

## Loon Observations Lake Sagatagan 2010

Date	Time	Weather	Activity
9/9/10	7:15-8:30 a.m.	50°F partly cloudy, SE wind 5-10 mph	Row team was practicing. Male diving west of granite bench, moving south, dives lasting as long as 60-90 seconds. At 7:30, he was north of the chapel, making rapid hairpin turns just below the surface of the water. Once he surfaced and seemed to ingest something small. He stopped these surface dives at about 7:45 and began preening, primarily oil extraction, concluding with a wing stretch. The molt (graying) begins just above his eye and goes below his chin. His black neck band is still visible. I was drifting quietly by him and when I turned to paddle away, he wailed twice, two-note wails. I surveyed the rest of the lake and did not find any other loons.
9/7/10	8:00-8:15 a.m.	50°F windy overcast	Male diving (60-90 seconds) north and west of granite bench and south of beach.
9/6/10	8:00-8:45 a.m.	55°F sunny, calm	Chick diving for up to 90 seconds in the main body of the lake. Male drifting in Boniface Bay. The molt (graying) is up to his ear level just below the eye.
9/1/10	7:30-8:00 a.m.	55°F sunny, calm (<5 mph) north wind	The male was drifting and dozing northern midlake (just east of a midpoint line between the granite bench and the kayak launch site. Antenna was upright. There was no sign of the female or the chick in Boniface Bay or the main body of the lake.
8/29/10	4:00-5:30 p.m.	88°F 15-20 mph south wind, humid, partly cloudy	Only saw male in eaglet inlet (Boniface Bay east of the chapel), preening and foot waggling. His right silver band had a slight orange hue.
8/25/10	7:00-8:00 a.m.	55°F, west wind 5 mph	Initially the female and the chick were diving in the north part of the lake (closer to the beach) and moved west and then south. The chick occasionally dove for up to 15 seconds, but mostly stayed on the surface and preened. When the female surfaced, the chick swam to her and circled her closely with its beak pointing toward her. The female was starting to molt under the chin. The male was south of the chapel and east of the north island. The antenna was vertical.
8/14/10	7:35-8:00 a.m.	56°F, sunny, calm wind (<5 mph south)	The male was by the south island, the antenna was tipped to the right (~30° angle from surface of water to its insertion point) and although pointing downward was not in the water. The female and the chick were in Boniface Bay by the rock pile. As I approached the female made a long hoot/monotone wail and then wailed. The chick joined her and the swam southwest. The chick made repeatedly 10 second dives along the way. There were airborne tremolos and a loon flew, circling the lake then went west. I heard another tremolo from the west after the loon flew that direction.

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8/12/10	6:30-7:45 a.m.	67°F partly cloudy, misty, glassy calm	The male was in the middle of the lake, east of the public canoe landing. As I approached, he moved to Ignatius Bay where he preened with head rubs. The female was feeding the chick near the granite bench (at the entrance to Boniface Bay). She tremoloed and she and the chick moved south toward the chapel. At 7:37, the male was diving near the chapel.
8/11/10	7:00-8:10 a.m.	73°F, low clouds, fog, southeast wind 5 mph	The female was in the middle of the lake, east of the public access canoe launch. She passed within 15 meters of me, hooted, and only tremoloed when I used a hand visible to her to turn the kayak. (When I used the hand not visible to her, she ignored the slow rotation of the kayak.) The male was feeding the chick starting in Ignatius Bay and traveling south to the beach. The chick would occasionally dive with the male. The male hooted once when the chick was underwater. When not diving the chick peered or looked around and dove to meet the male if the male surfaced farther away from them. The male seemed to follow a fisherman's canoe into shore just north of the island and then returned midlake feeding the chick.
8/10/10	7:30-8:00 a.m.	South 10 mph wind	Only saw the male by the chapel on my usual rounds around the lake, checked all the usual places for female and chick and did not see them. His antenna is still tipped to the side
8/8/10	7:30-9:15 a.m.	71°F glassy calm, humid	Initially, one parent and the chick were in the middle of the main body of the lake. Later the female was drifting approximately 1000 meters north of the last boardwalk before the chapel. She repeatedly waggled her feet and at the conclusion of foot waggling seemed to tuck her feet under her wings. 
8/5/10	11:45 a.m.-1:00 p.m.	~75°F initially 5-10 mph north wind shifting to NW and increasing speed, partly cloudy	Initially the male was between the chapel and the island. He wailed several times, 3-note wails with an especially squeaky high note. He continued to wail as an adult bald eagle flew and vocalized overhead. The eagle spiraled down and landed in a tree on the island. The male stayed nearby and continued. The female and chick were diving in the middle of the main body of the lake.

