

## **Appendix II: Colonial-nesting Waterbird Species Accounts**

### **Focal Species for 2009 Surveys**

#### **Clark's Grebe (CLGR)**

The Clark's Grebe is an uncommon breeding species in Montana. They nest in colonies on large lakes and marshes. Although colonies may occur in tens or hundreds of nests, colonies in Montana are typically small (5 to 10 pairs). The nest is on a floating platform of vegetation in shallow water.

Unless the bird is well-seen it can be difficult to distinguish from the much more common Western Grebe. This was a problem in this year's survey as was locating nests. Past records indicate confirmed breeding at two locations. Both of these were checked in 2009. One had breeding CLGR but they were counted together with the WEGR (total nests was 77) as not enough of the birds could be identified to species. At the other site there were no CLGR present. In addition, CLGR were present (with no nests found) at two sites for which past records for the species were not available. The 2009 survey did not produce a population estimate for this species and it will be a priority for 2010.

#### **American White Pelican (AWPE)**

There are five known major breeding locations for AWPE in Montana. Breeding colonies were documented in 2009 at four of these sites yielding a total estimate of 11,876 breeding individuals (based on the number of nests counted). At the remaining site there was an access problem and the survey was done from a long distance. A rough estimate was made of 50 individuals probably breeding. This brings the total breeding bird estimate to 11,926.

Past records indicate unconfirmed breeding at 20 locations. Six of these were checked and five had AWPE present but not breeding. In addition, AWPE were documented as present at three sites where they had not been documented in the past. These groups varied in size from 3 to 10 individuals. These could be non-breeding individuals or those from breeding colonies at other sites. The species is known to travel long distances at times to feed during the nesting period.

The earliest AWPE survey of an active colony was conducted on 5/22 and the latest on 6/18. Eggs and young (both small and large) were in most nests for the two surveys conducted

in May. Three of the five colony surveys were conducted within the colony. One island colony was surveyed from the mainland at a moderate distance and one from a great distance.

The AWPE typically nests in large colonies on an island or point that is relatively isolated from predators. The nests are shallow depressions scraped in the ground and lined with twigs and other debris. Where available, partial shade afforded by trees is preferred. Colony locations may vary from year to year depending on water levels and other factors.

The timing of egg laying may vary among colonies, even those in close proximity. At Medicine Lake NWR this season for example there were two large colonies, one on a large island and one on a long point from which predators were excluded with an electric fence. On the survey date, May 29, island nesting birds, which were nesting in several sub-colonies in the partial shade of chokecherry bushes, had eggs and only one newly hatched chick in the 905 nests observed. On the point the two sub colonies both had well-developed chicks, one invariably much larger than the other, in nearly every nest. The larger of those sub colonies (1203 nests) was established in the shade of a large grove of 15 foot high chokecherry trees while the other (476 nests) was in an area of bushes and grass no more than two feet high.

### **Black-crowned Night Heron (BCNH)**

The Black-crowned Night Heron in Montana nests in colonies of from 5 to 50 breeding pairs in a variety of locations. The nest, a platform of sticks or reeds, may be on the ground, in the protection of a reed bed or in a group of trees. A protected location such as an island is preferred. Eggs usually number 3 to 8. The Black-crowned Night Heron is most active at dusk and during the night. They feed on a wide variety of small aquatic life forms.

Black-crowned Night Heron historical and 2009 records summary

	# of sites in the MT Historical Database	Number of sites in the 2009 Survey			
		Sites with breeding in 2009	Sites w/ species present but not breeding	Sites w/ Species not present	Sites not checked
Status in the MT historical database:					
Sites with confirmed breeding	9	6	0	3	0
Sites w/ species present but not confirmed as breeding	12	1	1	5	5
Sites where species was not recorded previously		0	5		
<b>totals</b>		7	6		

In Montana's historical database BCNH has confirmed breeding at 9 sites. In 2009 all of these were checked. Six had breeding colonies and three had no BCNH present. Only two of the 12 sites in the MT historical database that had the BCNH listed as a probable breeder had the species recorded as present in 2009. Breeding was confirmed at one of these. Three sites that had no BCNH listed in the MT database had the species present in 2009 and two sites not in the MT data base had the species present.

In summary, the total estimate of breeding individuals at the 7 sites that were documented with BCNH nesting in 2009 was 162 (with one site reporting breeding but no count). Number of breeding individuals per colony ranged from 2 to 72. At the 6 sites where the species was seen but breeding was not documented the total BCNH count was 7.

