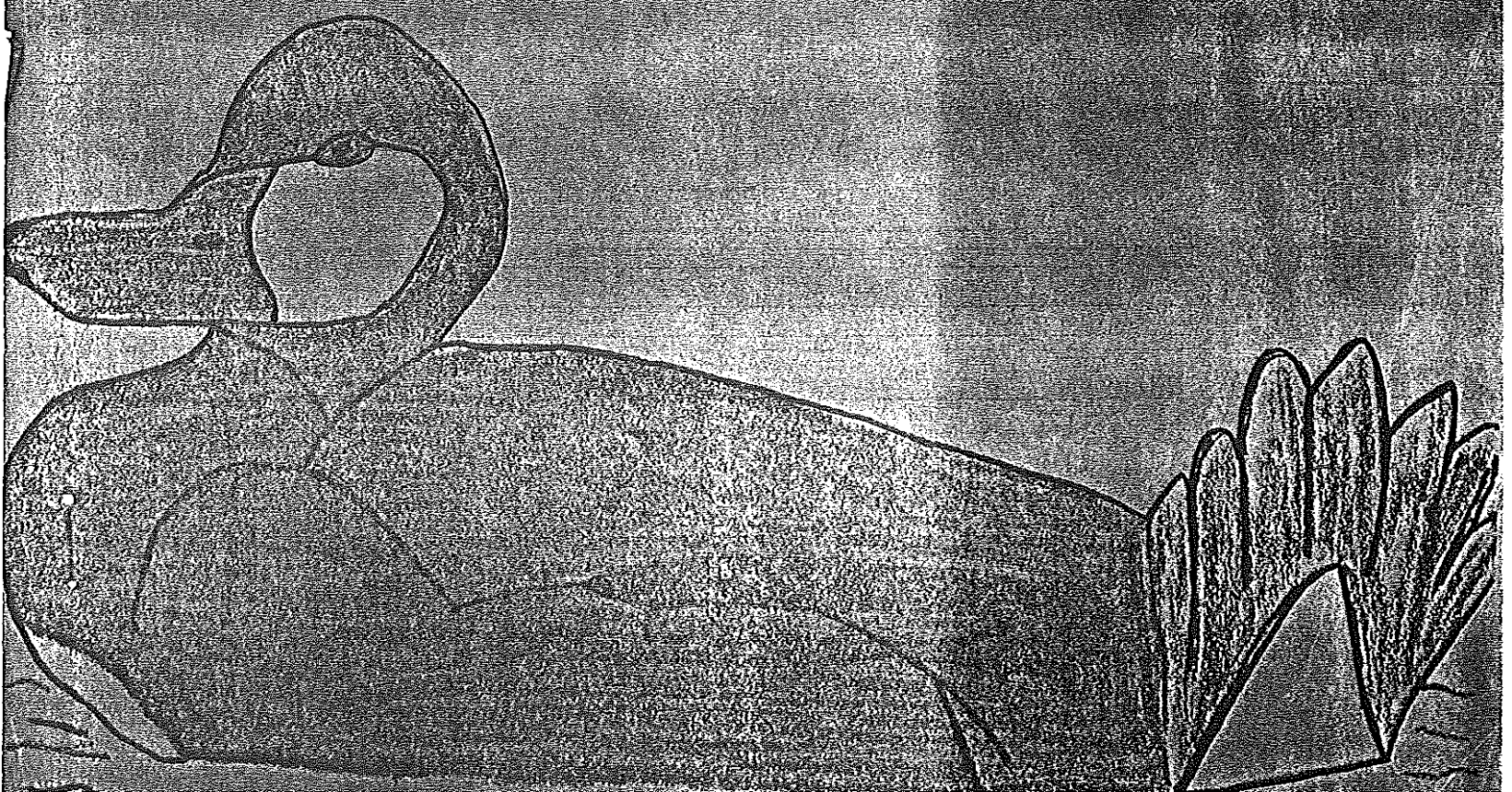
Cecil Lake Waterfowl Study



RAPE

RAPE

GRASS

DEPTH UNDER 3'

NORTH MARSH

DEPTH 6'-9'

NICKOLSON'S MARSH

OBSERVATION TOWER

WHEAT

CECIL'S PITT

BARLEY

BARLEY

BARLEY

DEPTH UNDER 3'

DEPTH 4½'-5½'

SOUTH MARSH

KEY

WATER DEPTH UNDER 3' REED CANARY GRASS	
GRAIN CROPS	
WATER DEPTH OVER 3' OPEN WATER	
LONG STEM BULLRUSH	
WOOD LOT COTTONWOOD 70% WILLOW 15% BIRCH 5%	

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CECIL LAKE

APPROXIMATE

ROAD

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Our Message

The North Peace River Region is deeply engrossed in a period of land development. Each year the influence of people into this area encroach upon the fastly disappearing hinterland. Ten years ago more than 70 percent of the land within a hundred mile radius of Fort St. John could be classified as wilderness. Today this figure is below 50 percent. At this rate of development it will not take long before the hinterland areas are completely exploited.

Cleared farmland is appearing at a fantastic rate, pushing the mule deer to the seclusion of the river coolies. Swamps are being drained and crops are planted in their place. The once over-abundant beaver is being trapped to the extent of number depletion, thus the prime nest sites they provide disappear with them.

