Field Form
 WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Unit No. 9
 Year: 1970

Unit No.	Transect No.	First Observation			Nest Status								Cover Type										Fate													
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown	Remarks (No. & expl. on back)	
9	101	5-14-70	355	MA	9	✓	✓													⊗						X	7/16								7	
9	102	"	356	PT	6		X						⊗							⊗						X	6/19	✓	6							
9	103	"	357	GWT	1		X													⊗								6/19								
9	105	"	358	PT	6		X													⊗								7/16								
9	107	"	356	MA	8		X													⊗								7/16	✓	71						
9	91	"	356	"	10		X													⊗						X	6/18	✓	6							
9	91	"	357	"	5		X													⊗						X	6/18	✓	6							
9	91	"	358	"	8		X													⊗						X	6/18									
9	91	"	359	"	6		X													⊗						X	6/18	✓	6							
9	91	"	360	"	7		X							⊗						⊗						X	6/18	✓	7							
9	91	"	361	"	9		X							⊗														6/18	✓	9						
9	97	"	362	"	7		X													⊗						X	6/19	✓	7							
9	95	"	363	PT	9		X													⊗								6/24	✓	9						
9	95	"	364	UNK	2		X													⊗						X	6/24	✓	6							
9	79	"	353	MA	10		X													⊗								6/18	✓	10						
9	79	"	353	MA	3		X													⊗								6/18								
9	79	"	354	PT	7		X													⊗								7/16	✓	7						
9	79	"	355	PT	6		X													⊗								6/18	✓	6						
9	103	6/19	323	PT	8		✓							⊗						⊗						✓	7/16									
"	"	"	324	MA	10		✓													⊗						✓	7/16									
"	"	"	325	TX	10		✓													⊗						✓	7/16									
"	95	6/24	334	MA	8		✓													⊗						✓	7/16	✓	8							
"	"	"	335	MA	9		✓													⊗						✓	7/16	✓	54							
"	"	"	336	MA	8		✓													⊗						✓	7/16	✓	8							

7
4
3
2

Year: 1990

Unit No.	Transect No.	First Observation						Nest Status							Cover Type										Fate									
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Ost	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown
11	133	6/22	316	Ga	11		✓												✓	0	0						7/15						✓	
"	137	"	377	U.K.	7				X										0	0							6/22						X	

Form D-1

Field Form

Finished

Unit No.

16

Observer: Wagon

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year:

1970

2 weeks

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.	Destr.	Flooded	Unknown	Gx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.		Desert.	Destr.	Flooded	Unknown		
16	63	6/16	261	M2	6	✓																						2/14	✓	421							
"	69	"	262	M2	7	✓																						2/14	✓	5							

Form D-1
Observer: Robinson

Field Form
WATERFOUL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Unit No. 18
Year: 1970

Unit No.	Transect No.	First Observation				Nest Status							Cover Type											Fate											
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown	Remarks (No. & expl. on back)
18	105	5/20	367	U.K	6	✓	✓	✓						✓													6/18	✓	✓	✓					
"	103	5/21	368	M ₂	10	✓	✓	✓																			6/18			✓					
"	"	"	369	P ₁	7	✓	✓	✓																			7/15								
"	"	"	370	M ₂	6	✓	✓	✓																			7/15								
"	99	5/22	371	P ₁	5	✓	✓	✓																			6/18	✓	✓	✓					
"	"	"	372	M ₂	8	✓	✓	✓																			6/18	✓	✓	✓					
"	97	"	373	Tx	4	✓	✓	✓																			7/15	✓	✓	✓					
"	"	"	374	P ₁	4																						6/18			✓					
"	"	"	375	M ₂	9	✓	✓	✓																			7/15	✓	✓	✓					
"	95	"	376	M ₂	8	✓	✓	✓																			7/15	✓	✓	✓					
"	"	"	377	P ₁	9	✓	✓	✓																			7/15	✓	✓	✓					
"	"	"	378	M ₂	7	✓	✓	✓																			7/15	✓	✓	✓					
"	93	"	93	P ₁	6	✓	✓	✓																			7/15								
"	"	"	94	U.K	2	✓	✓	✓																			7/15	✓	✓	✓					
"	91	"	95	M ₂	8	✓	✓	✓																			7/15	✓	✓	✓					
"	89	"	96	M ₂	9	✓	✓	✓																			6/18	✓	✓	✓					
"	"	"	97	M ₂	8	✓	✓	✓																			6/18	✓	✓	✓					
"	"	"	98	M ₂	5	✓	✓	✓																			6/18	✓	✓	✓					
"	"	"	99	P ₁	7	✓	✓	✓																			7/15	✓	✓	✓					
"	87	"	100	M ₂	7	✓	✓	✓																			7/15	✓	✓	✓					
"	101	6/18	126	Sk	10	✓	✓	✓																			7/15								
"	"	"	127	M ₂	9	✓	✓	✓																			6/18	✓	✓	✓					
"	"	"	128	P ₁	5	✓	✓	✓																			7/15								
"	"	"	129	U.K	?	✓	✓	✓																			6/18	✓	✓	✓					

10 M₂
51
1 Tx
4 U.K.

Observer: _____

WATERFOIL PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1970

Unit No.	Transect No.	First Observation			Nest Status							Cover Type											Fate												
		Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown	Remarks (No. & expl. on back)
18	87	6/18	212	Ux	?	✓																					6/18	✓	?						
"	"	"	213	M/a	4	✓																					7/15	✓	4						
"	105	"	214	Sk	10	✓																					7/15	✓	10						
"	"	"	215	Go	10	✓																					7/15	✓	10						
"	103	"	216	Ga	11	✓																					7/15	✓	3						
"	"	"	217	M/a	8	✓																					7/15	✓	8						
"	91	"	223	M/a	4	✓																					6/18	✓	4						
"	"	"	224	Kd	9	✓																					7/15	✓	3						
"	"	"	225	M/a	11	✓																					7/15	✓	1						
"	93	"	226	Ux	7	✓																					7/15	✓	1						
"	"	"	227	M/a	8	✓																					7/15	✓	1						
"	"	"	228	TX	9	✓																					7/15	✓	1						
"	97	"	115	P.	8																						6/18	✓	1						
"	"	"	116	M/a	5	✓																					7/15	✓	1						
"	95	"	117	Ux	?	✓																					6/18	✓	?						
"	"	"	118	M/a	8	✓																					7/15	✓	1						
"	"	"	119	Ux	?	✓																					6/18	✓	?						
"	"	"	120	M/a	5	✓																					6/18	✓	5						
"	"	"	121	M/a	10	✓																					7/15	✓	1						
"	"	"	122	TX	7	✓																					7/15	✓	1						
"	"	"	123	P.	?	✓																					6/18	✓	?						
"	"	"	124	Ux	6	✓																					7/15	✓	1						
"	"	"	125	Ux	7	✓																					6/18	✓	1						

