North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Coldwater River NWR	**Survey Date:** November 15, 2007

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	10:28							12:33						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
						x							x	
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	x							x						
Temperature *Select Scale* **°F**	56							53						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	10:28	10:36	10:50	11:21	11:29	11:36	11:45	11:59	12:12	12:18	12:30	

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture		1s										
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							**1s**	**2s**		**1s(f)**	**1s**	
Sharp-shinned hawk							**1p**					
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk			**4s**		**2s**	**3s**	**2s**	**2s**	**1s**	**1s**	**1p**	
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike							**1p**					
Unknown hawk												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Between sites 2&3 (off refuge) – NOHA (1f,s) and TUVU (2s)
Between sites 3&4 – TUVU (1s)
Between sites 6&7 (on pond I) – NOHA (1p,1s)
Between sites 8&9 (off refuge) – AMKE (1p,1s), RTHA (2s), LOSH (1p)

New site 8 this survey – midway along the north boundary of the new tract, approximately 0.25 miles west of NE corner, near well. (Old # 8 – 10 shifted to #9 – 11. Eliminate site 11 – too much potential for double counting site 3.)

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name:	**Survey Date:**
Coldwater NWR	11/15/07

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	1028							1233						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
						X							X	
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	X							X						
Temperature *Select Scale* **°C** (°F)	56							53						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1028	1036	1050	1121	1129	1136	1145	1159	1212	1218	1230	

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture		1s										
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							1s	2s		1(♀)s	1s	
Sharp-shinned hawk							1p					
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk			4s		2s	3s	2s	2s	1s	1s	1p	
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike							1p					

Additional Notes:

in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Bet. sites 2+3 (off refuge) 1 NOHA(2s) + 2 TUVU(s) bet. sites 3+4 - 1 TUVU(s)

bet sites 6+7 - 2 NOHA (1p, 1s) on pond I ✱ New pt. 8 NE corner of new tract north of ponds old # 8-10 shifted to 9-11 & Bet. sites 8+9 - 2 AMKE (1p, 1s), 2 RTHA(s), 1 LOSH(p) → private land

✱ Probably eliminate site 11 → repeat of site 3

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Coldwater River NWR	**Survey Date:** December 13, 2007

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	09:35							11:20						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
		x							x					
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
		x								x				
Temperature *Select Scale* **°F**	55							58						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	09:35	09:44	10:02	10:09	10:18	10:25	10:34	10:59	11:10	11:17		

Species ↓ **Stop # →**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							**1s**	**2s(f)**		**2s (m,f)**		
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk		**1p**										
Broad-winged hawk												
Red-tailed hawk	**1s**	**1p**	**1p**			**1s**	**1s,1p, 1s,v**	**1p,s**	**1v**	**1p**		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike					**1p**			**1p**				
Unknown hawk									**1p**			

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 1 – geese dispersing, rained prior to survey, probably ended around 08:30.
Between sites 5&6 – RTHA (1)
Between sites 8&9 (off refuge) – RTHA (3), AMKE (2), LOSH (1)

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Coldwater River NWR

Survey Date: 12/13/07

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	0935							1120						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
		X							X					
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
		X								X				
Temperature *Select Scale* **°C** (°F)	55							58						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	0935	0944	1002	1009	1018	1025	1034	1059	1110	1117		

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							1s	2s ♀		2s(m,f)		
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk		1p										
Broad-winged hawk												
Red-tailed hawk	1s	1p	1p			1s	1sv 1s 1p	1p,s	1v	1p		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike					1p			1p				
unk buteo									1p			

Additional Notes:

in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 1 Geese dispersing – rained prior to survey. Prob. ended ~0830

RTHA bet. sites 5+6

Site 8 – @ well along no. boundary in center of new property

Bet sites 8+9 3RTHA, 2 AMKE, 1 LOSH → private lands

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Coldwater River NWR	**Survey Date:** January 18, 2008

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	10:43							12:32						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			x							x				
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	x							x						
Temperature *Select Scale* °F	44							46						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	10:43	10:55	11:20	11:27	11:34	11:41	11:52	12:12	12:23	12:29		

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier				**1s(f)**	**1s(f)** **1s**		**1s(f)**		**1s(f)**	**2s(f)**		
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk							**1p**					
Broad-winged hawk												
Red-tailed hawk		**3s**	**2p→s** **1s,1p**	**1s**		**1s**	**3s**		**3p**	**3s**		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												
Unknown hawk												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Between sites 1 and 2: RSHA (2p); RTHA (1p)
Between sites 6 and 7: NOHA (1s(m))
Between sites 7 and 8: NOHA (1s(f))
Between sites 8 and 9: LOSH – private lands