There are not a great number of major water bodies in the Peace River country and even few of these have an environment that is acceptable to most species of waterfowl. Cecil Lake and Boundary Lake have a very high level of acceptably for many species of waterfowl. We recorded over 30 species of waterfowl nesting at Cecil Lake. We counted over 1000 nests, and over 3000 successful hatchings. This evidence points out the extreme importance of this lake to nesting waterfowl.

Our concern in doing this study was to obtain an approximate census of the resident waterfowl population of Cecil Lake. Our final statistics reveal a total resident waterfowl population of well over 8000.

Our Message con't

The members of this study are residents of the Cecil Lake area. Over the past 5 years we have seen oil companies destroy the environment in the areas around Boundary Lake and have even made well sites right on the lake. It is our concern that this should never be allowed to happen to Cecil Lake. Its seclusion and serenity should always remain, for there is much value in a swampy wasteland.

The Cecil Lake Waterfowl Study

Opening Remarks

This Cecil Lake Waterfowl Study has envolved six weeks of intensive observations. A total of 5,400 individual man hours. The objective of our study was to attempt to achieve an approximate census of the Resident Waterfowl population of Cecil Lake. In the first week of our study we spent many hours familiarizing ourselves with the different environmental regions of the lake. We noted that there are six distant territories which take in four large marshes along with two major water bodies. We have defined the four main marsh areas as North Marsh at the north end of the lake, South Marsh at the south end of the lake, Cecils Pit the southwest corner of the lake and Nicholsons Marsh at the mid-eastern region of the lake. Together, Cecils Pit and Nicholsons Marsh split Cecil Lake almost completely into two open water body sections. The north section being the deepest section of the lake, seven to nine feet, and the south section ranging from four to five and a half feet.

The weather conditions for the most part of our study were quite poor from a humanistic point of view. Heavy rain showers often created rough water conditions in the open water bodies, thus forcing diving ducks to the shelter of the four marsh areas. On such days it was difficult to record accurate waterfowl numbers, (counts were very low) as most of the ducks were in cover of the dense marsh, vegetation. With this situation constantly interfering with our counts, we cautiously moved into the hiding areas to get our counts. Although there were many interfering

factors to achieving an accurate census of Cecil Lake, we feel we did achieve our goals. We believe that our results are fairly accurate and give a close estimation of the Waterfowl numbers on Cecil Lake.

Water Depths

In the true sense Cecil Lake is a lake only in name. Even at high water mark the maximum depth that we recorded (at the North end) was ten feet. The North end of the lake bares the greatest average depths of seven to nine feet at high water. The mid-section of the lake has an average depth of five to six feet. The South end of the lake averages between four and a half to five and a half feet at high water level.

The four marsh regions that we have defined as "Cecils Pit", "North Marsh", "Nicholsons Marsh" and "Willys Marsh" are only two to four feet deep at a maximum water level. These areas are densely populated with Reed Canary Grass. In addition these four shallowest areas are prime nesting spots for terns, coots, grebes and scaup.

In comparison to past years, this year has been one of the highest rainfall years for this area. This situation has resulted in Cecil Lake maintaining its present high-water mark, although from July 2 to August 10 the water level dropped approximately twelve to fourteen inches. The main water source for the lake are Via drainage ditches and field run off. At the South end of the lake there is an overflow stream which can be easily controlled as to opening and closing. This overflow stream can be, if desired,(depending on amount of rainfall) used to controll the lake level to a certain extent. By controlling the water level it may be possible to control the species that will nest at the lake. For example, at present the water levels are high

and attract diving species, if the water levels were lower (which could fairly easily be done) the lake would then attract many more puddle ducks to nest. If an attempt is made to control the lake level it is important to note that any great change in water levels will probably alter the entire ecology of the lake.

Food Supply

Cecil Lake has such an abundance of aquatic life it almost appears to crawl. Tremendous swarms of mosquitos deposit billions of eggs daily. Mosquito larvae thickens the shoreline depths. Thus providing an endless supply of food for ducklings of many waterfowl species.

On several occasions we observed pie-billed and horned grebes feeding on common leeches. The stagnation state of Cecil Lake must be ideal for producing leeches. A person would only have to stand still for one minute in the water and he could find at least one leech attached to him.

Water-bugs and beetles, dragonfly nymphs and water millepedes further add to the infinite aquatic insects life.

Vegetation

Cecil Lake sustains a typical marsh vegetation. Because of its mud bottom, the lake abounds in numerous varieties of pond weeds, duck weeds and reed grasses. In the deeper regions of the lake (7-9 ft.), there are no visible signs of vegetation, at least not on the surface. The 5-6 ft. depths of the lake support dense andpatchy growths of Long-stem Bullrush. These strips usually lie at a distance of over 200 ft. fron the shore. We noted that there are no other types of vegetation intermixed with many species of ducks use these regions as protective cover and as nest sights.