✓ Reason:

For more information, contact:

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Unit No. 22

1

Observer: B. J. C. + m

WATERFOOT PRODUCTION SURVEY DUCK & COOT NESTING DATA

Year: 1970

[illegible]

Unit No. 23Year: 1970

	Unit No.	Transect No.	First Observation			Nest Status							Cover Type										Fate												
			Date	Nest No.	Species	No. Eggs	Laying	Incub.	Covered	Desert.	Destr.	Flooded	Unknown	Sx	Sve	Crx	Ost	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	Date	Hatched	No. Hatch.	Desert.	Destr.	Flooded	Unknown
23	75	617	10	211	Nest	7	✓	1st	✓	✓	✓									✓								7/15						✓	

Form D4

WPS Duck Nesting Transects: Individual Unit Summaries

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 1Recorder: NortonYear: 1970Transect Coverage in % 50 (All transects=100%, every other transect = 50%, etc.)

	Total Nests on Transects	Nests		No. Deserted	No. Destroyed	No. Flooded	Unknown	Primary Cover Type (No. of nests in each primary type)														
		No. Hatched	% Hatched					Sx	Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	6	2	33	1	3	0	0		1		1				3	1						2
Pintail	1	0	0	0	1	0	0								1							-
Gadwall	-																					
Shoveller	-																					
Teal																						
B-W & Cinn.	3	2	.66	0	1	0	0								3							2
G-W Teal	-																					
Ruddy	-																					
Unknown	5	1	.20	0	4	0	0								4	1						4
Total	15	5	.33	1	9	0	0		1		1				11	2						8
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 2Recorder: NortonYear: 1970Transect Coverage in % 50 (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	7	0	0	0	6	0	1								7									4
Pintail																								
Gadwall																								
Shoveller																								
Teal																								
B-W & Cinn.																								
G-W Teal																								
Ruddy																								
Unknown	2	0	0	0	2	0	0								2									0
Total	9	0	0	0	8	0	1								9									4
Coot																								

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 3Recorder: NortonYear: 1970Transect Coverage in % 50 (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	5	3		1	1	1	0				1				2	2						3
Pintail	2	1	50	0	1	0	0				1				1							1
Gadwall	-																					
Shoveller	1	1	100	0	0	0	0								1							1
Teal																						
B-W & Cinn.	4	2	50	0	1	0	1								3	1						4
G-W Teal																						
Ruddy																						
Unknown	4	1	25	0	1	0	2								4							4
Total	16	8	50	1	4	2	3				2				11	3						13
Coot	1	-	-	0	0	0	0															

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 4Recorder: NortonYear: 1970Transect Coverage in % 50 (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																						
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.																						
GrW Teal																						
Ruddy																						
Unknown	1	0	0	0	1	0	0			1												
Total	1	0	0	0	1	0	0			1												
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 5Recorder: NortonYear: 1970Transect Coverage in % 50 (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 tvne)															
		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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coot																								

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 6Recorder: NortonYear: 1970Transect Coverage in % 50% (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	7	4	57%	1	2	0	0		4						3							
Pintail	1	0	0	0	1	0	0								1							
Gadwall																						
Shoveller	2	2	100	0	0	0	0								2							
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown	5	0	0	2	3	0	0		1						4							
Total	15	6	38	3	6	0	0		5						10							
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 7Recorder: NortonYear: 1970Transect Coverage in % 50% (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	2	1	50	0	1	0	0					1			1						1	1
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.	1	1	100	0	0	0	0								1							
G-W Teal																						
Ruddy																						
Unknown	3	1	33	0	0	1	1	1							2							
Total	6	3	50	0	1	1	1	1				1			4						1	1
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 8Recorder: NortonYear: 1970Transect Coverage in % (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	5	62		1		2		1						7								4
Pintail																							
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.	2	2	100	0	0	0	0								2								1
G-W Teal																							
Ruddy	1	0	0	1	0	0	0								1								1
Unknown	5	1			2	1	1		2						2			1					3
Total	16	8	50	1	3	1	3		3						12			1					9
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 9Recorder: NortonYear: 1970Transect Coverage in % (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	18	13	72	0	2	2	1		1		1	1			15							12
Pintail	8	6	75	0	0	0	2		5						3							3
Gadwall																						
Shoveller	2	1	50	0	0	0	1								2							2
Teal																						
B-W & Cinn.	4	3	75	0	0	0	1				1				1	1	1				1	4
G-W Teal	1	0	0	0	0	1	0		1													
Ruddy																						
Unknown	11	3	27	3	2	1	2		1						10							11
Total	44	26	59	3	4	4	7		8	2	1				31	1	1					32
Coot	2	1	50	0	1	0	0								2							2

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS----INDIVIDUAL UNIT SUMMARY*

Unit No. 10Recorder: WortonYear: 1970Transect Coverage in % 50% (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 tvpne)													
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded
Mallard	3	1	33	0	2	0	0								2	1						2
Pintail	1	0	0	0	1	0	0				1											
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.	3	2	66	0	0	1	0		1						2							2
G-W Teal																						
Ruddy																						
Unknown																						
Total	7	3	43	0	3	1	0		1	1					4	1						4
Coot	2	2	100	0	0	0	0								1			1				2

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 11Recorder: NortonYear: 1970Transect Coverage in % 50% (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																								
Pintail																								
Gadwall	1	0	0	0	0	0	1										1							
Shoveller																								
Teal																								
B-W & Cinn.																								
G-W Teal																								
Ruddy																								
Unknown	1	0	0	0	1	0	0									1								
Total	2	0	0	0	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. 14Recorder: WortonYear: 1970

