**Colonial Nesting Waterbird Survey for Montana, 2017**

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**Introduction**

This report details the 2017 results and nine year history of the Western Colonial Waterbird Monitoring and Inventory (WCWS) program in Montana. Participating in the 2017 and past seasons’ surveys were Montana Fish, Wildlife and Parks, Montana Audubon and the U.S. Fish and Wildlife Service.

Surveys of colonial nesting waterbirds were conducted for the ninth consecutive season from May through July of 2017 at sites which have been identified as important in monitoring the species of particular interest (target species). Due to limited funding during the 2017 season a total of just eight sites were surveyed. With adequate funding in 2016 we surveyed 17 sites which have been identified as important in monitoring the target colonial nesting waterbird species. In 2017 nesting data were collected on 12 of the 19 colonial nesting waterbird species known to nest in Montana, while in 2016 data were collected on all 19 such species.

During the first three seasons (2009-2011), many sites were surveyed in order to evaluate the status of colonial nesting waterbirds throughout Montana and to document nesting colonies of Great Blue Herons and Double-crested Cormorants along all of the major river systems of the state. Sites were identified using the Montana Natural Heritage Program’s data base as well as the map work and in-season discovery of the observers. All survey data was entered into a spreadsheet as part of the Western Colonial Waterbird Monitoring and Inventory (WCWS) program in Montana, initiated by the US fish and Wildlife Service.

After the initial three years of surveys, monitoring of a limited number of sites was continued in order to track changes in breeding populations with emphasis on species of particular concern. The information has been added to the WCWS spreadsheet each year. This report details the 2017 survey results and compares them with past seasons. A discussion of each species is presented. A table presents annual breeding pair counts for each species at sites selected for having relatively large numbers of nesting pairs and relatively consistent site coverage (Table 1).

A table is included showing the sites surveyed in 2017 and those that we would like to cover in the future if resources are available (see Table 2).

**Species Accounts**

**Target species:**

**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 contain tens or hundreds of nests, colonies in Montana are typically small (5 to 10 pairs). The nest is a 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. During the nine years of this series of surveys the only sites in Montana with the Clark’s Grebe confirmed as nesting are Freezout Lake and Ninepipes NWR where 2 or 3 nests per year have been documented. In 2017 and no CLGR were identified at Ninepipe NWR. A survey was not conducted at Freezout.

**American White Pelican, AWPE**

There are four known breeding locations for AWPE in Montana. Three of these are major colonies and one is much smaller. Nesting was documented at all 4 sites for the AWPE in 2017. The three major sites yielded a total count of 6401 nests. This is well above the 2009 through 2016 average of 5801 (see table 1). Bowdoin NWR has been in an upward trend since 2015. At Canyon Ferry WMA and Medicine Lake NWR there have been large fluctuations in the annual nest numbers but the overall totals have remained relatively stable.

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, during the first three seasons of this study, there were two sub-colonies, one on a large island and one on a long point from which predators were excluded with an electric fence. At the time of the surveys island nesting birds had only eggs while on the point the nests had well-developed chicks, one invariably much larger than the other, in nearly every nest. In subsequent years all nesting for the species at Medicine Lake was on the point only.

Productive (meaning active nests were documented) nesting colony survey dates for this species have ranged from 5/16 to 6/15 during the nine years of this study.

**Double-crested Cormorant, DCCO**

The Double-crested Cormorant is a common breeding species throughout Montana. Nests consist of a platform of sticks in a tree or on the ground on an island. The DCCO often nests in tree colonies with herons or on the ground within large gull and pelican colonies. They generally breed at three years of age and nest in large or small colonies.

Nesting was documented at a total of 5 sites for the DCCO in 2017. Five sites, where the species has always nested in past years surveyed, were not covered in 2017. The top three nesting sites were Bowdoin NWR with a big increase to 1200 nests, Canyon Ferry WPA with 162 and Ninepipes NWR with 167. The 2017 total for the four sites included in Table 1 was 1450, the big increase due solely to the big total at Bowdoin NWR. Productive nesting colony survey dates for this species have ranged from 5/3 to 7/13 during the nine years of this study.