In the water levels of 2-5 ft. the predominate vegetation is Reed Canary Grass. This grass is the most abundant throughout the entire lake. It grows in closely spaced clumps which offer a fair degree of firmness to the lake bottom where it is rooted. The dense growth regions of Reed Canary Grass are extremely valuable and most necessary for the nesting of ducks, particularly the Horned Grebes and Coots. In addition, these grasses are the main source of protective cover for all species of ducks that reside on the lake. In the four marshy regions as outlined in this study, (Cecil's Pit, Nicholson's Marsh, North Marsh and Southern Marsh) Reed Canary Grass is the most abundant type of vegetation. We believe that Reed Canary Grass is probably the most contributing factor in maintaining a high resident waterfowl population on Cecil Lake and is of great importance to the ecology of the lake.

Interspersed with the Reed Canary Grass, we have found

Vegetation con't

a number of varieties of pond weed, space growths of Cattails and at least three varieties of duck weed, add to the thick vegetation growth in the 2-5 ft. depth zone. The vegetation in this region is so dense in most places that reed nesting birds have little difficulty in building up there nests. Also, shorebirds such as Sora Rails, Dowitchers, Sandpipers, Plovers, Yellowlegs and other shorebirds are able to manover freely. This region also supports an unestimatable number of nesting Black Terns.

This dense vegetation growth throughout the immediate shoreline areas has resulted in a very high degree of decaying, a situation that is capitalized by the fact that Cecil Lake recieves very little fresh water and oxygen support for at least 8 months of the year. In certain years it will become quite stagnant throughout the summer months, unless, as with this year, consistant windy weather and rainfall are sufficently enough to oxygenate the water thus inhibiting heavy algae growth and stagnation.

In years where the oxygen level of the lake water (as pointed out in the previous paragraph) is quite low, algae growth and bacterial content in the water will be quite high. A year such as this will give the lake a stagnated sewage appearance, which now exists in some of the east shoreline areas (westerly winds have piled up decaying vegetation on the east shore, see remarks on water levels).

Diving Ducks

It was not until Mid-June when the aquatic vegetation, which mainly consists of Reed Canary Grass, Long Stem Bullrush and Cattails had reached a growth point. This would provide sufficient cover for reed nesters such as Lesser and Greater Scaup, Horned Grebe, Coots and Black Terns.

The Diving species of Scaup and Horned Grebe count for 75% of the resident Waterfowl population at Cecil Lake. The Scaup (lesser and greater) had choosen nest sights in the immediate shoreline vicinities around the lake. These nests bare between seven to ten eggs and are usually within twenty yards of the water. owever, we have found some nesting exceptions which have ranged up to three hundred yards from the lake (these long distance nest have all been lesser Scaup). There are approximately two thousand five hundred Horned Grebe that reside on the lake. Our first brood observations at the lake were Horned Grebes which had second to third class ducklings in there brood. From these observations, which took place in early July, we can conclude that the first Grebe nesting took place in very late May to Early June.

Ruddy Duck

The male Ruddy Duck has to be the finest entertainment a marsh can provide. We were continually amazed by the never ending performance of these birds. Mating displays, territory aggression and what we describe as meaningless night water dancing, were only a few of the comical performances the numerous resident Ruddy Ducks.

We noted many other odd behaviour patterns that the Ruddys did quite consistantly;

A) Females would lay their eggs in other birds nest (especially scaup nests).

B) They would lay their eggs in other Ruddy nests (we recorded one nest with 25 Ruddy eggs in it).

C) The nests were constructed very poorly and we found some nests where the bottom eggs in the nest were completely submerged in the water.

D) Although we estimate that there must be in the neighbourhood of 50-200 Ruddy's at Cecil Lake, we could only find and record 1 brood of 6. This figure does not justify the numbers of adults we saw. We feel that the lack of broods is due to the irratic nesting behavior of female Ruddy's.

Scaup

It is very difficult to get a true estimate of the total number of greater and lesser scaup that reside at Cecil Lake. We believe that there is an excess of two thousand scaup that reside at the lake. The males of this species congregate

mainly at the north end of the lake in flocks ranging in size from ten to over one hundred. We have observed many of these flocks leaving the lake at night, (presumably to feed), however, the daytime is spent loafing on the lake.

We have found many scaup nesting at various locations around the lake. The prime nesting area is in the far north portion of the lake which we call the north marsh.

There we found one nesting colony of approximately two acres in size, supporting approximately fifty to one hundred female scaup. The eastern shores of Nicholsons Marsh and the south west strip of Cecils Pit have also proved to be desirable nesting areas for scaup.

Throughout the study we have made many interesting observations concerning the nesting sucess of scaup. Scaup are not very particular in choosing there nest sights. Many will choose very exposed areas in open fields and shoreline areas. These poor choices of nest sights often resulted in heavy nest predation. Nearly all the nests that we found destroyed by preditors were scaup. In addition to these findings we discovered that scaup would not leave the nest when danger was near. On several occasions project members had almost stepped on scaup nests before the hen would leave. We also noted that scaup would often desert their nests when frightened in this manner. These observations are also supported by the following facts:

A) We found over fifty scaup nests with broken eggs.

B) We discovered an additional fifteen dismantled nests which had dead female scaup on or near them.

Scaup con't

It is difficult to summerize our observations of scaup. However, we can point out that over two thousand scaup are spring and summer residents of Cecil Lake. We also feel that scaup nesting is not as successful as other waterfowl species that use Cecil Lake, therefore Cecil Lake is probably only a marginal nesting area for scaup.