### **White-faced Ibis (WFIB)**

There are five known breeding locations for WFIB in Montana. Breeding colonies, or likely breeding individuals, were documented in 2009 at three of these sites yielding a total estimate of 115 breeding individuals. At one site WFIB were present and likely breeding with no count made. At another, the species was not seen during the 2009 survey. Survey dates at these sites in 2009 ranged from 6/10 to 6/18. Past records indicate unconfirmed breeding at 4 additional locations. None of these were checked in 2009.

The WFIB typically nests in marsh habitat and colony size in Montana has ranged from 5 to 100 breeding pairs. The nests may be in low trees, aquatic vegetation or on the ground. The nest consists of a deeply cupped platform of coarse vegetation and sticks. In this year's surveys they were found nesting within large FRGU colonies in rushes at all locations.

### **Franklin's Gull (FRGU)**

The Franklin's Gull nests in very large colonies in prairie marshes in scattered locations east of the Rocky Mountains in Montana. Colony size is often several thousand breeding pairs. The nest, composed of a floating platform of reeds, is most often in dense reeds or rushes in 2 to 3 feet of water. Nests may be on the ground in some locations or in shallower water. The nest is well-maintained and the coarse vegetation is lined with softer material. Eggs usually number two or three. The Franklin's Gull feeds on insects and other small prey and will scavenge as well.

Franklin's Gull historical and 2009 records summary

Status in the MT Historical Database:	# of sites in the MT Historical Database	Number of sites in the 2009 Survey			
		Sites with breeding in 2009	Sites w/ species present but not breeding	Sites w/ Species not present	Sites not checked
Sites with confirmed breeding	6	4	1	1	0
Sites w/ species present but not confirmed as breeding	18	0	3	6	9
Sites where species was not recorded previously		0	3		
<b>totals</b>		<b>3</b>	<b>7</b>		

In Montana’s historical database FRGU has confirmed breeding at 6 sites. In 2009 all of these were checked. Three had breeding colonies, one had no FRGU present and one had individuals present but no nest locations were found. Only three of the 18 sites in the MT historical database that had the FRGU listed as a probable breeder had the species recorded as present but not breeding in 2009 (Nine of these sites were not checked).

In summary, the total estimate of breeding individuals at the 3 sites that were documented with FRGU nesting in 2009 was 15,550. Number of breeding individuals per colony (one of the sites contained 3 sub-colonies and another had 2) ranged from 32 to 5734. At the 7 sites where the species was seen but breeding was not documented the total FRGU count was 152, however this species wanders widely from the nesting colony in feeding and sightings were so common that they generally were not recorded.

The counting of FRGU colonies is difficult in most cases due to the dense nature of the rushes in which the nesting usually occurs and the vulnerability of the nests to disturbance or destruction by the survey crew. In most colonies surveyed in 2009 the water depth at between 2 and 3 feet combined with dense intertwined vegetation made entering the colony by wading or by canoe for transect surveys inadvisable. It seems doubtful that one could traverse the colony without destroying several of the delicate nests and causing an unacceptable level of disturbance. Some past surveys were done after nesting was completed by doing transects and counting the empty nests. This was done for one of the two colonies at Benton Lake NWR in 2009 but not at other locations due to staff limitations at the refuges involved and the fact that the project survey team was not available in the post nesting period. Another approach that might work is to watch the colony at daybreak and estimate the number of birds flying out. This technique was used at Benton Lake NWR on one colony in 2009. The biologist there was not very confident of the

accuracy of these counts due to limited staff available for the transects and the uncertain nature of the morning fly-out. Repeating the fly-out method three times might give a better idea of the method's effectiveness.

In 2009 at Manning Lake and Bowdoin NWR a flush count was done by disturbing the colony along the edge with a canoe or rowboat. The extent and density of the colony was estimated by observing the birds flying up from nests and in some cases listening to the cries of the birds. The resulting colony estimates of this type of survey are very rough and should be followed later with empty nest counts if possible.

Franklin's Gull colony locations often shift from year to year depending on water level and other factors. It is necessary to gather data from all the major sites used by this species during each year that a survey for the species is conducted.

### **Caspian Tern (CATE)**

The Caspian Tern is a very uncommon but widespread nesting species in Montana. They nest on rivers and large lakes in distinct colonies or in mixed colonies with gull and other tern species. In Montana colony size is typically less than 50 breeding pairs. Nests are typically on sand and gravel, or sometimes on vegetation. Eggs number from one to three. The Caspian Tern feeds mainly on fish and is known to fly up to 60 km from the breeding colony to catch fish.