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 tvpe)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	3	1	33	0	1	0	1		1						2								
Pintail																							
Gadwall	1	1	100	0	0	0	0		1														
Shoveller																							
Teal																							
B-W & Cinn.																							
G-W Teal																							
Ruddy																							
Unknown																							
Total	4	2	50	0	1	0	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. 15Recorder: NortonYear: 1970

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 tvpe)														
		No. Hatched	% Hatched						Sve	Crx	Dst	Gx	Mof	Wx	Jba	Cx	Ex	Tla	Sva	Dike	Ditch	Flooded	
Mallard	6	2	33	2	1	0	1								6								2
Pintail	1	1	100	0	0	0	0								1								
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.																							
G-W Teal																							
Ruddy																							
Unknown																							
Total	7	3	43	2	1	0	1								7								2
Coot	2	1	50	1	0	0	0								1			1					2

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 16Recorder: WortonYear: 1970Transect Coverage in % 50% (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	2	2	100	0	0	0	0								2									
Pintail																								
Gadwall																								
Shoveller																								
Teal																								
B-W & Cinn.																								
G-W Teal																								
Ruddy																								
Unknown																								
Total	2	2	100	0	0	0	0								2									
Coot																								

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 17Recorder: NortonYear: 1970Transect Coverage in %50% (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	2	66	0	1	0	0		1						2							2
Pintail																						
Gadwall																						
Shoveller																						
Teal																						
B-W & Cinn.	1	1	100	0	0	0	0								1							
G-W Teal																						
Ruddy	1	1	100	0	0	0	0											1				1
Unknown	1	0	0	1	0	0	0								1							
Total	6	4		1	1	0	0		1						4			1				3
Coot	1	1	100	0	0	0	0											1				1

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 18Recorder: NortonYear: 1970

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 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	21	13	61	2		1	5		1	1	1				18								7
Pintail	9	4	44	1	2	0	2		1			1			7								5
Gadwall	1	1	100	0	0	0	0		1														
Shoveller	2	1	50	0	1	0	0				1				1								1
Teal																							
B-W & Cinn.	3	2	66	0	0	0	1								3								2
G-W Teal																							
Ruddy																							
Redhead	1	1	100	0	0	0	0								1								1
Unknown	9	7	78	0	1	1	0		3						6								1
Total	46	29	63	3	4	2	8		6	1	2	1			36								12
Coot	1	1	100	0	0	0	0								1								1

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 19Recorder: W. J. TenYear: 1970Transect Coverage in % 50% (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	1	0	0	0	1	0	0								1								
Pintail	1	0	0	0	1	0	0								1								
Gadwall	1	0	0	0	1	0	0							1						1			
Shoveller	1	1	100	0	0	0	0								1								
Teal																							
B-W & Cinn.																							
GrW Teal																							
Ruddy																							
Unknown	2	1	50	0	1	0	0								2								
Total	6	2	33	0	4	0	0								1	5					1		
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 20Recorder: WortonYear: 1970Transect Coverage in % 50% (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	1	0	0	0	0	0	1		1													1
Pintail																						
Gadwall																						
Shoveller	1	1	100	0	0	0	0								1							1
Teal																						
B-W & Cinn.																						
G-W Teal																						
Ruddy																						
Unknown																						
Total	2	1	50	0	0	0	1		1						1							2
Coot																						

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

DUCK NESTING TRANSECTS----INDIVIDUAL UNIT SUMMARY*

Unit No. 21Recorder: NortonYear: 1970Transect Coverage in % 50% (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	2	1	50	1	0	0	0								2								2
Pintail	1	0	0	1	0	0	0								1								
Gadwall																							
Shoveller																							
Teal																							
B-W & Cinn.																							
G-W Teal																							
Ruddy																							
Unknown	2	0	0	0	2	0	0	1							1								
Total	5	1	20	2	2	0	0	1							4								2
Coot																							

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 22Recorder: NortonYear: 1970Transect Coverage in % 50 (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	1	1	100	0	0	0	0								1									
Pintail	1	0	0	0	0	0	1				1													
Gadwall																								
Shoveller																								
Teal																								
B-W & Cinn.																								
G-W Teal																								
Ruddy																								
Unknown	5	1	20	0	3	1	0								2	3								
Total	7	2	28	0	3	1	1				1				2	4								
Coot																								

*Obtain data from Field Form D-1

Form D-4

WATERFOWL PRODUCTION SURVEY

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

Unit No. 23Recorder: MortonYear: 1970Transect Coverage in % 50% (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	0	0	0	0	1								1									
Pintail																								
Gadwall																								
Shoveller																								
Teal																								
B-W & Cinn.																								
G-W Teal																								
Ruddy																								
Unknown																								
Total	1	0	0	0	0	0	1								1									
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: NortonYear: 1970Transect Coverage in % 50 (All transects 100%, every other transect 50%, etc.)

Species		Unit No.																						
(1) No. Nests transacted	(2) % Refuge Total	(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)		6	7	5			7	2	8	18	3		3	6	2	3	21	1	1	2	1	1	97
	(2)																							
	(3)	51	2	0	3			4	1	5	13	1		1	2	2	2	13	0	0	1	1	0	53%
Pintail	(1)		1		2			1			8	1			1			9	1		1	1		26
	(2)																							
	(3)	12	0		1			0			6	10			1			4	0		0	0		46%
Gadwall	(1)												1	1				1	1					4
	(2)																							
	(3)	2										0	1					1	0					50%
Shov.	(1)			1			2			2								2	1	1				9
	(2)																							
	(3)	7		1			2			1								1	1	1				72%
B-W & Cinn.	(1)		3		4				1	2	4	3					1	3						21
	(2)																							
Teal	(3)	15	2		2				1	2	3	2					1	2						72%
G-W Teal	(1)										1													1
	(2)																							
	(3)	0								0														0%
Redhead	(1)																	1						1
	(2)																							
	(3)	1																1						100%
Ruddy	(1)								1								1							2
	(2)																							
	(3)	1							0								1							50%
	(1)																							
	(2)																							
	(3)																							
	(1)																							
	(2)																							
	(3)																							
Unknown	(1)		5	2	4	1		5	3	5	11		1				1	9	2		2	5		56
	(2)																							
	(3)	16	1	0	1	0		0	1	1	3		0				0	7	1		0	1		28%
Total	(1)	15	9	16	1	0	15	6	16	44	7	2	4	2	2	6	46	6	2	5	2	1		217
	(2)	33%	0%	50%	0%	0%	38%	50%	50%	50%	43%	0%	50%	43%	100%	66%	66%	33%	50%	20%	20%	0%		
	(3)	105	5	0	8	0	0	6	3	8	26	3	0	2	3	2	4	29	2	1	1	3	0	484
Coot	(1)			1						2	2				2		1	1						9
	(2)				0%					50%	100%				50%		100%	100%						
	(3)	6		0						1	2				1		1	1						66%