Horned Grebes

I think this should be Eared Grebes

Cecil Lake is an ideal nesting ground for small diving ducks. During our first observations we were greatly impressed by the large numbers of Horned Grebe that resided there. From almost any vantage point on the lake, an observer could almost always immediately see a t least 50 of these birds. As our study progressed into mid - July, we noticed a steady appearance of more and more hens with 1 or 2 (sometimes 3) first class ducklings. Until this time we had found only a few Grebe nests. Puzzled by the rapid increase in the Grebe population, we began an intensive search for nests in the Nicholson's Marsh area. Wechose this area because the greatest concentrations of Grebe were there.

It did not take long before we noticed Horned Grebe puoring out of the dense Reed Canary Grass. Taking a closer look at this phenomina, we noticed many Grebe pulling up weeds on clumps of Reed Canary Grass. Then by a freak accident a canoe paddle brushed the top of one of those weed piles and exposed 3 small, spotted, well camaflaged eggs. We then examined many other clumps with the same results: 2 - 3 eggs in nearly every nest.

The unique feature of this discovery is that there were in excess of 500 nests, compacted into an area of less than 1 acre. The nests themselves were spaced at an average distance of 4 - 8 feet apart. Truly what could be classified as an important and successful nesting colony. We found no other colonies of this size in the entire lake, although there were

Horned Grebes con't

a number of marsh areas that were quite similar in setting, which could mean that the Horned Grebe are highly selective in chosing a nesting groung. Nevertheless we can safely say that Cecil Lake is extremely valuable as a nesting ground for Horned Grebe, as the lake supports a Horned Grebe population in excess of 3,000 individuals.

Blue-Winged Teal

Blue-Winged Teal are the most abundant teal species that inhabitant Cecil Lake. We found that most of the Blue-Wings preferred to feed and loaf in the shallows of the immediate shoreline areas.

The majority of the Blue-Wings we recorded had to be flushed from the dense Reed Canary Grass growths that engulfs the shallow water. This reclusive behaviour was typical for nearly all the teal we observed, thus making it quite difficult to get an accurate estimation of the Blue-Winged Teal population on Cecil Lake. It is our judgement that there are over 200 resident Blue-Wings.

In addition to the difficulties we incountered in observing parent teal, it is and was even more difficult to get an accurate census of offspring numbers. During the 6 weeks of our study we saw only 5 broods of Blue-Winged Teal.

Pintails

Pintail are slightly less in number than are Mallards. It is our theory that Pintails, like Mallards, were affected by the early high water and not many nested at the lake. At a later date this fall a report will be made in conjunction with this study to determine the resident Pintail population.

Widgeons

American Widgeon have had a fair degree of nesting success at Cecil Lake. We have seen several large broods at the north end of the lake. We found that all of these broods were accompanied by one hen which in every case was extremely protective of her young. They would try numerous ways to lead us away from their ducklings.

Like other young ducks that inhabited the lake, the Widgeon duckling grew extremely rapidly, which emphasizes the abundant food supply on the lake.

Coots

It is almost impossible to estimate the number of Coots that reside at Cecil Lake. It seems as though every patch of grass holds over 20 of these birds and this figure is probably a great underestimation.

The behaviour of Coots is very difficult to observe. They nearly always recline to dense cover throughout the day , but will expose themselves sometimes from sunset to sunrise. Coots are the nosiest birds of the marsh. They appear to be

Coots con't

very territory conscious, continually calling out as they paddle through the reeds. We observed several acts of agg - ression by Coots, both against those of the same as well as other species of ducks.

We observed many successful Coot hatchings throughout the lake. Most of their nests were well constructed of Reed Canary Grass, and were easy to find. The protective instinct in coots is somewhat different than most waterfowl species. If we surprised a Coot with her brood (Coot broods usually ranged from 3 - 5 in number) she would take right off and leave her young to fend for themselves. She would return later and try to find them. We found many apparently deserted Coot young throughout the study. Their young are usually very poor divers and could be easily approached. They would be probably be very easy prey to predators. We estimate that there are well over 1500 Coots residing at Cecil Lake.

Pied - Billed Grebes

Resembling the behaviour of Coots, the Pie - Billed Grebes usually took refuge in the dense vegetation of the shoreline. We were unable to get an accurate estimation of their numbers because of thier timid behaviour. We saw only 3 broods of Pie - Bills, one of 3 and two broods of 4. If we were to give any estimation of the resident Pie - Billed Grebe population at Cecil Lake, it would have to be one of audio recordings, as sightings were few. We estimate that the is in excess of 100 Pie - Billed Grebe that reside at Cecil Lake.

Shovellers

We made many early July sightings of Shovellers. Most of these sightings were of males, loafing and feeding in groups of more than 10. Thus far we have only discovered 3 Shoveller broods. Our estimation of residential Shoveller is in excess of 300 which definately does not coinside with the lack of Shoveller broods on the lake. We are unable to explain this situation.