In Montana's historical database CATE has confirmed breeding at 7 sites. In 2009 all of these were checked. Three had breeding birds, three had no CATE present and one had individuals present but no nest locations were found. One site in the MT historical database that had no CATE listed as probable breeders did have the species present in 2009. Two sites that had no survey information in the MT database had the species present.

In summary, the total estimate of breeding individuals at the 3 sites that were documented with CATE nesting in 2009 was 62. Number of breeding individuals per site ranged from 2 to 36. At the 5 sites where the species was seen but breeding not documented the total CATE count was 23.

### **Forster's Tern (FOTE)**

The Forster's Tern nests in marshes in scattered locations east of the Rocky Mountains in Montana. Colony size is typically less than 50 breeding pairs. The nest site can vary from an

unlined scrape in mud or sand to a floating mat of vegetation or the top of a muskrat house. Eggs usually number three or more. The Forster's Tern feeds mainly on fish and insects in the marsh.

In Montana's historical database FOTE has confirmed breeding at 15 sites. In 2009, 12 of these were checked. Only 4 had breeding birds, 6 had no FOTE present and 2 had individuals present but no nest locations were found. One site in the MT historical database that had the FOTE listed as a probable breeder had the species breeding in 2009. One site that had no FOTE listed in the MT database had the species nesting and 7 such sites had the species present in 2009.

Forster's Tern historical and 2009 records summary

Status in the MT Historical Database:	# of sites in the MT Historical Database	Number of sites in the 2009 Survey			
		Sites with breeding in 2009	Sites w/ species present but not breeding	Sites w/ Species not present	Sites not checked
Sites with confirmed breeding	15	4	2	6	4
Sites w/ species present but not confirmed as breeding	2	1	0	0	1
Sites where species was not recorded previously		1	7		
<b>totals</b>		<b>6</b>	<b>8</b>		

In summary, the total estimate of breeding individuals at the 6 sites that were documented with FOTE nesting in 2009 was 132. Number of breeding individuals per site ranged from 4 to 60. At the 8 sites where the species was seen but breeding was not documented the total FOTE count was 70. The cool spring in 2009 could have delayed nesting in this species or resulted in nest failures. Because nearly all of the surveys were completed by the end of June late nesting activity would not have been detected.

**Common Tern (COTE)**

The Common Tern nests on lakes in scattered locations east of the Rocky Mountains in Montana. In Montana colony size is typically less than 50 breeding pairs. Nests are typically on sand and gravel, or sometimes on vegetation. Eggs usually number from two to four. The Common Tern feeds mainly on fish in lakes and large rivers.

In Montana's historical database COTE has confirmed breeding at 18 sites. In 2009 13 of these were checked. Only one had breeding birds, 5 had no COTE present and 7 had individuals present but no nest locations were found. Two sites in the MT historical database that had no COTE listed as probable breeders did have the species present in 2009. One site that had no survey information in the MT database had the species nesting.

In summary, the total estimate of breeding individuals at the two sites that were documented with COTE nesting in 2009 was 68. Number of breeding individuals per site ranged from 2 to 66. At the 11 sites where the species was seen but breeding was not documented the total COTE count was 69. The cool spring in 2009 could have delayed nesting in this species or resulted in nest failures. In NE Montana on June 19<sup>th</sup> at Whitetail Reservoir the two individuals seen were displaying courtship behavior and obviously did not have a nest to attend. Because nearly all of the surveys were completed by the end of June late nesting activity would not have been detected.

**Black Tern (BLTE)**

The Black Tern is an uncommon but widespread nesting species in Montana. They nest in freshwater marshes, usually in colonies of from 5 to 50 pairs. The nest, typically with 2 to 4 eggs, is either on floating marsh vegetation or on the ground at the water's edge. They feed on fish and insects at or near the surface and catch insects in flight.

In Montana's historical database BLTE has confirmed breeding at 27 sites. In 2009, 19 of these were checked. Seven had breeding birds, 10 had no BLTE present and two had individuals present but no nest locations were found. The historical database lists the BLTE as having been present but not confirmed as breeding at 16 sites. In 2009 six of these sites were checked. Only one had the species present and nesting was not noted at any. One site that had no BLTE noted as nesting or present in the past had the species nesting in 2009. Eleven sites that had no survey information in the MT data base had the species present and nesting was documented at 5 of these.