**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.

Timing of nesting for this species is usually early and aerial surveys are generally done in April and May before the leaves hide the tree nests. At this time the GBHE are usually occupying the rookeries and have eggs in the nest. Productive nesting colony survey dates for this species have ranged from 4/1 to 7/24.

In the 2012- 2017 period aerial surveys were not done. Nesting in 2017 was documented at just two sites, (Bowdion NWR, and Ninepipe NWR) for a total of 115 nests. These two sites were selected from the information in the WCWS spreadsheet as they have had fairly consistent annual coverage and relatively large numbers of the species. The totals of 48 at Bowdoin and 67 at Ninepipe are close to the averages of the past seven years. Trend information for this species is not available as the very numerous colonies throughout the state have not been counted since 2011, the most recent year in which aerial surveys were done.

**Black-crowned Night Heron, BCNH**

The Black-crowned Night Heron in Montana nests in colonies of from 5 to 100 breeding pairs in a variety of locations, all on the east side of the Continental Divide. 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.

During the 2017 survey, nesting was documented at just one site for a total of 69 nests. The totals for the three top sites for this species (with some large annual fluctuations at some sites) have been holding steady (Table 1). Productive nesting colony survey dates for this species have ranged from 5/29 to 7/27.

**White-faced Ibis, WFIB**

The White-faced Ibis in an uncommon breeding species in Montana and sites are generally east of the Rocky Mountain Front. The WFIB typically nests in marsh habitat and colony size in Montana in this series of surveys has ranged from 5 to 195 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. They are usually found nesting within or near large FRGU colonies in bulrush habitat.

The most used nesting site in Montana for this species has been Red Rock Lakes NWR where as many as 195 nesting pairs have been documented. Unfortunately counts have not been conducted there during most years of this study. See Table 1.

In 2017 nesting was not documented at any site for this species. An interesting development with this species is the large increase at Bowdoin NWR. Numbers of WFIB nests (75) at Bowdoin NWR showed a sharp increase in 2014 from a 5 year average of 25. The site was not surveyed for this species at Bowdoin in 2015. In 2016 the nest estimate for the WFIB at Bowdoin more than doubled from the 2014 level with a total of 181 nests. This was in conjunction with a return of the large FRGU colony to the site in 2016 after abandonment in 2013, 2014 and 2015. See Table 1.

Productive nesting colony survey dates for this species have ranged from 6/7 to 7/14.

**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 4 feet of water. Nests may be on the ground in some locations or in shallower water. The nest is well-maintained and the course 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.

In 2017 no surveys were done for this species (Table 1). According to the refuge biologist, the species did seem to be nesting at Benton Lakes NWR in 2017. Bowdoin, a major FRGU nesting site had almost complete abandonment by the species in 2013, 2014 and 2015 in spite of normal water levels and no other apparent cause. A large nesting colony was once again at the site in 2016. FRGU do nest in very large numbers just to the north in Canada and surveys there (not currently being done), combined with our own, would provide a much clearer picture of any major population changes in the species.

Large annual fluctuations at individual sites are not particularly unusual for this species. Looking at Table 1 we see a zero for Homestead Lake in 2012 (drained for the summer) and a corresponding increase at Manning Lake which is located just a few miles to the south. The species totals seem to be holding steady. We were fortunate to have good access conditions at Manning Lake in 2016 and had an average total there while Homestead was again drained (Table 1).

**Caspian Tern, CATE**

The Caspian Tern is an 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. Only four nests were documented for the CATE in 2017 in surveys at 3 sites; Ninepipes NWR, Bowdoin NWR and Canyon Ferry WMA.