White Wing Scoters

There are approximately 100 White Wing Scoter residents of Cecil Lake. We first noted these large deep sea birds in a small pond which is part of Cecil's Pit. There were 50 - 60 (feeding and loafing) most of which were males. We have since seen W. W. Scoters in flocks of up to 19 at various points around the lake. However most of these sightings have been at the north end of the lake where water depths are greater. On several occasions we attempted to follow flying females to find their nests, but were unsuccessful in this task. W. W. Scoter broods were limited. We have seen only 3 broods, for a total of 33 young. The growth of the Scoter young is very rapid. There is a very abundant supply of food in the floating - leaf zone, that probably coinsides with the rapid growth of most waterfowl young on Cecil Lake.

On many recent observations of W. W. Scoter young there has been no parents present. One was made of 3 II nd class Scoters in a group with no parent birds in the vicinity.

White Wing Scoters con't

Yet another sighting was made of 1 female with 25 II class young. Cecil Lake is probably a marginal nesting area for Scoters. Their nest area preferance is Charlie Lake (8 flight miles from Cecil Lake) which is much larger and deeper.

Buffleheads

There are not many Bufflehead at Cecil Lake. A total of 30 Bufflehead have been seen at the lake, three fourths of these were males. Our records show that we have only recorded one brood which was of 6.

Cecil Lake is an ideal habitat for Bufflehead. The only explanation for the low numbers has to be that there are very few rotten trees in this area; most of which are not suitable nest sights for Bufflehead.

Mallards

It is quite surprising that the Mallard population of Cecil Lake is not much over 200. We can only attribute this situation to the fact that the spring high water levels covered many of the areas that Mallard prefer to nest in. We also noted that there were a great number of Mallard nesting in sloughs, ditches and potholes near the lake. These birds will probably use the lake during late August to September, when flocking occurs. Early morning sound recordings support our theory that most of the Mallards leave the lake during the day, thus low counts. Hunter reports over the past three years indicate a far greater number of Mallards at the lake than our study

Geese and Swans

On July 2 we saw 12 Canada Geese flying North to South off Cecil Lake. Since that point in time we have not seen any geese either nesting, loafing or feeding at Cecil Lake. We cannot understand why geese do not prefer to nest at the lake as there are many good goose nesting regions around the lake.

Throughout this study we have only seen one loan swan. It was sighted only twice in the period of our study, once on July 2 and once on Aug. 2.

Other Waterfowl Sightings

Cecil Lake is a santuary for many species of waterfowl. The most abundant non duck bird species that nests at the lake is the Black Tern. At almost any place on the lake you can see hundreds of terns swooping and diving to pick insects out of the water. It was impossible to count the many congregations of terns. We estimate their numbers to be in excess of 2000.

As parents the Black Terns were very protective of their nests and eggs. If a nest or young was being threatened (from a terns point of view) one to as many as ten adults would attack, and harass the apparent danger. If a person was unfortunate enough to pass into a tern colony, he was quickly dive-bombed by hoards of adult terns.

Red and Yellow Winged Blackbirds take to Cecil Lake extremely well. The dense growth of Reed Canary Grass and Cattails provides very good nest cover for both blackbird species. They could be found at any marsh area on the lake and their numbers were in the hundreds.

There are a number of places around the shoreline of Cecil Lake where mud instead of grass or bush exists. These areas were always crowded with many species of shorebirds. Among them there were greater and lesser yellowlegs, dowitchers, sandpipers, snipe, kildeers, sora rails and plovers.

The environment of Cecil Lake encourages a vatiety of non waterfowl bird species. The following is a list of bird s

Non Waterfowl Sightings Con't

that we observed in the immediate area of Cecil Lake:

1.) Cedar Waxwings

2.) Ruffed Grouse

3.) Sharptail Grouse

4.) Common Magpie

5.) Common Crow

6.) Common Raven

7.) Golden Eagle

8.) Marsh Hawk

9.) Goshawk

10.) Black Billed Magpie

11.) Wilsons Warbler

12.) Prairie Warbler

13.)Robins

14.) Marsh Wren (short billed)

15.) Barn Swallow

16.) Rough Winged Swallow

17.) Hairy,Pileated,andDowny Woodpeckers

18.) Yellow Shafted Flicker

Nesting

This spring has been dominated by much heavy rainfall. During the spring months of March and April the majority of the waterfowl nesting population arrived at Cecil Lake. At this time the predominated species mainly consisted of Puddle Ducks (Mallard, Pintail, Widgeon, Gadwall and Teal).

During March the earliest arrivals were forced to take to much small r bodies of water in the areas surrounding Cecil Lake; as the lake remained frozen until the end of March. When break-up finally took place in mid-april, high water apparently discouraged an great amount of shoreline nesting. We state these hypothesis on the bases of two major observations:

1) There were very few second to third class Puddle Duck species sighted on Cecil Lake up to July 17.

2) Most of our sightings of second to third class ducklings (of the Puddle Duck species) have been in small sloughs, drainage ditches, run-off creeks and swamps that are in compass of the Cecil Lake area. (90% of these sightings were late second to third class Mallard, previous to July 17).

Early Puddle Duck arrivals, which include Blue-Wing Teal, Shoveler and Mallard, have begun to nest in the fields surrounding the lake, however much of these nestings, which took place in late April to May, was interupted by burning and plowing of fields. It is believed that many of these early nesters have renested as we have found a number of brooding hens on nests in fields that were previously plowed.