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			 <p><b>Figure 1. Sagatagan male 8-5-10</b></p>
7/28/10	1:00-1:40 p.m.	70°F Sunny NW wind 10-15 mph	<p>One parent was in Boniface Bay, peering briefly, swimming NW toward the chapel and diving. I think it was the male. Later, I saw the female near the islands with her head held high and tipped slightly upward, looking around. (The water was choppy.) The male joined her and both made splashy simultaneous dives. The chick also appeared and all dove, up to 45 seconds. The parents fed the chick; once the chick was diving when the female surfaced with food. The female hooted twice and when the chick surfaced he swam quickly to the female. The male took a break from feeding for a while but also hooted (3 times) when it surfaced with food for the chick and the chick was still diving.</p>
7/27/10	5:00-7:23 a.m.	~70°F humid, stormy weather moving in from the north.	<p>At 5:45 a.m. there were wails from "eaglet inlet"—one parent and chick were there. There were also 2-note wails from Ignatius Bay at about 6:00 a.m. At 6:30 both parents and the chick were half-way between the chapel and the granite benches on the north shore (east of the swimming beach). While one parent swam west into the main body of the lake, the chick returned to "eaglet inlet." At 6:56, a loon (not the male) lands in Ignatius bay and began diving. It gave a 2-note wail. Shortly after that a loon flew south over Ignatius Bay—its take off point was middle of the main body of the lake. At 7:26, I saw the male and the chick near the location I saw them at 6:30.</p>
7/26/10	8:26 -9:17 p.m.	77°F clear SW wind 5 mph	<p>Initially the female led the chick southeast toward the chapel; the chick lagged by 5-10 meters. The female and chick occasionally dove and preened. The male lagged behind until about 8:31 when it passed the chick moving west, while the female swam into the inlet immediately east of the chapel, "eaglet inlet." The male continued east and was closer to the marshy area east of the female's inlet. The male watched as a large group of high schoolers noisily walked to the chapel. At 8:40, the chick was even farther east. At 9:10 the male was in the middle of Ignatius Bay swimming on the west side toward the chapel.</p>
7/25/10	1:30-2:30 p.m.	80°F Sunny south wind 10-15 mph	<p>Checking angle of satellite antenna on male loon, found in Ignatius Bay. Female and chick in Boniface Bay.</p>

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7/24/10	6:30-8:30 a.m.	61°F, calm NW wind (~ 5 mph) sunny with clouds moving in from NW	<p>Initially the parents and the chick were in the main body of the lake in about 10 meters of water. Both parents were diving and feeding the chick minnows. Sometimes the parents dropped the fish in the water just in front of the chick; sometimes the chick took it from their beak. The chick sometimes peered and occasionally dove. After about 10 minutes of feeding the male loon started to swim west, away from the female and the chick. However when I drifted too close to the chick the female tremoloed and dove away from the chick toward the male. She continued to tremolo and he joined in a few times while I back-paddled away. After I was far enough away the alarm ended and both parents joined the chick in Boniface Bay swimming SE away from me.</p> <ul style="list-style-type: none"> <li>• At 7:09, I saw that the female followed by the chick were now swimming west again, out of the bay. The male was not in sight but later I learned it had moved to Ignatius Bay.</li> <li>• At 7:21, the female with the chick following it wailed.</li> <li>• I saw the male at 7:28 drifting in Ignatius Bay, but he dove at my appearance.</li> <li>• At both 7:21 and 7:35 I saw one loon flying north over the lake and I heard an in-flight tremolo at 7:38.</li> <li>• At 7:40, the male was doing right and left foot waggles and approaching the islands.</li> <li>• At 7:45, he turned east and swam toward the chapel and then wailed (a 2-note wail) three times, followed by lower pitch tremolos and then higher pitch tremolos. I later saw that a canoe was in eaglet inlet (about 250 meters to the east of the male).</li> <li>• At 7:49, the male had moved about 80 meters east (toward the canoe in eaglet inlet) and twice stretched his wings horizontally and then reared up with outstretched wings.</li> <li>• At 7:59 two intruder loons flew in from the south and landed on the east side of the main body of the lake, about 300 meters north of where I had last seen the male. Two minutes later, I could see that the male had joined them and the three circled, peered and dove splashily for about a minute. Then all three swam in a southerly direction. I was too far too far away to tell who was who (~500 meters away).</li> <li>• At 8:04 one loon made a running start and flew north.</li> </ul>