* Obtain data from Summary Form D-4

CALCULATIONS FOR DETERMINATION OF CORRECTED SPECIES COMPOSITION

(1) Species	Species Composition of Transect Data (2)			Species Composition of Breeding Population (5)		(7) Weight (Col. 6 x 1)	(8) Weight (Col. 4 + Col. 7)	Corrected Sp. Comp. of Nests	
	No. Nests From Form D-5	Sp. Comp. Known Nests in %	Weight (Col. 3 x Col. 2)	No. Breeding Ducks	Sp. Comp. in %			Sp. Comp. in % (Col. 8 / 3)	Sp. Comp. in Nos. (Col. 9 x total)
Mallard	97	60.2	120.4	14750	47.3	47.3	1677	55.9	3066
Pintail	26	16.1	32.2	3500	11.5	11.5	43.7	14.6	801
Gadwall	4	2.7	5.4	5000	16.2	16.2	21.6	7.2	395
Shoveller	9	5.6	11.2	900	2.9	2.9	14.1	4.7	258
B.W. Teal				400	1.5	1.5	3.6	1.2	66
Cinn. Teal	22	13.6	27.2	3800	12.3	12.3	45.295	9.9	543
G.W. Teal				1700	5.6	5.6	13.4	4.4	241
Redhead	1	.6	1.2	200	.7	.7	1.9	.6	33
Ruddy	2	1.2	2.4	300	1.0	1.0	3.4	1.1	60
Baldpate	-	-	-	20	.1	.1	.1	.1	5
Scaup	-	-	-	300	1.0	1.0	1.0	.3	16
(Total)	161								
Unknown	56								
TOTAL	217	100%	200%	31170	100%	100%	300%	100%	5484
Coot	9	-	-	3250					

CALCULATIONS FOR DETERMINATION OF DUCKS PRODUCED BY SPECIES

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 Transects (From Form D-5)	(12) Hatching Success in % (Col. 11) (Col. 2)	(13) Total Nests Hatched (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) (Col. 14)	(17) No. Ducks Produced (Cols. 13 x 16)	(18) Sp. Comp. in %
Mallard	3066	51	52.6	1613	37	259	2.00	11291	57
Pintail	801	12	46.1	369	23	149	6.47	2,387	12.2
Gadwall	395	2	(50.0) 48.4	191	20	140	7.00	1,337	6.8
Shoveller	258	7	(57.8) 48.4	125	18	124	6.88	860	4.4
B.W. Teal	66			45	19	105	5.53	248	1.3
Cinn. Teal	543	15	68.1	370	"	"	"	2046	10.5
G.W. Teal	241			164	4	26	(6.5) 6.5	1066	5.5
Redhead	33	1	(100.0) 48.4	16	2	12	(6.0) 6.5	104	5
Ruddy	60	1	(50.0) 48.4	29	6	30	(5.0) 6.5	189	1.0
Baldpate	5	-	-						
Scaup	16	-	-		2	11	(5.5) 6.5		
Unknown		16	28.5						
TOTAL	5484	105	48.4	2922	131	855	6.5	19528	100%
Coot			* Two	Broods of Scaup Observed					

WATERFOWL PRODUCTION SURVEY

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

Recorder: _____

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	62	4	5	5	5	0	261
	(2)			-																					
	(3)			100	50	25	50	0	45	25	43	30	47	80	25	58	100	85	66	50	100	40	80	-	54.8
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)																								
	(3)			67	0	70	0	50	36	38	44	48	0	58	33	51	50	64	76	66	100	83	66	0	55.7
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)																								
	(3)			60	100	88	0	0	48	67	100	98	54	75	80	82	64	55	71	75	20	68	38	100	72.0
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)																								
	(3)			0	100	66	0	100	31	20	52	74	50	50	50	57	75	70	65	80	25	20	0	0	61.9
1968	(1)			9	5	34	9	0	23	24	21	59	9	5	3	21	10	20	39	7	0	6	6	1	311
	(2)																								
	(3)			44	20	62	33	0	57	63	57	58	33	0	67	52	40	50	59	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%																						
	(3)			25	100	57	100	0	40	28	73	64	89	100	25	55	22	78	64	66	0	0	56	0	62.38
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%																						
	(3)			33	0	50	0	0	38	50	50	59	43	0	50	43	100	66	63	33	50	20	28	0	48.4
	(1)																								
	(2)		25%																						
	(3)																								
	(1)																								
	(2)																								
	(3)																								

* Obtain data from Summary Form D-5

** Adjust figures to represent 100% transect coverage

WATERFOWL PRODUCTION SUMMARY

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

Recorder: _____

-1970

Year	Mal-lard	Pin-tail	Gad-wall	Shov-eller	B-W Teal	Cinn. Teal	G-W Teal	Red-head	Bulldog	Scup	*** Total	Conf. Limits of Data in %	Coot
1964	9214	1475	686	323	102	102	708	249	-	-	12,875	20.46	
1965	10,400	1200	1100	400	150	1000	150	450	20		15,010	-	
1966	16,718	2,110	786	686	72	1396	350	513	20	-	22,888	16.29	
1967	12,685	1811	1434	634	534	1768	534	649	12	-	20,133	18.00	
1968	12,587	1731	1783	857	339	1252	394	194	33	-	19,216	17.6	
1969	16,815	2,306	1877	925	323	1300	1300	330	13	-	25,257	19.7	
1970	11,291	2387	1337	860	248	2046	1066	104	8	-	19,536	20.60	
4th	89,690	13,020	9,003	4685	11,768	8,864	4502	2484	98		140,744		
	12,812	1,860	1,286	669	252	1266	643	353	20		19,272		
	1,665	1,096	70	1,034	1,030	1,065	1,033	1,084	1,056	1,010			
Group	I ✓	III ✓	II ✓	III ✓	III ✓	III	II ✓	I ✓	III ✓	III ✓			