In its present state of high water, Cecil Lake is most encouraging to Diving Ducks. More specifically Cecil Lake is a perfect habitant for birds that build floating nests. Eg. Horned Grebe, Coot, Black Tern, Pied-Billed Grebe, Ruddy Duck and Lesser Scaup. The results of this study point out the importance of Cecil Lake as a nesting ground for Waterfowl.

In comparison to other lakes in the Peace River Region, Cecil Lake should be rated as a prime Waterfowl nesting site. Cecil Lake is a unique area in that it fits all requirements for Waterfowl nesting:

A) Plenty of Water
B) Extremely good nest cover
C) Abundant food supply
D) Good loafing areas
E) Sufficient territory for thousands of birds

Predation

During our early nest observations, we saw many broken eggs around nest sightes. These broken eggs appeared to have been broken through circumstances other than hatching. Many of these eggs had a notably small opening which would not provide sufficient area for hatching ducklings to pass through.

We observed that the majority of these eggs had been broken inward and in some cases such things as yolk and circulatory lihes (blood lines) still remained within the egg. In the area of Cecil Lake there are many preditors that could produce such damage. For example, there are many crows and magpies. These birds have been known to predate on duck eggs. On several occasions we saw crows harassing female ducks and on two occasions we saw crows eating eggs from scaup nests. There are a fair number of coyotes, bears and foxes in this area. The following notes are a condensation of our observations of these preditors:

Coyotes- Droppings have been found beside three nests. Eggs in the nests were crushed. One nest had remains of blood and feathers scattered around it. On the east side of the lake several sightings of coyotes in fields have been made.

Bears- Four nests were found completely dismantled with the eggs crushed and partially eaten. Bear prints were found around the nest sights. There were many sights of bears operating ar ound the lake, examples, droppings

diggings, ripped up ant hills and bear hair on barbed wire fences. We made no sightings of bears throughout the course of this study, however, four farmers in this area have reported seeing bears dismanteling duck nests.

Foxes - Two foxes were observed on the east side of the lake near scaup nest sights. Two days after these sightings three scaup nests were found destroyed in this area.

We have found little evidence of nest destruction by these preditors, however, our strongest theory is that most of the nest damage is being done by weasels. Although we have not seen any weasels in this study area, they are quite common throughout the Peace River Region. It is our belief that weasels are responsible for much of the nest damage that we have recorded. We have listed the following evidence to support this theory:

A) Many female birds have been found dead either on or beside their nests with most of there bodies intact with little body mutilation (this would probably eliminate coyotes, bears and foxes). This evidence is the strongest support of the weasels being the major cause of distruction.

B) The opening in the destroyed eggs are quite small (such a hole could only be made by weasels, crows, magpies and other small preditors, as the hole size is not large enough for a hatching chick).

C) Most of these hen killings must have taken place after dark as we have not seen any duck killings.

D) We have observed many crows in the area and have only recorded two attacks on nests, however in doing so the crows only drove off the hen and didn't make any attempt to kill her. The crows were only interested in scaring the hen off the nest so they could get at the eggs.

Although we suspect some brood predation, there has been very limited marsh hawk activity on the lake and to date we have not seen any hawk predation on broods. Likewise, we have not observed any killings of ducklings by crows and other winged preditors. With the majority of birds we observed, most were seen in the protective cover of the dense growths of vegetation, eg. Long Stem Bullrush stands, Reed Canary Grass stands, thus limiting any great exposure to preditors. The only birds that we observed with young in open water areas and under age of two weeks, were Horned Grebe. For protection these birds rely on there diving ability and on several occasions we observed one and two day old ducklings diving for over thirty seconds.

BIRD COUNT TOTALS

for 2/7/73 - 2/8/73

Species	# of Adults	# of Young	Total
1. Blackduck	3	0	3
2. Blue Wing Teal	441	16	457
3. Bufflehead	45	6	51
4. Cinnamon Teal	3	1	4
5. Coot	590	293	883
6. Gadwall	82	8	90
7. C.Geese	I2	0	I2
8. H.Grebe	23I4	793	3I07
9. P.B.Grebe	I20	35	I55
10. G.W.Teal	I8	0	I8
11. Mallard	637	47	684
12. Pintail	I67	22	I89
13. Redhead	2	0	2
14. Ruddy Duck	I64	6	I70
15. Scaup	2702	64	2766
16. Shoveler	299	44	343
17. Swans	I	0	I
18. W.W.Scoter	I20	58	I78
19. Widgeon	5I6	64	580
20. Unidentified	657	93	750
Totals	8,893	I,548	I0,443

Broods

Throughout our study we have observed a large number of waterfowl broods. In the past 6 weeks we have seen and estimated that there are approximately 142 successful broods on this lake. This number broken down into the various species which amounts to:

1) Mallard 4
2) Pintail 1
3) B.W.Teal 2
4) Widgeon 8
5) Gadwall 0
6) Ruddy Duck 4
7) Scaup 12
8) H. Grebe 65
9) W.W.Scoter 4
10) Coots 42
11) Shoveler 7
12) Bufflehead 2
13) Cinnamon Teal 1