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): B. Rosamond

Route Information

Route Name:	**Survey Date:**
Coldwater River NWR	1-18-08

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	1043							1232						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			X							X				
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	X							X						
Temperature *Select Scale* °C (°F)	44							46						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1043	1055	1120	11:27	11:34	1141	1152	1212	1223	1229		

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier				1s(f)	1s(f) 1s		1s(f)		1s(f)	2s(f)		
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk							1p					
Broad-winged hawk												
Red-tailed hawk		3s	2(p+s) 1s,1p	1s		1s	3s		3p	3s		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												

Additional Notes:

Bet 1+2: RSHA(2p), RTHA (1?)

Bet 6+7: NOHA (1s(m))

Bet 7+8: NOHA 1(sf)

Bet 8+9 LOSH - private lands

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Dahomey NWR	**Survey Date:** January 11, 2008

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	10:13							13:13						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			x						x					
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
		x						x						
Temperature *Select Scale* **°F**	54							58						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	10:13	10:21	10:42	10:59	11:12	11:49	12:02	12:16	12:31	12:49	13:00	13:10

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							**1s(m)**	**1s(f)**				
Sharp-shinned hawk					**1s**							
Cooper's hawk					**1s**							
Red-shouldered hawk									**1v**			
Broad-winged hawk												
Red-tailed hawk				**1p**		**1s**			**2s**		**1s**	
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike								**1p**				
Unknown hawk			**1s**									

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 5 – SSHA attacking COHA
Site 10 – Leopard frogs calling

Between sites 1&2 – unknown hawks (2p); Between sites 2&3 (over hwy 446) – RTHA (1s)
Between sites 3&4 (over north end of Well Road) – unknown hawk, probably RSHA or BWHA (1p)
RSHA (1v) in Well Road Slough; Between sites 7&8 – RTHA (2) and NOHA (1)
Between sites 8&9 – NOHA (1); Between sites 9&10 (on Bear Road) – NOHA (1)
Between sites 11&12 – RTHA (1)

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): R. L. Rosamond

Route Information

Route Name: Dahomey

Survey Date: 01/11/08

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	1013							1313						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			X						X					
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
		X						X						
Temperature *Select Scale* °C (°F)	54							56						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1013	1021	1042	1059	1112	1149	1202	1216	1231	1249	1300	1310

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							1 ms	1 ♂s				
Sharp-shinned hawk					1 s							
Cooper's hawk					1 s							
Red-shouldered hawk									1(v)			
Broad-winged hawk												
Red-tailed hawk				1 p		1 s			2(s)		1(s)	
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike								1 p				
Unknown hawk			1 s									

Additional Notes:

2 unk hawks perched bet. sites 1+2, 1 RTHA (S) bet. sites 2+3 over Hwy 446

Unk hawk (prob. RSHA or BWHA) perched over No. end of Wells Rd bet sites 3+4, RSHA calling from Wells Rd Stop

Site 5 = SSHA attacking COHA, LOSH on powerline @446 bet. sites 5+6

2 RTHA + 1 NOHA bet sites 7+8, 1 NOHA bet. sites 8+9

1 NOHA bet. sites 9+10 (Bear Rd)

RAVT calling site 10, RTHA bet sites 11+12.

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Dahomey NWR	**Survey Date:** February 8, 2008

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	10:21							12:48						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			x							x				
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	x							x						
Temperature *Select Scale* °F	50							60						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	10:21	10:29	10:46	11:00	11:11	11:29	11:39	11:51	12:03	12:22	12:37	12:45

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							1s	1s				
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk						1v						
Broad-winged hawk												
Red-tailed hawk					1s			1s				1p
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												
Unknown hawk												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 10: Cedar waxwings (3)
Site 12: RTHA flushed from the ground with snake it had killed—rat snake?; chipmunks present at site.

Between sites 4 and 5: NOHA (2s)
Between sites 5 and 6: RTHA (1s, 1p)
Between sites 6 and 7: RTHA (1s); NOHA (1s)
Between sites 7 and 8: RTHA (2s, 1p); AMKE (1s)

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): B. Rosamond

Route Information

Route Name: Dahomey

Survey Date: 2-8-08

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	10:21							12:48						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			X							X				
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	X							X						
Temperature *Select Scale* °C (°F)	50							60						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1021	1029	1046	11:00	1111	1129	1139	1151	1203	1222	1237	1245

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier							1s	1s				
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk						1v						
Broad-winged hawk												
Red-tailed hawk					1s			1s				1p
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												

Additional Notes:

Bet sites 4+5 – NOHA – 2s

Bet sites 5+6 – RTHA – 1s, 1p

Bet sites 6+7 – RTHA 1s; NOHA 1s

Bet sites 7+8 – RTHA 2s, 1p; AMKE 1s

RTHA @ site 12 flushed from the ground w/ snake it had killed – rat snake?