* 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: SarvisYear: 1970

(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>	(1)		11	1	4	2			75	4					1	42	97
	(2)		11.3	1.0	4.1	2.1			77.3	4.1					1.0	43.3	
<u>Pintail</u>	(1)		6		3	1			16							9	26
	(2)		23.1		11.5	3.8			61.5							34.6	
<u>Gadwall</u>	(1)		2					1			1			1		0	4
	(2)		50.0					25.0			25.0			25.0		0	
<u>Shoveller</u>	(1)				1				8							5	9
	(2)				11.1				88.9							55.6	
<u>B-W & Cinn. Teal</u>	(1)		1		1				16	2	1				1	15	21
	(2)		4.8		4.8				76.2	9.5	4.8				4.8	71.4	
<u>G.W. Teal</u>	(1)		1													0	1
	(2)		100.0						1							0	
<u>Redhead</u>	(1)								1							1	1
	(2)								100.0							100	
<u>Ruddy</u>	(1)								1			1				2	2
	(2)								50.0			50.0				100	
	(1)																
	(2)																
	(1)		9	1				2	42	1		1				23	56
	(2)		16.1	1.8				3.6	75.0	1.8		1.8				41.1	
<u>Total</u>	(1)		30	2	9	3		3	159	7	2	2		1	2	97	217
	(2)		13.8	0.9	4.2	1.4		1.4	73.3	3.2	0.9	0.9		0.5	0.9	44.7	
<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: Norton1970

(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	
<u>1964</u> (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	3.72	36.78	
<u>1965</u> (1)																
(2)																
<u>1966</u> (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	
<u>1967</u> (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	
<u>1968</u> (1)	3	61	0	5	4	0	6	225	6	0	0	1	1	0	10	
(2)	1.0	19.6	0	1.6	1.3	0	1.9	72.3	1.9	0	0	0.4	0.4	0	3.2	
<u>1969</u> (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	
<u>1970</u> (1)		30	2	9	3		3	159	7	2	2		1	2	97	217
(2)		13.8	0.9	4.2	1.4		1.4	73.3	3.2	0.9	0.9		0.5	0.9	44.7	
(1)																
(2)																
(1)																
(2)																
(1)																
(2)																

* Obtain data from Summary Form D-9

Raw Data

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

June 25, 1970

Richard M. Hopper
Wildlife Researcher
Migratory Bird Investigations
Game Research Center
P.O. Box 567
Fort Collins, Colorado 80521

Dear Dick;

Information concerning the May and June transects is listed below:

	<u>MAY</u>		<u>JUNE</u>		<u>TOTAL</u>	
<u>Species</u>	<u>Number Nests Found</u>	<u>Number Hatched</u>	<u>Number Nests Found</u>	<u>Number Hatched</u>	<u>Number Nests Found</u>	<u>Number Hatched</u>
Mallard	44	13	58	4	102	17
Pintail	15	3	12	2	27	5
Gadwall	1	0	3	0	4	0
Shoveler	0	0	8	0	8	0
Unidentified Teal	3	1	21	2	24	3
Redhead	0	0	1	0	1	0
Ruddy	0	0	2	0	2	0
Coot	0	0	9	0	9	0
Unknown	10	2	52	9	62	11
	<u>73</u>	<u>19</u>	<u>166</u>	<u>17</u>	<u>239</u>	<u>36</u>

It will be noted that of the 10 unknown nests found in May that only two show as hatched, but I am sure that this figure may be in error. You will note that of the total 239 nests found so far, 166 were found during the June transect run. The nests found still active in June will be checked out sometime during the week of July 15, and I will let you know the hatching success of those nests as well as any new nests found in July.

Sincerely yours,

Charles R. Bryant

cc: Mitchell Sheldon
Ray Buller

Species	May		June		Total	
	Number of Nests Found	Number Hatched	Number of Nests Found	Number Hatched	Number of Nests Found	Number Hatched
Mallard	44	13	58	4	102	17
Pintail	15	3	12	2	27	5
Gadwall	1	0	3	0	4	0
Shoveller	0	0	8	0	8	0
Unidentified Teal	3	1	21	2	24	3
Redhead	0	0	1	0	1	0
Ruddy	0	0	2	0	2	0
Coot	0	0	9	0	9	0
Unknown	<u>10</u>	<u>2</u>	<u>52</u>	<u>9</u>	<u>62</u>	<u>11</u>
	23	19	166	17	239	36

Mallard

May

June

Total

Unit	Found	Hatched	Found	Hatched	Found	Hatched
1	1	-	5	-	6	-
2	4	-	3	-	7	-
3	2	1	3	-	5	1
4	-	-	-	-	-	-
6	2	-	10	-	12	-
7	2	1	-	-	2	1
8	3	1	²⁰ 5	-	8	1
9	11	6	7	1	18	7
10	-	-	3	1	3	1
11	-	-	-	-	-	-
14	1	-	2	-	3	-
15	5	-	1	-	6	-
16	-	-	2	-	2	-
17	²¹ 1	-	2	-	3	-
18	11	4	10	2	21	6
19	1	-	-	-	1	-
20	-	-	1	-	1	-
21	-	-	2	-	2	-
22	-	-	1	-	1	-
23	-	-	1	-	1	-
	44	13	58	4	102	17

Pintail

Unit	May		June		Total	
	Found	Hatched	Found	Hatched	Found	Hatched
1	1	-	-	-	1	-
3	1	-	1	-	2	-
6	1	-	1	-	2	-
9	5	2	3	1	8	3
10	1	-	-	-	1	-
15	-	-	1	-	1	-
18	6	1	3	1	9	2
19	-	-	1	-	1	-
21	-	-	1	-	1	-
22	-	-	1	-	1	-
	<u>15</u>	<u>3</u>	<u>12</u>	<u>2</u>	<u>27</u>	<u>5</u>

Teal (Unidentified)