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			<p>The remaining loons (the Sag male and one intruder) reared with outstretched wings. I think that the Sag male did it first, followed by the intruder.</p> <ul style="list-style-type: none"> <li>• At 8:09, the second intruder loon made a running start and flew north. I heard a two 2-note wails followed by a monotone wail coming from the Beach Bay.</li> <li>• At 8:10 there were two 3-note wails coming from Beach Bay. As I kayaked to Boniface Bay, I saw the female and chick in the Beach Bay. The male was swimming east into Boniface Bay.</li> <li>• At 8:20 the male wailed twice, each was a 2-note wail.</li> </ul>
7/22/10	8:20-10:10 a.m.	71°F overcast SE wind 5-10 mph	<p>Initially the male loon was swimming and diving west of the chapel and east of the islands. I couldn't see the female or the chick but then I heard a three-toned wail. With that I located the female approximately three hundred meters to the east of the male. The female loon was swimming into Boniface bay. The loon chick which was approximately another 150 meters to the east was swimming toward her. The female and chick met and soon after the female began feeding the chick in a deeper area of the bay. The female and chick stayed together for most of the time that I watched them. Often the chick would circle the female either peering or flipping water with its beak. On two occasions the female stretched her head low over the water and partially submerged as though she was aware of some potential danger that was not in my line of view. On one of these occasions, she and the chick dove for 25 seconds. The only other calls I heard were hoots when the male later joined the female. When they met, both the male and female dove splashily several times. When I left them the loon parents were near one another preening with head rubs and side rolls and the chick was not visible from my location.</p> <p>I collected bone and cartilage within a radius of 3 meters of the eagle's nest tree. One furcula, several bird pelvis and one femur and striated brown feathers were found along with many fish jaws. The tree in which the eagles were nesting was a white pine with a DBH of approximately 62 cm. I saw one eaglet.</p>
7/21/10	7:00-8:15 a.m.	65°F calm NW wind, mostly sunny	When I first arrived there was no sign of any loons. When I was investigating Boniface Bay, I saw a loon flying in from the south. It was the Sagatagan male and he landed about 10-15 meters from me. He seemed to ignore me (I was motionless in the kayak) and hooted five times. Seven minutes later, two loons flew into the same area from the east. I was pretty sure one was the Sagatagan female and she seemed slightly larger than the presumed intruder. The Sagatagan male joined the

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			<p>two loons and all three circled and made splashy dives and reared up with occasional outstretched wings. Then one loon (the smallest) started swimming away from the Sagatagan male and its presumed mate. The Sagatagan male and presumed mate swam side by side following the presumed intruder and hooted. A fourth loon (also slightly smaller than the Sag male and presumed mate) joined the group and more circling and splashy diving by all the loons commenced. Subsequently all four swam toward the main body of the lake and all remained together on the surface relatively close together but not circling. Some foot waggling occurred. At 7:42 mid-lake (deeper water) all four began circling again and three dove while the fourth peered. Then that fourth loon abruptly turned and took a running start into the wind. It circled south making in-flight tremolos. The Sagatagan male yodeled with eight repeating phrases. Three minutes later the other intruder loon also took a running start into the wind and then turned south. After the intruders left, the Sagatagan loons swam with speed toward Boniface Bay; the female led, the male stopped and turned facing the body of the lake at the "entrance" of the bay. At 7:58 I heard a two-tone wail followed by two short hoots/monotone wails and then a three-tone wail which I think were made by the female. Shortly after that, I saw the chick with the female. The chick was circling the female; the distance was too great to be certain but it seemed the chick was pecking toward the female's beak. The female started briefly feeding the chick (~ 5 minutes). Then the male joined them and swam side by side with the chick while the female dove.</p>
7/20/10	10:45-11:45 a.m.	77° F, calm NW wind (~5 mph), partly cloudy	<p>Initially the male was diving in the north part of the lake and the female and the chick were near the islands. About midway through the observation period, the male joined the female who was feeding the chick. They both quite actively fed the chick for about 15 minutes. The chick peered or looked around. Then the male started swimming back to the islands. The female and chick lagged behind while the chick started diving (15 second dives). During one of the chick dives, the female gave a long hoot/monotone wail. Shortly after that, the female and chick joined the male near the islands where both parents preened and waggled feet while the chick ventured farther away diving. Later in the day, I walked on the chapel trail so that I could locate the eagle's nest. During that time I heard a series of wails. After I got to a place where I could see the loons, I saw that the male was about 500 meters west of the female and the chick. The female and chick swam toward the male who was preening and washing his feathers. The female began diving and the chick joined the male.</p>