The largest colony to be documented in this series of surveys in Montana (at Fort Peck Lake on York Island) had grown each year from 51 in 2011 to 286 nests in 2013 but suddenly there were no nests in 2014 through 2016 with no change in water level to explain the disappearance. We have no information on the site for 2017. The Ring-billed and California Gulls were still nesting at the colony in normal numbers in 2016, as were the Cormorants. When the lake level drops, the north extension of York Island is connected to the main island where there are some coyotes that can then easily reach the colony; so when the water level is down the location is not used by any of the colonial-nesting waterbird species.

Nesting at Canyon Ferry WMA has dropped off to just a single nest since 2013. The average there had been about 15. The survey has always been done in late May as it was this year. So later nesting may be possible.

Bowdoin NWR, where a very few of this species have nested during past surveys had one nesting pair in 2017. Ninepipes NWR had two nests, one on each of two small islands crowded with nesting California Gulls.

**Forster’s Tern, FOTE**

The Forster’s Tern nests in marshes in scattered locations mostly 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.

Nesting was documented at just one site (Ninepipes NWR) for the FOTE in 2017 for a total of 4 nests. Totals at that site have declined markedly since 2012. None of the other sites where the species usually nests were covered. Totals for the 5 sites included in Table 1 for this species have fluctuated, but do not seem to show any clear up or down trend. Considerable variability is to be expected given their tendency to nest in scattered small groups or singly. The 2016 total was boosted by a nesting colony discovered at Medicine Lake NWR where there were 40 nests. The Medicine Lake refuge always has had a few FOTE that were documented as feeding with no nest location found. In 2016 the species was nesting in a location that had been checked in all past years without nests of this species being discovered. The site could have attracted individuals from nearby Homestead Lake which was drawn down to empty.

Productive nesting colony survey dates for this species have ranged from 6/4 to 7/22.

**Common Tern, COTE**

The Common Tern nests on lakes in scattered locations mostly east of the Rocky Mountains in Montana. In Montana colony size is typically less than 50 breeding pairs. Nests are typically on an island in sparse low vegetation or on bare ground. Eggs usually number from two to four. The Common Tern feeds mainly on fish in lakes and large rivers.

None of the sites where the Common Tern has nested in the past were surveyed for this species in 2017. Six sites were selected for inclusion in Table 1 as indicative of population trend for the species. Annual totals for the COTE show considerable variability due to a variety of causes and show no clear trend.

Two sites in the Medicine Lake NWR were primarily responsible for the low overall total in 2016. The Katy Lake site was abandoned by the species starting in 2015, most likely due to nest predation by the large nesting concentration of CAGU and RBGU which is in close proximity to the two COTE nesting locations that have been used in the lake in the past.

A small island in Medicine Lake that had a relatively large colony of COTE in 2013 and 2014 had no nesting in 2015 and 2016. The cause is not clear but in 2016 the water level of the lake was down about 1 foot below normal and a shallow bar extended out to the island which could result in predation by coyotes. (See Table 1.) The 2016 drawdown of Homestead Lake also eliminated a fairly reliable site for COTE nesting.

Productive nesting colony survey dates for this species have ranged from 5/22 to 6/25.

**Black Tern, BLTE**

The Black Tern is an uncommon but widespread nesting species in Montana, present on both sides of the Continental Divide. 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.

Nesting was documented at just two sites for the BLTE in 2017 yielding a total count of 18 nests. The number of productive sites for this species in recent years has been much lower than in 2009 when many more sites were surveyed to establish the status of the species around the state and 13 sites were documented with active nesting. The tendency of this species to nest in isolated marshes without other colonial nesting waterbirds present means that most of the major sites that are annually monitored are not sites where the BLTE nests. During these surveys the BLTE has been found to move from one nesting location to another more frequently than other species.