Unit	May		June		Total	
	Found	Hatched	Found	Hatched	Found	Hatched
1	-	-	3	-	3	0
3	-	-	4	1	4	1
6	-	-	1	-	1	-
7	-	-	1	-	1	-
8	1	1	1	1	2	2
9	1	-	4	-	5	-
10	-	-	3	-	3	-
17	-	-	1	-	1	-
18	1	-	3	-	4	-
	<u>3</u>	<u>1</u>	<u>21</u>	<u>2</u>	<u>24</u>	<u>3</u>

Shoveller

Unit	May		June		Total	
	Found	Hatched	Found	Hatched	Found	Hatched
3	-	-	1	-	1	-
6	-	-	1	-	1	-
9	-	-	2	-	2	-
18	-	-	2	-	2	-
19	-	-	1	-	1	-
20	-	-	1	-	1	-
	<u>0</u>	<u>0</u>	<u>8</u>	<u>0</u>	<u>8</u>	

Gadwall

Unit	May		June		Total	
	Found	Hatched	Found	Hatched	Found	Hatched
11	-	-	1	-	1	-
14	-	-	1	-	1	-
18	-	-	1	-	1	-
19	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>
	1	0	3	0	4	0

Unknown

Unit	May		June		Total	
	Found	Hatched	Found	Hatched	Found	Hatched
1	0	0	5	1	5	1
2	0	0	2	0	2	0
3	0	0	4	1	4	1
4	0	0	1	0	1	0
6	3	0	8	0	11	0
7	3	0	0	1	3	1
8	1	1	4	0	5	1
9	1	1	10	1	11	2
11	0	0	1	0	1	0
17	0	0	1	-	1	-
18	2	0	2	4	9	4
19	-	-	2	1	2	1
21	-	-	2	-	2	-
22	-	-	5	-	5	-
	10	2	52	9	62	11

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

July 21, 1970

Richard M. Hopper
Wildlife Researcher
Game Research Center
P.O. Box 567
Fort Collins, Colorado 80521

Dear Dick:

Attached is information concerning the May, June and July nesting transects, which have been completed for this year. For your information the hatching success was 48.2%, destroyed 26.5%, deserted 11.4%, and 13.9% nests of unknown fate.

Briefly projecting these figures and estimating a brood size of 6 would give us 17,100 young this year, which is considerably below that of last year's production.

Sincerely yours,


Charles R. Bryant

CRB/mg

cc: Mitchell Sheldon
Ray Buller

TOTAL

JULY

JUNE

MAY

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

Number
Nests
Found

SPECIES

Mallard

Pintail

Gadwall

Shoveler

Unidentified

Teal

Redhead

Ruddy

Coot

Unknown

TOTALS

54

14

2

5

18

1

1

6

17

118

103

28

4

10

23

1

2

9

65

245

37

9

2

5

15

1

1

6

6

82

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1

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2

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3

6

4

2

0

0

2

0

0

0

2

17

58

12

3

8

21

1

2

9

52

166

13

3

0

0

1

0

0

0

2

19

44

15

1

0

3

0

0

0

10

73

95

Species	May		June		July		Total	
	Number Nests Found	Number Hatched	Number Nests Found	Number Hatched	Number Nests Found	Number Hatched	Number Nests Found	Number Hatched
Mallard	44	13	58	4	-	37	103	54
Pintail	15	3	12	2	1	9	28	14
Gadwall	1	0	3	0	-	2	4	2
Shoveller	0	0	8	0	2	5	10	5
Unidentified Teal	3	1	21	2	-	15	23	18
Redhead	0	0	1	0	-	1	1	1
Ruddy	0	0	2	0	-	1	2	1
Coot	0	0	9	0	-	6	9	6
Unknown	10	2	52	9	3	6	65	17
Totals	73	19	166	17	6	82	245	118

48.2% Hatching Success
 11.4% Deserted
 26.5% Destroyed
 13.9% Unknown Fate

Total

Species	Number	Hatched	Deserted	Destroyed	Unknown
Mallard	103	54	11	25	13
Pintail	28	14	2	7	5
Gadwall	4	2	0	1	1
Shoveller	10	5	0	2	3
Unidentified Teal	23	18	1	1	3
Redhead	1	1	0	0	0
Ruddy	2	1	1	0	0
Coot	9	6	1	1	1
Unknown	<u>65</u>	<u>17</u>	<u>12</u>	<u>28</u>	<u>8</u>
	245	118	28	65	34

48.2% Hatching Success

11.4% Deserted

26.5% Destroyed

13.9% Unknown

16,388% of Unknown considered
hatched.

118^h Hatched.
134

21,27 times 4, 7 percent Sample

2850 Nests Hatched
to Breeds

17,100 Total.
1,923

Mallard

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Deeranged</u>	<u>Unknown</u>
1	6	2	1	3	
2	7	0	0	6	1
3	5	3	1	1	0
6	13	7	1	5	0
7	2	1	0	1	0
8	8	5	0	1	2
9	18	13	2	2	1
10	3	1	0	2	0
14	3	1	0	1	1
15	6	2	2	1	1
16	2	2	0	0	0
17	3	2	0	1	0
18	21	13	3	0	5
19	1	0	0	1	0
20	1	0	0	0	1
21	2	1	1	0	0
22	1	1	0	0	0
23	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
	103	54	11	25	13

P. tail

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Destroyed</u>	<u>Unknown</u>
1	1	0	0	1	0
3	2	1	0	1	0
6	3	2	0	1	0
9	8	6	0	0	2
10	1	0	0	1	0
15	1	1	0	0	0
18	9	4	1	2	2
19	1	0	0	1	0
21	1	0	1	0	0
22	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
	28	14	2	7	5

E dwall

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Destroyed</u>	<u>Unknown</u>
11	1	-	-	-	1
14	1	1	-	-	-
18	1	1	-	-	-
19	1	-	-	1	-
	<u>4</u>	2	0	1	1

Shoveller

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Destroyed</u>	<u>Unknown</u>
3	1	1	-	-	-
6	3	1	-	-	2
9	2	1	-	-	1
18	2	1	-	1	-
19	1	-	-	1	-
20	<u>1</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>1</u>
	10	5	0	2	3

Identified Teal

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Destroyed</u>	<u>Unknown</u>
1	3	3	-	-	-
3	4	2	-	1	1
6	2	2	-	-	-
7	1	1	-	-	-
8	2	2	-	-	-
9	4	3	-	-	1
10	3	2	1	-	-
17	1	1	-	-	-
18	<u>3</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>1</u>
	23	18	1	1	3