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7/19/10	6:45-7:45 p.m.	77°F, sunny, high clouds, calm	I found the female initially diving east of the island and then she swam north and drifted. The male was slowly swimming, circling in the east bay (by the Prep school) with the (one) chick peering and no more than 20 feet away at any time. Both did right and left foot waggles. Near the end of the observation time, the male loon yawned. As I crossed the lake to leave, I passed the female. She tremoloed several times and then dove toward me. She seemed to follow me giving loud tremolos when she surfaced from dives. The only explanation I have is that before she dove toward me, I was trying to figure out how the tone of her tremolos changed by quietly mimicking her.
7/17/10	11:15 a.m.- 12:00 p.m	80°F, calm southeast wind	The male was diving in deeper water in the main body of the lake. The female and one chick (still no sign of the other one) were in quieter shallower waters by the prep school. The female wailed several times and the male joined the female and chick.
7/16/10	7:30-9:30 a.m.	71°F, humidity 35%, calm NW wind (less than 5 mph)	The male loon and one chick were on the west side of the lake near the. The female was diving about 150 meters NE of them. The male and chick swam toward the female and the chick stayed with the diving female while the male swam back to his original location. A couple of times he swam toward them and back, finally joining them, diving and feeding the chick with the female. When the parents surfaced about 50-75 meters away from the chick, one or both hooted as they swam toward the chick. I searched for the second chick the majority of the time and never found it. As I was returning to shore (~9:00) the male and the female were diving. At one point the male swam speedily just under the surface of the water for a little over a minute. It would briefly raise its head and when it did I thought it looked like it had something in its beak.
7/15/10	12:45- 1:32 p.m.	77°F W-SW wind 7-10 mph	Saw the male, one chick and the female. I did not spot the second chick--I was mainly watching the male and the chick. They were on the lee side of an island west of the chapel in quieter water. The female was diving in deeper water southeast of them and since there were many canoes on the water today, frequently calling tremolos. At first the male was simply drifting in this area, occasionally extending his right leg out behind him--without a foot waggle. But he also did a couple of foot waggles on each leg. When a canoe came past them (and the female tremoloed) it seemed as if the male kept himself between the chick and the canoe until they were long past. At about 1:00 the male made a long-hoot or monotone-wail and then a wail. The female was not currently in sight at that point. The male started swimming southeast while the chick stayed behind diving (15 second dives). Shortly after that the male and the chick reunited and the chick circled closely