Black Tern historical and 2009 records summary:

Status in the MT historical database:

# of sites in the MT Historical Database	Number of sites in the 2009 Survey			
	Sites with breeding in 2009	Sites w/ species present but not breeding	Sites w/ Species not present	Sites not checked

Sites with confirmed breeding	27	7	2	10	8
Sites w/ species present but not confirmed as breeding	16	0	1	5	10
Sites where species was not recorded previously		6	6		
totals		13	9		

In summary, the total estimate of breeding individuals at the 13 sites that were documented with BLTE nesting in 2009 was 184. Number of breeding individuals per site ranged from 4 to 30. These are rough estimates in most cases as BLTE nests are usually difficult to locate in dense vegetation (rushes 2 to 3 feet in height in most cases) and nest disturbance was minimized in this survey. At the 9 sites where the species was seen but breeding not documented the total BLTE count was 23. Nesting locations for this species shift on a yearly basis based on water levels and other factors so it is not surprising that less than half of the historical breeding locations were used in 2009.

### **Non-target Species for 2009 Surveys**

#### **Horned Grebe (HOGGR)**

The Horned Grebe is an uncommon breeding species in the wetlands of Montana. They are usually solitary nesters on ponds and marshes. The nest is a on a floating platform of vegetation. HOGGR nests are often found in or near rush beds along the shore of a pond.

The HOGGR was not a target species for the 2009 survey and past breeding data has not been extracted from the Montana historical database as of the date of this report. In 2009 the species was documented at three sites. All three of the sites are located in the NE corner of the state. Breeding was confirmed at one with a single nest and the presence of the species during the breeding season was noted at the other two. The HOGGR was not a target species for purposes of the 2009 survey so it is likely that more effort would reveal the species at other sites and result in the documentation of more nesting in the state.

#### **Red-necked Grebe (RNGR)**

The Red-necked Grebe is an uncommon breeding species on lakes and ponds across northern Montana. They nest in colonies or single pairs on shallow lakes and marshes (rarely less than 10 acres). They are at least two years of age before breeding and groups of non-breeders are found within the species nesting range during the spring and summer. The nest is a on a floating

platform of vegetation. RNGR colonies are often found in or near dense rush, cattail or sedge beds along the shore of a lake but the locations often change from year to year.

In 2009 the RNGR was documented at 5 sites. Breeding was confirmed at 4 with 8 nests found and a total estimate of 34 breeding individuals. The presence of the species during the breeding season was noted at one other site. The RNGR was not a target species for purposes of the 2009 survey so it is likely that more effort would reveal the species at other sites and result in the documentation of more nesting in the state.

### **Eared Grebe (EAGR)**

The Eared Grebe is a very common breeding species on sheltered shallow areas of lakes, ponds and marshes throughout Montana. They breed as early as one year old and nest in large or small colonies. The nest is on a floating platform of vegetation. EAGR colonies are often found in or near dense rush, cattail or sedge beds along the shore but the locations often change from year to year.

The EAGR was not a target species for the 2009 survey and past breeding data has not been extracted (except for some sites) from the Montana historical data base as of the date of this report. In 2009 the species was documented at 25 sites. Breeding was confirmed at 10 sites with a total estimate of 162 breeding individuals. In addition, one site had a large number (406) present but no nesting confirmed. The presence of the species during the breeding season was noted at 14 other sites. The EAGR was not a target species for the 2009 survey so it is likely that more effort would document the species at many other sites and result in the documentation of many more nesting sites in the state.

### **Western Grebe (WEGR)**

The Western Grebe is a common breeding species in the wetlands of Montana. They nest in colonies on large lakes and marshes. The nest is on a floating platform of vegetation in shallow water.

Unless the bird is well-seen it can be difficult to distinguish from the much less common Clark's Grebe. This was a problem at times in this year's survey as was locating nests. The WEGR was not a target species in the 2009 survey and the species was generally only documented in conjunction with surveys for other species.

WEGR colonies are often found in dense rush beds along the shore of a large lake but the locations often change from year to year, making colonies difficult to find. The WEGR was observed in large numbers at Medicine Lake (NE Montana) early in the 2009 survey period prior to nesting. Later in the season when nesting would be taking place comparatively few were seen. A thorough search of the rush beds along the lakeshore was not conducted so there was no estimate of breeding numbers in 2009 at that important site. The same situation occurred at several known breeding sites for this species.

The WEGR was not a target species for the 2009 survey and past breeding data has not been extracted from the Montana historical database as of the date of this report. Breeding was documented at two sites in the 2009 survey. At one of these, though nests were found in two colonies, they were both a mixture of CLGR and WEGR and only a nest total for the combined species was obtained (77). At the other site, two nests were found in reeds with one bird on each and an additional 5 individuals in open water nearby.