Un known

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Destroyed</u>	<u>Hatched</u>
1	5	1	-	4	-
2	2	-	-	2	-
3	4	1	-	1	2
4	1	-	-	1	-
6	14	1	2	9	2
7	3	1	1	-	1
8	5	1	1	2	1
9	11	3	4	2	2
11	1	-	-	1	-
17	1	-	1	-	-
18	9	7	1	1	-
19	2	1	-	1	-
21	2	-	1	1	-
22	<u>5</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>-</u>
	65	17	12	28	8

Coot

<u>Unit</u>	<u>Number</u>	<u>Hatched</u>	<u>Deserted</u>	<u>Destroyed</u>	<u>Unknown</u>
3	1	-	-	-	1
9	2	1	-	1	-
10	2	2	-	-	-
15	2	1	1	-	-
17	1	1	-	-	-
18	<u>1</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>
	9	6	1	1	1

Memos

Refuge Manager, Arapahoe National
Wildlife Refuge, Walden, Colorado

February 10, 1970

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

Assistance Nesting Survey

I talked to Red Sheldon the other day about your trainee David Heffernan assisting us with the nesting transects. He said he would be in contact with you in the next few days about this and we can certainly appreciate the help.

Looks as if you have been on quite a tour around the various places. I would like to have made several myself, but have been restricted to one to Albuquerque and two trips to Pueblo Ordinance for supplies.

Wish that I could see George while he is in Denver this week, but I couldn't figure any reason of how I could get up there without telling a complete lie so I decided I better not try to make it. I know you fellows will have a good time while at the Range Management meeting.

Why don't you and Sarah drop down to see us when time permits. If at all possible I am going to be up there sometime this summer. Please let us hear from you.

Charles R. (Pete) Bryant

UNITED STATES GOVERNMENT

Memorandum

BUREAU OF SPORT FISHERIES & WILDLIFE
Region 2, Albuquerque, New Mexico 87103

TO : Refuge Manager, Ouray NWR

DATE: May 25, 1970

FROM : Regional Supervisor
Division of Wildlife Refuges

SUBJECT: H₂O Fowl Transects - Monte Vista NWR

As discussed previously, we have made final arrangements for walking waterfowl transects at Monte Vista NWR in June. Refuge Managers Robert Pearson and Maurice Wright are to report to the Monte Vista Refuge at 8 a.m. on June 15, 1970. The transect work will take one week and arrangements for lodging have been made for Bob and Maurice at the Veteto Motel in Monte Vista.

Manager Pearson has travel authority covering Colorado and we shall forward a T.A. for Manager Wright as soon as it is processed.

Marcus C. Nelson

cc: Monte Vista NWR

JLU

BUREAU OF WILDLIFE SERVICE
Monte Vista Refuge

MAY 28 1970

RECEIVED

pwn



Robert Pearson, Refuge Manager
Browns Park National Wildlife Refuge
Greystone, Colorado

August 11, 1970

- Maurice Wright, Ouray Refuge, Vernal, Utah
Refuge Manager, Monte Vista National Wildlife Refuge
P.O. Box 511 Monte Vista, Colorado

Dear Bob and Maurice:

While you were here assisting us with nesting surveys I told you I would provide you with information obtained from the survey this year and send it with a copy of the instructions for conducting the survey. The instructions are attached.

A total of 245 nests were found on survey lines. Of this number 118 hatched, 28 were destroyed, 65 were deserted and 34 nests were of unknown fate. This gives us 48.2% hatching success, 11.4% deserted, 26.5% destroyed and 13.9% unknown. To project total production in a preliminary way without going through the mechanics as outlined in the nesting survey, the following can be used. The survey covers 4.7% of the area surveyed and gives a ratio of 21.27 nests for each nest found. Considering that 118 nests were known hatched and estimating that 16 nests of the unknown hatched would give 134 nests hatched. This times 21.27 equals 2,850 nests that were actually hatched on the refuge this year. Our average brood size according to counts made recently was 6.5 average, therefore total production amounts to 18,525. This is somewhat lower than our production of last year, even though total nests this year found on transects were considerably higher than those present a year ago.

Thanks again for your assistance in performing the nesting surveys on the Monte Vista Refuge this year, and we would appreciate it if you will let us know if some of the principals used here are adopted on your area.

Charles R. Bryant
Charles R. Bryant

Colorado Cooperative Wildlife Research Unit

Cooperative Units Building
Colorado State University
FORT COLLINS, COLORADO 80521

COOPERATORS
Bureau of Sport Fisheries and Wildlife
Colorado Game, Fish and Parks Department
Colorado State University
Wildlife Management Institute

November 6, 1970

Charles R. Bryant, Manager
Monte Vista National Wildlife Refuge
Box 511
Monte Vista, Colorado ~~81454~~ 81454

Dear Mr. Bryant,

I have gotten to the stage where the descriptions and analyses of my study have to be put down on paper and I have discovered some missing data. I would appreciate it if you could help me fill in some of the holes. Do you have an accurate estimate of the acreage of unit 18 G? Does this estimate include the present roads, and if so, which ones?

Secondly, is there a technical term for the type of flagging the refuge uses to mark nests - highway surveying flags or whatever? If not, could you send me the measurements of the flag area and the metal poles. What company supplies the flags?

Nils mentioned this spring that unit 18 is flooded in either late fall or winter. Is this to seal the ground or provide runoff in the spring? Is this a regular practice? Have you ever noticed whether the rush in unit 18 finally lodges before or after the area is flooded?

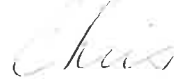
Gary would like to know if average brood size and refuge production estimates by species for 1970 have been worked up yet. If this information has been or can be broken out by units I would greatly appreciate the statistics for unit 18.

NOV 10 1970

I have type mapped unit 18 in the manner used by Leslie Beaty and
can send you a copy for your files if you would like one.

Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Chris".

Christine A. Enright
Graduate Research Assistant

C O P Y



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

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

November 18, 1970

Christine A. Enright
Graduate Research Assistant
Colorado Cooperative Wildlife Research Unit
Colorado State University
Fort Collins, Colorado 80521

Dear Chris:

Will try to answer your questions in the same order as contained in your letter of November 6, 1970.