Brood Sightings

Date	Location	Species	# in brood
July 2	Far east side	Scaup	4
July 3	North end	Scaup	10
	" "	Bufflehead	3
	" "	Bufflehead	3
	" "	Coot	2
	West side	Ruddy Duck	3
	" "	Scaup	3
	" "	Cinnamon Teal	1
	" "	Coot	1
July 4	West side	H. Grebe	2
	" "	H. Grebe	3
	" "	H. Grebe	1
	" "	Scaup	2 x 1
	" "	H. Grebe	3 x 2
	" "	H. Grebe	3
	East side	Scaup	3
	" "	Scaup	4
	" "	Coot	3
	" "	H. Grebe	1
	Nicholson's Marsh	Coot	3
	" " " "	Scaup	2
	" " " "	Coot	3
	" " " "	H. Grebe	3
	Southwest corner	Scaup	2 x 2
	" " " "	H. Grebe	2 x 2
	" " " "	Coot	1
	" " " "	Coot	3

Along West side	H. Grebe	25 x 1
" "	H. Grebe	2
Northwest shore	H. Grebe	99 x 1
" "	H. Grebe	10 x 2
" "	H. Grebe	30 x 2
" "	H. Grebe	5
" "	H. Grebe	4
East side of N.W.Arm	Coot	2
" " " "	Widgeon	9
North Marsh	Shoveler	12
" "	Coot	2
" "	H. Grebe	3
" "	Coot	2
" "	H. Grebe	3
Cecil's Pit	H. Grebe	1
" "	Coot	2 x 1
" "	Mallard	8
Nicholson's Marsh	Coot	3
" " " "	H. Grebe	1
" " " "	Coot	2 x 1
North Marsh	Coot	2
" "	B. W. Teal	4
" "	Widgeon	2 x 5
" "	Widgeon	18
" "	Widgeon	4
" "	H. Grebe	27 x 1
" "	Widgeon	1
" "	H. Grebe	3
" "	H. Grebe	5 x 2
July 18 N.E.end of lake	H. Grebe	4

July 9	North side	H. Grebe	1
	Northwest area	H. Grebe	3
	" "	Grebe	2 x 3
	" "	Grebe	2 x 2
	" "	Grebe	3
	" "	Grebe	1
	" "	Coot	1
	" "	Grebe	1
	Cecil's Pit	Grebe	1
	" "	H. Grebe	2
	Nicholson's Marsh	H. Grebe	1
	" " " "	Coot	3
	" " " "	Coot	4
	" " " "	Coot	1
	" " " "	Coot	3
July 10	Nicholson's Point	Coot	1
July 12	South end	W. W. Scoter	7
	Cecil's Pit	Scaup	2
	" "	H. Grebe	2 x 2
	" "	H. Grebe	4
	" "	H. Grebe	1
	South end	Grebe	1
July 16	Cecil's Pit	Ruddy Duck	1
	Camp entrance	B. W. Teal	7
	" "	B. W. Teal	8
	" "	H. Grebe	2
	" "	H. Grebe	2 x 1
	Notheast Arm	Ruddy Duck	2
July 17	Cecil's Pit	Grebe	7 x 1
	Along West side	H. Grebe	11 x 1

	Northeast end	Coot	4
	" "	Coot	3
	" "	H. Grebe	1
	" "	Coot	2
	" "	Shovelers	12
	" "	Shoveler	1
	" "	Coot	4
	Nicholson's Marsh	Shoveler	1
	" "	H. Grebe	1
	" "	Shoveler	4
	Cecil's Pit	Coot	2
	Nicholson's Marsh	Coot	2
	" "	Coot	5
	" "	Coot	1
	" "	Coot	1
	" "	?	6
	" "	H. Grebe	1
July 23	Cecil's Pit	H. Grebe	1
	" "	Grebe	2
	East side Tower	Coot	3
	North east end	Coot	1
	Nicholson's Marsh	Coot	4
	" "	Coot	2
	" "	Coot	1
	" "	Coot	5
	" "	Grebe	1
	" "	Coot	1
	" "	Mallard	1
	Cecil's Pit	Shoveler	6

	Cecil's Pit	Grebe	4
	" "	Grebe	1
July 25	Southern Marsh	Ruddy Duck	1
	" "	Grebe	4
	South end	Coot	4
	" "	Grebe	5
	" "	Coot	3
	West side of North end	H. Grebe	3
	" "	H. Grebe	5
	" "	H.gGrebe	50
	" "	Grebe	6
	South end	Grebe	50 x 2
	" "	Coot	4
	" "	H. Grebe	5
	" "	Coot	1
	" "	Coot	2
	" "	H. Grebe	1
	" "	H. Grebe	4
	" "	H. Grebe	2
	Northeast Arm	Mallard	2
	" "	Grebe	2
July 30	Southern end	Mallard	6
	" "	Grebe	1
	" "	Grebe	6
	Northern end	Scaup	3
	" "	?	2
	" "	Grebe	1
	" "	Widgeon	9
	" "	?	4
	" "	Widgeon	5

Broken Egg Findings

July 2, 1973

# of eggs	Type	Location
4	Scaup	Far east side
5	Scaup	" "
1	Scaup	" "
5	Scaup	" " In feild
8	Scaup	" " "
1	Scaup	" " "
1	Scaup	" " "
1	Scaup	" " "
1	Scaup	" " "
1	Coot	" " "