* site 10 Cedar waxwings (3)

* site 12 chipmunks

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Tallahatchie NWR	**Survey Date:** November 8, 2007

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	09:11							11:30						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			x								x			
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	x							x						
Temperature *Select Scale* **°F**	56							64						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	09:11	09:20	09:37	09:45	09:57	10:04	10:16	10:33	10:44	10:57	11:18	11:27

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture			1s							2s		1s
Osprey											1s	
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier			1s (f)		1s (f)	1s (f)						1p
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk	1pv	1s	1p		1v		1p	2sv		1s		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Between sites 1 and 2 – flushed 2 RTHA (one may have been recorded at site 2)
Site 6 – NOHA – mobbed by crows
Between sites 7 and 8 – RTHA (perched), TUVU (soaring)
Site 8 – RTHA circling together, both vocalizing – pair?
Between sites 9 and 10 – flushed 2 LOSH and 1 immature RTHA
Between sites 10 and 11 – 2 RTHA (soaring)
Site 12 – NOHA recorded perched on ground in middle of ag. field

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: TAL

Survey Date: 11 / 8 / 07

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start								Finish							
Time (Military)	9:11								11:30							
Wind (Beaufort Scale)	0	1	2 X	3	4	5			0	1	2	3 X	4	5		
Sky (See Code Explanations)	0 X	1	2	4	5	7	8		0 X	1	2	4	5	7	8	
Temperature *Select Scale* **°C** **°F**	56								64							

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	9:11	9:20	9:37	9:45	9:57	10:04	10:16	10:33	10:44	10:57	11:19	11:27

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture			1 s							2 s		1 s
Osprey											1 s	
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier			1 (f) s		1 (f) s	1 (f) s						1 p (on ground)
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk	1 p, v	1 s	1 p		1 v		1 p	2 both s, v		1 s		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												

Additional Notes:

in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

flushed 2 rtha bet. sites 1+2 → may have seen 1 @ site 2 (recorded)

Site 6 - noha - mobbed by crows

rtha (perched) + turv (soaring) bet. sites 7+8.

site 8 - rtha circling together, both vocalizing - pair?

bet. sites 9+10 - 2 bosh - flushed, 1 rtha (imm.)

bet. sites 10+11 - 2 rtha (s)

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Dahomey NWR	**Survey Date:** December 6, 2007

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	09:39							12:28						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			x								x			
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
			x							x				
Temperature *Select Scale* **°F**	44							46						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	09:39	09:47	10:20	10:31	10:41	10:58	11:07	11:30	11:43	12:07	12:15	12:25

Species ↓ / **Stop # →**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier												
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk					**2s**	**1v,s**						
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												
Unknown hawk												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Dahomey NWR

Survey Date: 12/6/07

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	0939							1228						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
			X								X			
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
			X							X				
Temperature *Select Scale* **°C** (**°F**)	41							46						

LSU
Wrestling

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	0939	0947	1020	1031	1041	1058	1107	1130	1143	1207	1215	1225

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier												
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk					2(s)	1(v,s)						
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Coldwater River NWR	**Survey Date:** February 15, 2008

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	09:58							11:40						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
	x							x						
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
			x							x				
Temperature *Select Scale* **°F**	57							62						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	09:58	10:05	10:18	10:28	10:34	10:46	10:55	11:12	11:28	11:37		

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier			**1p(f)**			**1s(f)**		**1s(f)**	**1s(f)**			
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk	**2s**	**1v**										
Broad-winged hawk												
Red-tailed hawk			**1v**	**1p**	**1v**	**1p**	**1p** **1s,v**			**1p** **1s**		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												
Unknown hawk					**1p**		**1p**					

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 3: So. Leopard frogs calling
Site 5: spring peepers calling

Between sites 5 and 6: NOHA 1s(m)
Between sites 6 and 7: NOHA 1p→s(f), RTHA 1s
Between sites 7 and 8: NOHA 1p(f), RTHA 1s
Between sites 9 and 10: COHA 1p(m) after completion of survey