The species was listed only as present at eleven sites. For purposes of the 2009 survey the WEGR was not considered a target species and documentation was given a low priority. As a result the survey did not produce meaningful numerical information for this species.

### **Double-crested Cormorant (DCCO)**

The Double-crested Cormorant is a common breeding species on lakes, ponds, marshes and rivers throughout Montana. They generally breed at three years of age and nest in large or small colonies. Nests are a platform of sticks in a tree or on the ground on an island. The DCCO often nests in colonies with gulls or herons.

The DCCO was not a target species for the 2009 survey. Some past breeding data was extracted from the Montana historical database to aid in survey planning. The information extracted from Montana's historical database indicated confirmed breeding at 10 sites. In 2009, eight of these were checked. Of these, 5 had breeding birds, 2 had no DCCO present and one had individuals present but no active nests were found. Six sites not included in the breeding information gathered from the Montana historical database had the DCCO breeding in 2009. At another 10 such sites the species was present but not breeding. At the 11 sites with breeding DCCO in 2009 a total of 1124 breeding individuals was estimated. One of these sites had no

estimate of numbers. The average number of breeding individuals per site at 10 sites in 2009 was 112. The totals per nesting colony ranged from 6 to 426.

### **Great Blue Heron (GBHE)**

The Great Blue Heron is a common breeding species on lakes, ponds, marshes and rivers throughout Montana. They breed as early as two years old and nest in large or small colonies. The nest is a platform of sticks, usually in a tree but may be on the ground on an island. The GBHE often nests in colonies with other herons and in Montana with cormorants and occasionally on an island with gulls.

The GBHE was not a target species for the 2009 survey. Some past breeding data was extracted from the Montana historical database to aid in survey planning. In addition to the ground and boat surveys, a series of known nest locations was checked by air in 2009 along the Clark Fork and Bitterroot River drainages of western Montana. Surveys were also conducted along the Yellowstone River, however, these data were not available at the time of this report.

The information extracted from Montana's historical database (including the Aerial survey records) indicated confirmed breeding at 30 sites. In 2009, all of these were checked. Of these, 15 had breeding birds, 13 had no GBHE present and 2 had individuals present but no active nests were found. Seven sites not included in the breeding information gathered from the Montana historical data base had the GBHE breeding in 2009. At another 4 such sites the species was present but not breeding. At the 22 sites with breeding GBHE in 2009 a total of 652 breeding individuals was estimated. Three of these sites had no estimate of numbers. The average number of breeding individuals per site at 19 sites in 2009 was 34. The totals ranged from 8 to 100 per site.

### **Ring-billed Gull (RBGU)**

The Ring-billed Gull is a common breeding species throughout Montana usually nesting on an island in a large colony and often with the California Gull and sometimes other species. Nests are a shallow cup of vegetation on the ground.

The RBGU was not a target species for the 2009 survey. Some past breeding data was extracted from the Montana historical database to aid in survey planning. The information extracted from Montana's historical database indicated confirmed breeding at 6 sites. In 2009,

four of these were checked for this species. Of these, 3 had breeding birds, one had no RBGU present and 2 had individuals present but no active nests were found. Four sites not included in the breeding information gathered from the Montana historical database had the RBGU breeding in 2009. At the 7 sites with breeding RBGU in 2009 a total of 8437 breeding individuals was estimated. One of these sites had no estimate of numbers and another only counted one of the two colonies present. The average number of breeding individuals per site at 5 sites in 2009 was 1547. The totals per nesting colony ranged from 35 to 4090 breeding individuals.

### **California Gull (CAGU)**

The California Gull is a common breeding species throughout Montana usually nesting on an island in a large colony and often with the California Gull and sometimes other species. Nests are a shallow cup of vegetation on the ground.

The CAGU was not a target species for the 2009 survey. Some past breeding data was extracted from the Montana historical database to aid in survey planning. The information extracted from Montana's historical database indicated confirmed breeding at 4 sites. In 2009, four of these were checked for this species. Of these, 2 had breeding birds and one had no RBGU present. Four sites not included in the breeding information gathered from the Montana historical data base had the CAGU breeding in 2009. At another 2 such sites the species was present but not breeding. At the 6 sites with breeding CAGU in 2009 a total of 2542 breeding individuals was estimated. Two of these sites had no estimate of numbers and another only counted one of the two colonies present. The average number of breeding individuals per site at 3 sites in 2009 was 713. The totals per nesting colony ranged from 12 to 1366 breeding individuals.