A very close estimate of the acreage in Unit 18G is 568.8 acres, not including any roadways or ditches.

The flags used the last few years are manufactured by Blackburn Manufacturing Company, P.O. Box 224, Neligh, Nebraska 68756 and are called "Marking Flags". The ones used by us are 4" x 5" flag on 15½ gauge wire, 36" long and cost \$1.75 per hundred.

Unit 18 is normally flooded in the fall period to provide sanctuary as well as food for waterfowl during the hunting season. The lodging of the rush usually results from early fall or late winter snows or when rain is accompanied by high winds, rather than from irrigation of the unit.

At this time we have not completed the finals for refuge production. We have made some estimates based on the following:

A total of 245 nests were found on survey lines. Of this number 118 hatched, 28 were destroyed, 65 were deserted and 34 nests were of unknown fate. This gives us 48.1% hatching success, 11.4% deserted, 26.5% destroyed and 11.9% unknown. To project total production in a preliminary way without going through the mechanics as outlined in the nesting survey, the following can be used. The survey covers 4.7% of the area surveyed and gives a ratio of 21.27 nests for each nest found. Considering that 118 nests were known hatched and estimating that 16 nests of the unknown hatched would give 134 nests hatched. This times 21.27 equals 2,850 nests that were actually hatched on the refuge this year. Our average brood size, according to counts made recently, was 6.5 average, therefore total production amounts to 18,525. This is somewhat lower than our production of last year, even though total nests, this year, found on transects were considerably higher than those present a year ago.

C O P Y

As Fred has the information of nests found on transect in Unit 18, you may wish to project production in the same manner as noted above. Better brood information is tabulated below.

Mallard - 37 noted	Total noted - 259	Average - 7.00
Pintail - 23 noted	Total noted - 149	Average - 6.47
Gadwall - 20 noted	Total noted - 140	Average - 7.00
Shoveller - 18 noted	Total noted - 124	Average - 6.88
B.W. Teal - 19 noted	Total noted - 105	Average - 5.53
G.W. Teal - 4 noted	Total noted - 26	Average - 6.5
Ruddy - 6 noted	Total noted - 30	Average - 5.0
Scaup - 2 noted	Total noted - 11	Average - 5.5
Redhead - 2 noted	Total noted - 12	Average - 6.0

Totals 131 noted

Total noted - 855 Average - 6.5

We would appreciate getting a copy of type map for Unit 18.

If you have any questions, please let us know.

Sincerely yours,

Charles R. Bryant

CRB/eg

cc: G. Robinson
Dr. Glover
Mitchell Sheldon

Mallard - 13 nests hatched $\times 21.27 = 276$ nests $\times 7 = 1,932$
 Pintail - 4 $\times 21.27 = 85 \times 6.47 = 549$
 Gadwall - 1 $\times 21.27 = 21 \times 7 = 147$
 Shoveller - 1 $\times 21.27 = 21 \times 6.88 = 144$
 B.W. & Cinn Teal - 2 $\times 21.27 = 42 \times 5.53 = 232$
 Redhead - 1 $\times 21.27 = 21 \times 6 = 126$

Total Production Unit 18 3,130

STATE OF COLORADO John A. Love, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GAME, FISH AND PARKS
Harry R. Woodward, Director



Game Research Center
P. O. Box 567
Fort Collins, Colorado 80521

June 12, 1970

DEPARTMENT OF NATURAL
RESOURCES

T. W. Ten Eyck,
Executive Director

GAME, FISH AND PARKS
COMMISSION

Floyd Getz, President
LeRoy Robson, Vice President
Harry Combs, Secretary
C. M. Furneaux, Member
Orest Gerbaz, Member
John E. Holden, Member
O. K. Niess, Member
William W. Robinson, Member
Ford Sirong, Member
Dean Suttle, Member

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

FISH & WILDLIFE DIVISION
MONTA VISTA, COLORADO

JUN 15 1970

RECEIVED

Dear Pete:

Thanks for the results of the May coverage of the nesting transects. However, I do need this information by species. Please send me the following nesting transect data for Monte Vista Refuge after you have completed the June coverage:

Species	May		June
	Number of Nests Found	Number Hatched	Number of Nests Found
Mallard			
Pintail			
etc.			
Totals			

Thanks!

Sincerely,

Dick

Richard M. Hopper
Wildlife Researcher
Migratory Bird Investigations

RMH:al

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

May 23, 1970

Mr. Richard M. Hopper, Wildlife Researcher
Game Research Center
Colorado State Game, Fish and Parks Department
P.O. Box 567
Fort Collins, Colorado

Dear Mr. Hopper:

Listed below are the nests that were found on transects during the period of May 11 through May 22, 1970. It will be noted that only one mallard nest was found hatched during this period. From all the information that we have at this time, it would appear that the nesting season will be at least two weeks later than last year.

<u>Unit</u>	<u>Mallard</u>	<u>Other</u>	<u>Unidentified</u>	<u>Hatched</u>
1	1	1		
2	3		1	
3	2	1		
6	2	1	3	
7	2		3	
8	3	1	1	
9	11	6	1	
10		1		
14	1			
15	5			
17	1			
18	10	6	4	1 Mallard
19	1	1		
	<u>42</u>	<u>18</u>	<u>13</u>	<u>1</u>

When the nesting transects are run the second time, which will be from June 15 through June 26, we will provide you with the information obtained at that time.

Incidentally, we have had 159 Canada geese nest on the refuge this year, as compared to 110 nests last year. In checking with farmers and ranchers in the Valley we have found that geese are nesting quite heavy throughout most of the area.

Sincerely yours,

Charles R. Bryant

CRB/mg

cc: R.O.

First Transsects — May 11-22, 1970.

<u>Unit</u>	<u>M2</u>	<u>Other</u>	<u>Unx</u>	<u>Hatched</u>
1	1	1	-	M2
2	3	-	1	
3	2	1	-	
6	2	1	3	
7	2 ₁₀	-	3	
8	3	1	1	
9	11 ₂₄	6	1	
10	-	1	-	
14	1	-	-	
15	5 ₃₀	-	-	
17	1	-	-	
18	10 ₁₁	6	4	1
19	1 ₁₁	1	-	
	<u>43</u>	<u>19</u>	<u>11</u>	<u>1</u>
	42	18	13	

42
 18
 13
 73