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): B. Rosamond

Route Information

Route Name: Coldwater NWR

Survey Date: 02-15-08

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	0958							1140						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
	X							X						
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
			X							X				
Temperature *Select Scale* °C (°F)	57							62						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	0958	1005	1018	1028	1034	1046	1055	1112	1128	1137		

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier			1p(f)			1s(f)		1s(f)	1s(f)			
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk	2s	1v										
Broad-winged hawk												
Red-tailed hawk			1v	1p	1v	1p	1p 1s,v			1p 1s		
Golden eagle												
American kestrel												
Merlin												
Peregrine falcon												
Loggerhead shrike												
unknown hawk					1p		1p					

Additional Notes:

site 3 leopard frogs calling

site 5 Spring peepers calling

bet. sites 5+6 NOHA 1s(m)

bet. sites 6+7 NOHA 1p(f), RTHA 1s

bet. sites 7+8 NOHA 1p(f), RTHA 1s

Coopers hawk (m,pl) bet sites 9+10 after completion of survey

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Tallahatchie NWR

Survey Date: December 31, 2007

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	10:55							13:13						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
				x									x	
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	x							x						
Temperature *Select Scale* **°F**	60							65						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	10:55	11:08	11:31	11:39	11:47	11:55	12:07	12:16	12:27	12:38	12:57	13:10

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture			1s									
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier						1s			1s(m)		2s	
Sharp-shinned hawk												
Cooper's hawk		1s										
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk	2s	1s	2s		1v,s	1s		1s	1s	1s	1s	
Golden eagle												
American kestrel			1p								1p	
Merlin												
Peregrine falcon												
Loggerhead shrike											1p	
Unknown hawk											1s	

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 9 – NOHA and RTHA behaving aggressively

NOHA at gate on way to site 1
NOHA over reforestation area just west of site 8
NOHA (5) soaring between sites 9 and 10
BAEA (imm) on Delta Wing Farms ~13:20

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): B. Rosmond

Route Information

Route Name:	**Survey Date:**
Tallahatchie	12/31/07

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	10:55							1313						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
				X									X	
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	X							X						
Temperature *Select Scale* °C (°F)	60°F							65°F						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1055	1108	1131	1139	1147	1155	1207	1216	1227	1238	1257	1310

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture			1(s)									
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier						1(s)			1(s)		2(s)	
Sharp-shinned hawk												
Cooper's hawk		1(s)										
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk	2(s)	1(s)	2(s)		1(v,s)	1(s)		1(s)	1(s)	1(s)	1(s)	
Golden eagle												
American kestrel			1(p)									
Merlin												
Peregrine falcon												
Loggerhead shrike											1(p)	
unknown hawk											1(s)	

Additional Notes:

Harrier at gate on way to site 1

Harrier over reforestation area just west of site 8

Site 9 harrier + red-tail acting aggressively

bet. sites 9 & 10 - 5 NOMA seen

* 1 imm. bald eagle on Delta Wing Farms @ 13:20

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Tallahatchie NWR

Survey Date: January 23, 2008

Directions

Purpose

This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods

The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection

Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes

0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes

0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	11:07							13:06						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
	x								x					
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
			x							x				
Temperature *Select Scale* °F	42							44						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	11:07	11:17	11:36	11:44	11:51	12:00	12:10	12:21	12:30	12:40	12:54	13:03

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier			**1s(f)**							**1s(f)**		
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk		**1s**			**1p**	**1p**			**2s** **3p**			
Golden eagle												
American kestrel					**1p**							**1p**
Merlin												
Peregrine falcon												
Loggerhead shrike												
Unknown hawk												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Site 3: RTHA (1v) – after time

Between sites 6 and 7: NOHA (1s(f)) – near Hwy 8
Between sites 10 and 11: LOSH (1s)
Between sites 11 and 12: MAKE (1p)

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): B. Rosamond

Route Information

Route Name: Tallahatchie

Survey Date: 01/23/08

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	Start							Finish						
Time (Military)	11:07							13:06						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
	X								X					
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
			X							X				
Temperature *Select Scale* °C (°F)	42							44						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1107	1117	1136	1144	1151	12:00	1210	1221	1230	1240	1254	1303

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture												
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier			1(f)s							1s(f)		
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk												
Broad-winged hawk												
Red-tailed hawk		1s			1p	1p			2s 3p			
Golden eagle												
American kestrel					1p							1p
Merlin												
Peregrine falcon												
Loggerhead shrike												

Additional Notes:

Site 3 - RTHA(1v) after time

Pat. sites 6+7 - NOHA(1s(f)) - near Hwy 8

Pat. sites 10+11 - LOSH(1s)