In 2014, in order to better monitor the Black Tern, three sites were added to the limited number of key sites now monitored annually (Table 1). These are clustered in a small area west of the Continental Divide in the west central part of the state. Blackfoot WPA, Brown’s Lake and Kleinschmidt Lake (collectively referred to in this study as the Brown’s Lake Complex) have a history of BLTE nesting, are all clustered in an area 4 miles wide, and are easily accessible for the survey staff. In 2017 the Brown’s Lake Complex BLTE colony was again split between Brown’s Lake and Blackfoot WPA as was the case on 2015 and 2016, with most at Brown’s Lake and just 3 nests at Blackfoot WPA. This was the only BLTE nesting documented in the 2017 surveys.

Productive nesting colony survey dates for this species have ranged from 6/5 to 7/19 (WCWS spreadsheet).

**Non-target Species:**

**Snowy Egret (SNEG)**

This is a non-target species only because it has not been recorded nesting in Montana before and was therefore unexpected. A pair was documented at Medicine Lake NWR on June 6, 2014 on Bridgerman Point in a very large mixed colony including AWPE, DCCO and BCNH. The nest (viewed and videos recorded) was in a dense chokecherry thicket with several nests of DCCO and BCNH. In 2015 there was again a pair nesting, this time on nearby Big Island in the BCNH colony which is located in a large chokecherry thicket. The species was not seen at Medicine Lake during the 2016 or 2017 surveys.

**Cattle Egret (CAEG)**

The Cattle Egret has not been confirmed as a breeding species in Montana but there are a few records of transient birds with no evidence of breeding. On June 14, 2016, during the survey of Lake Bowdoin, three individuals were flushed, along with numerous nesting FRGU, WFIB and BCNH, in a dense stand of bulrush located on the west side of Big Island in about 3 ft. of water depth. This was a nesting colony and it was assumed that the CAEG were nesting along with the other species. It was not possible to view the nests due to the density of nests, delicate nature of the nests and very dense bulrush cover (bulrush extending about 4 ft. above the water’s surface). Their presence in the colony was considered indirect evidence of nesting and 2 nests were assumed to be present.

The species was not reported from Bowdoin in 2017.

**Horned Grebe, HOGR**

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. HOGR nests are often found in or near rush beds along the shore of a pond.

The HOGR has seldom been recorded in these surveys and, as it is not a target species, no special effort has been made to search for this bird. We had one nest observation on a pond with bulrush near shore in Sheridan County during the 2009 exploration phase of these surveys. Five individuals were seen at Freezout Lake in Teton County during the 2010 survey but nesting was not confirmed. There were no sightings in 2017.

**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.

Nesting was documented at 4 sites for the RNGR in 2017, all west of the Continental Divide. Totals of pairs with post-fledgling juveniles were 10 at BLC (Brown’s Lake Complex) Brown’s Lake, 1 at BLC Klienschmidt Lake with 2 occupied nests also found, 1 at BLC Blackfoot WPA and 3 at Ninepipes NWR for a total estimate of 17 nests. There were additional individuals whose nesting status was unknown: 7 at Klienschmidt Lake, 3 at Ninepipes Lake NWR and 8 at Pablo Reservoir (part of the Ninepipes NWR).

The monitoring situation for this species is similar to that for the BLTE in that the RNGR is not generally found at the major mixed species waterbird nesting sites, but rather in lakes and ponds that would not otherwise be on our list of key sites for continued monitoring. Fortunately, the RNGR nests at the Brown’s Lake Complex along with the BLTE.

Post-fledging counts of pairs of adults with young are a good way to estimate nest numbers for this species and Grebes in general. The nests are often spread out in large areas of dense emergent vegetation and it is difficult to locate more than a portion of them. After fledging, the birds tend to be out in open water where they are easy to spot. The family group stays together and at least one adult seems to always be near the young. Productive nesting colony survey dates for this species have ranged from 5/24 to 7/19 (post fledging).

**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 a 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. Nests of this species are difficult to find without undue disturbance if they are in dense cover as they often are.