July 3, 1973

# of eggs	Type	Location
1	Scaup	Cecil's Pit (on shoreline)
1	Scaup	" " " "
3	Scaup	" " " "
1	Mallard	" " " "
7	Scaup	" " " "
1	Scaup	" " " "
12	Scaup	" " " "

July 10, 1973

# of eggs	Type	Location
8	Scaup	Nicholson's Marsh
6	Scaup	" " "
7	Scaup	" " "

	Northern end	W. W. Scoter	40
	" "	W.W. Scoter	1
	Southern end	Scaup	3
	" "	Coot	2
July 31	Southern end	Scaup	3
	" "	Pintail	1
	" "	Shoveler	6
	" "	Widgeon	7
August1	Tower (east side)	W. W. Scoter	12
August 2	Tower (east side)	Grebe	5
	" "	Scaup	9

Nest Sightings

July 2, 1973

Location	Type of Nest	# of eggs in Nest
Far east side	Tern	3 eggs
" "	Scaup	11 eggs
" "	Scaup	6 eggs
" "	Scaup	4 eggs
South end	B. W. Teal	3 eggs
" "	B. W. Teal	3 eggs
" "	Tern	4 eggs
" "	Scaup	9 eggs
" "	Coot	3 eggs

July 9, 1973

Location	Type of Nest	# of Eggs in Nest
Cecil's Pit	Ruddy Duck	12 eggs
" "	?	4 eggs
" "	Coot	4 eggs
Southwest part of Nicholson's Marsh	Scaup	7 eggs
" "	Coot	3 eggs
" "	Scaup	1 egg
" "	Scaup	1 egg
" "	Scaup	6 eggs

July 10, 1973

Location	Type of Nest	# of eggs in Nest
Nicholson's Marsh	Scaup	8 eggs
" " " "	Scaup	16 eggs
Nicholson's Point	Scaup	10 eggs

Birds Found Dead

Date	Class	# of birds	Type	Location
July 2, 1973	A.	1	Scaup	Far east side
July 2, 1973	A.	2	Scaup	" "
July 2, 1973	A.	4	Scaup	" "
July 2, 1973	I	1	Coot	" "
July 2, 1973	A.	1	Marsh Hawk	" "
July 3, 1973	I	1	?	Cecil's Pit
July 9, 1973	II	1	Coot	N.W. Corner
July 9, 1973	A.♀	1	Scaup	Nicholson's Marsh
July 10, 1973	A.	2	Scaup	" "
July 10, 1973	A.♀	2	Scaup	Nicholson's Point
July 17, 1973	A.	1	Coot	North Marsh
July 18, 1973	II	1	Shoveler	Nicholson's Marsh
July 31, 1973	A.	1	Teal	Tower at Nicholson's Marsh

7	Scaup	Nicholson's Marsh
10	Scaup	" " "

July 16, 1973

# of eggs	Type	Location
7	Scaup	Southwest corner of lake
8	Scaup	Feild behind camp

July 17, 1973

# of eggs	Type	Location
2	Scaup	Yellow feild in north corner
5	Teal	" " " "

July 31, 1973

# of eggs	Type	Location
3	Ruddy Duck	Cecil's Pit

July 12, 1973

Location	Type of Nest	# of eggs in nest
Cecil's Pit	B. W. Teal	6 eggs
" "	Scaup	3 eggs
" "	Scaup	1 egg

July 16, 1973

Location	Type of Nest	# of eggs in nest
South west corner	Scaup	13 eggs
" " "	Scaup	7 eggs
" " "	Scaup	12 eggs
" " "	Scaup	5 eggs
Feild behind camp	Scaup	7 eggs
Camp entrance	Scaup	7 eggs
" "	Scaup	9 eggs
Northeast arm	Coot	4 eggs

July 17, 1973

Location	Type of Nest	# of eggs in nest
North Marsh	?	15 eggs

July 25, 1973

Location	Type of nest	# of eggs in nest
South end	Ruddy Duck	7 eggs

July 30, 1973

Location	Type of Nest	# of eggs in nest
Cecil's Pit	Scaup	6 eggs

July 31, 1973

Cecil's Pit	Ruddy Duck	16 eggs

Synopsis

For many years I have sat in the quite serenity of this beautiful setting. Recently however, my nerves have been near their limits end, for I feel I am close to the point of human insanity. The steady encroachment of man has already altered my life. I don't mind the fall duck hunting and winter drag rases but the beer and pop bottles turn me right off. And all that talk of draining for haying, and drilling for oil from polluted human minds.

I am quite happy as I am, I love my bugs, weeds and swampy algae. The ducks and geese, and other wildfowl are my friends. My muskrats like the occasional visit by a moose, even though their visits are becoming few and far between.

I can forsee the day of my disappearance but most men will not see or feel the loss. I can't understand why men ignorantly destroy the precious places they treasure in the mame of progress. Its my last desperate hope that my fifteen friends can emphasis my feelings so that other humans might understand the value of saving my life. I cannot talk so I must emphasis my feelings. Try to understand my thoughts, then leave me be. Believe in me, and we can be happy together.

Signed,

Cecil Lake