Pat. sites 11+12 - AMKE(1p)

North Mississippi Refuges Complex
Raptor Survey

Observer(s): B. Rosamond

Route Information

Route Name: Tallahatchie NWR	**Survey Date:** February 11, 2008

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point count and should include all major habitat types. All counts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0.5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	10:21							13:00						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
		x								x				
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	x							x						
Temperature *Select Scale* **°F**	62							72						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	10:21	10:46	11:06	11:22	11:35	11:43	11:54	12:04	12:17	12:32	12:49	12:57

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture					7s							
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier						1s			3s	1s(f)	1s(f)	
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk		1s										
Broad-winged hawk												
Red-tailed hawk	1s	2s→p	1s		2s	1s	1s	1s,v				
Golden eagle												
American kestrel	1p											
Merlin												
Peregrine falcon												
Loggerhead shrike									1p			
Unknown hawk												

Additional Notes:
in box indicates number of birds seen, alpha indicates what bird was doing: s – soaring, p – perched, v – vocalization, alpha in parenthesis indicates sex of bird (only certain species)

Between sites 8 and 9: AMKE (1s(f))
Between sites 9 and 10: NOHA (2s, 1p); RTHA (3s)
Between sites 10 and 11: NOHA (1s)
Between sites 11 and 12: LOSH (1p); RTHA (1p)

North Mississippi Refuges Complex
Raptor Monitoring Program

Observer(s): B. Rosamond

Route Information

Route Name:	**Survey Date:**
TALLAHATCHIE	2-11-08

Directions

Purpose
This survey is designed to determine the presence of various raptor species during non-nesting periods on the North Mississippi Refuges Complex. It also provides a means to compare relative abundance between sites and between years.

Sampling Periods
The surveys will begin in November and continue through March, with one survey/month/refuge. The surveys will focus on Coldwater River, Dahomey, and Tallahatchie NWR's. and not on associated FmHA tracts.

Data Collection
Road surveys will be conducted by point cound and should include all major habitat types. All coundts should be made under similar weather conditions and should be conducted between the hours of 0700 and 1200. Observers stop at points a minimum of 0. 5 miles apart along the road. During a 3-minute period, the observers count and record all raptors seen or heard. At the start and finish of each run record the time, windspeed, and sky code.

Code Definitions

Sky Codes
0 = Few clouds
1 = Partly cloudy (scattered) or variable sky
2 = Cloudy or overcast
4 = Fog or smoke
5 = Drizzle or light rain
7 = Snow
8 = Showers – *do not conduct survey*

Beaufort Wind Codes
0 = Calm (<1mph) smoke rises vertically
1 = Light Air (1-3 mph) smoke drifts, weather vane inactive
2 = Light Breeze (4-7 mph) leaves rustle, can feel wind on face
3 = Gentle Breeze (8-12 mph) leaves and twigs move around, small flag extends
4 = Moderate Breeze (13-18 mph) moves thin branches, raises loose papers
5 = Fresh Breeze (19 mph or greater) small trees begin to sway

Run Information	**Start**							**Finish**						
Time (Military)	1021							1300						
Wind (Beaufort Scale)	0	1	2	3	4	5		0	1	2	3	4	5	
		X								X				
Sky (See Code Explanations)	0	1	2	4	5	7	8	0	1	2	4	5	7	8
	X							X						
Temperature *Select Scale* °C (°F)	62							72						

Per Stop Information

Stop #	1	2	3	4	5	6	7	8	9	10	11	12
Start Time (Military)	1021	1046	1106	1122	1135	1143	1154	1204	1217	1232	1249	1257

Species ↓ / Stop # →	1	2	3	4	5	6	7	8	9	10	11	12
Black vulture												
Turkey vulture					7s							
Osprey												
Swallow-tailed kite												
Mississippi kite												
Bald eagle												
Northern harrier						1s			3s	1s(f)	1s(f)	
Sharp-shinned hawk												
Cooper's hawk												
Red-shouldered hawk		1s										
Broad-winged hawk												
Red-tailed hawk	1s	2s→p	1s		2s	1s	1s	1s,v				
Golden eagle												
American kestrel	1p											
Merlin												
Peregrine falcon												
Loggerhead shrike									1p			

Additional Notes:

Bet sites 8+9 → 9 AMKE (by m-s unds)

Bet sites 9+10 → NOHA (2s, 1p), RTHA (3s)

Bet sites 10+11 NOHA (1s)

Bet sites 11+12 LOSH (1p); RTHA (1p)