As this is a very common bird and is present in a huge number of marshes, lakes and small ponds (mostly east of the Continental Divide), it has usually been ignored during these surveys. Very large colonies were located in the same bulrush beds as the Franklin’s Gull at Homestead Lake and Bowdoin NWR with estimates of 250 to 500 nests not uncommon. Nesting for this species was documented as early as 6/5 and the latest was the discovery of three active nests with warm eggs on 7/21/2010 at Bowdoin NWR, Phillips County.

In 2017 the EAGR was documented at just one site, BLC Klienschmidt Lake on 7/12, where one pair with fledged young was observed as well as 25 individuals whose nesting status was unknown.

**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 a on a floating platform of vegetation in shallow water. 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.

Unless the bird is well-seen it can be difficult to distinguish from the much less common Clark’s Grebe. This posed a problem at one site (Freezout Lake WMA) in the 2009 survey at one colony where both Clark’s and Western Grebes appeared to be nesting in close proximity and that site (with 77 nests) is documented under the heading of “CLGR or WEGR”. These were most likely nearly all WEGR as the CLGR has only been infrequently documented at that site.

Nesting was documented for the WEGR in 2017 at 3 sites for a total of just 22 nests. There were far fewer nests detected at two of the sites than in 2016; 8 nests at Ninepipes as opposed to 132 in 2016 and one nest at Kleinschmidt Lake as opposed to 14 in 2016 (Table 1). Four sites were chosen for inclusion in Table 1 for this species where they have been fairly well monitored while nest estimates for this non-target species have generally not been made at other sites. The nests are difficult to find and the surveys at the major sites tend to be completed well before a post-fledging count of the WEGR could be done. Post-fledging counts were done at the two Brown’s Lake Complex sites where the species nests in 2015 – 2017. Western Grebes are routinely counted at Ninepipes NWR (Table 1).

**Ring-billed Gull, RBGU**

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

As non-target species the Ring-billed and California Gulls were often lumped together under the heading “RB or CAGU”. At a great distance the species are difficult to distinguish and we often did not take the time to get closer and do a separate count of each species. In other instances the two species were noted as nesting in large numbers but no estimate was attempted.

Nesting for the RBGU was documented at 2 sites in 2017. Bowdoin had a total of 2024 nests and Ninepipes had a rough estimate of 900 nests in a late season survey with all young off the nests.

Two sites were selected for use on this species in Table 1, Bowdoin NWR and Fort Peck Lake (York Island). The two species were almost always counted separately except at Bowdoin in recent years where the large gulls were apportioned 80/20% for RBGU/CAGU. A substantial number gulls are involved at both sites. The Fort Peck site is for York Island only and is only of use when the water level in the lake is near full and the colony is occupying that island.

Totals for the two sites used in Table 1 have fluctuated but seem to be holding steady. Productive nesting colony survey dates for this species have ranged from 5/16 to 6/28.

**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 Ring-billed Gull and sometimes other species. Nests are a shallow cup of vegetation on the ground. Nesting was documented at a total of 2 sites for the CAGU in 2017.

The two large island-nesting gull species at Bowdoin have averaged 20% CAGU and 80% RBGU in past counts. In recent years a combined island-nesting gull species count has been conducted and we have used that ratio to estimate the nesting pairs of RBGU and CAGU. The 2017 CAGU estimate at Bowdoin NWR was 626 nests.

At Ninepipes NWR a rough estimate of 208 nests was made in a late season count with most young off the nests and rising high water dispersing most hatched birds away from the place where the nest had been.

Two sites were selected for use on this species in Table 1, Bowdoin NWR and Fort Peck Lake (York Island). CAGU and RBGU were almost always counted separately at these two sites (except for Bowdoin since 2014) and a substantial number of gulls is involved. The Fort Peck site is for York Island only and is only of use when the water level in the lake is near full and the colony is occupying that island. California Gull numbers show no clear trend in the surveys since 2009.

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