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			around the male with an open beak--sometimes I thought the chick was poking the male and once I saw the chick catch the satellite antennae in its beak! The male either ignored the chick or changed direction. Eventually the two made it out in deeper water and the male started peering, then diving (~45 seconds) and subsequently feeding the chick at about 1:30 p.m.
7/14/10	Late morning	Very humid, storms moving in	Mac Burns report: Female and two chicks in Boniface Bay. One chick was preening in the same area that Carol saw a chick the previous day. The male swam from the direction of the chapel closer to the chick and stared at Mac.
7/14/10	Early afternoon ~1:00-3:00	81°F very humid (87%) S-SW wind 5-10 mph	From a distance I saw one adult and one chick diving close to the area where the loons were captured, ("eaglet inlet") another adult was in a more sheltered area farther east. While I was walking to a better observation point, there were a series of wails and perhaps an answering wail. Ultimately when I got to the next point, the male, female and one chick were together in the more sheltered area. They started swimming and diving together toward the main body of the lake. There was one wail—I wondered if they were looking for their 2 <sup>nd</sup> chick. On the way out, I saw that the female and one chick had moved quite a bit farther west away from the male and were diving. The male made a sound that was longer than a hoot but not multi-toned like a wail, then a brief wail. Then he swam over to the female and chick.
7/13/10	1:30 p.m.	74°F mostly cloudy	In Boniface Bay one chick and the female peered while the male swam near the rock pile. The second chick was about 100 feet away from the south side of the bay (near the marshy area east of the boardwalk leading to the chapel) preening. It preened for more than 25 minutes. I heard two wails, a long hoot/monotone wail and tremolo with no stimulus in sight.
7/12/10			USGS tagging of male loon <sup>1</sup>
7/9/10	6:00-8:16 a.m.	61°F glassy calm	Five intruder loons and both parents were swimming together in the northwest corner of the lake. There were many hoots. At 6:25 the male in a group of five loons yodeled with three repeating phrases when a loon landed in the bay. At 6:35, five loons left the lake in different directions with tremolos. One flew north, three flew south and one west. At 7:30 one loon was diving in Ignatius Bay (southern most part of the lake).

<sup>1</sup>

Lake/Territory	Leg band no.	Capture date	Capture time	Gender	Mass (g)	Culmen (mm)	Head (mm)	Tarsus (mm)	Body length with tail (mm)	Geolocator tag ID	PTT ID	Color bands Right	Color bands Left
Stumpf Lake	1038-94240	12-Jul-10	22:31	Male	4060	87.56	183.99	81.42	789 L250A-1843	55482 S	O/S		
Stumpf Lake	1038-94250	12-Jul-10	22:45	Unk	1990	49.67	131.19	76.63	577 .	.	Bs/G	Gs/S	
Stumpf Lake	1038-94239	12-Jul-10	22:45	Unk	1840	46.48	116.80	71.88	544 .	.	Bs/Gs	Gs/S	
Sagatagan Lake	1038-94241	13-Jul-10	1:00	Male	4470	86.83	202.08	85.50	798 L250A-1778	55480 S	G/S		

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			Four loons were in Boniface Bay, arranged in two pairs. Two loons flew west-southwest at 7:44 with tremolos. I lost site of the other loons until 8:00 when I saw the male leading the female from the northwestern part of the lake toward the islands where they meet the chicks. At 8:16, the parents were diving while the chicks peered and drifted.
7/8/10	8:00-9:00 p.m.		One parent and both chicks swam from the northwestern corner of the lake to the islands and south. The other parent was in Boniface Bay and it wailed three times at 8:37. An intruder loon landed. The parent with the chicks joined its mate and the intruder. All circled, peered and made splashy dives all at the same time. I heard no vocalizations. At 8:50 the intruder loon made a running start north and then circled and flew south with a tremolo. The parents then headed southwest toward the chips which were along the east shore south of the chapel.
7/7/10	2:45-3:20 P.M.	High 70s°F, N-NW wind, 5-10 mph	One loon was in Boniface Bay and it wailed repeatedly (3-note wails) over the course of 15 minutes. Then it alternated wails with long hoots/monotone wails for another ½ hour. I could see the other parent and two chicks on the opposite side of the bay diving.
7/6/10	1:40-2:50 p.m.	78°F calm, N-NE wind	Both parents and both chicks were by the north island channel. The female parent was preening, the male was diving for up to 60 seconds and feeding the chicks. The chicks peered and one made short dives. The female began diving too and both parents fed the chicks. The chicks dove for up to 10 seconds, and excitedly approached the parents. Near the end of the observation period, the parents stopped feeding the chicks and preened (head rubs, oil extraction.)
7/5/10	8:35-10:10 a.m.	66°F, NE light breeze	In Boniface Bay, the female dove and fed minnows to the chicks. Both chicks peered and made short dives. The male was closer to the chapel. At 8:45 there were nine 3-note wails, tremolo, wail and another tremolo. I wasn't sure which parent was vocalizing. Two minutes later, there was a loud tremolo, followed by a softer tremolo. The female and both chicks were bunched together. The chicks were ¼ the length of the adult, with smaller heads. The male joined the family and both parents began feeding the chicks. At 9:04 after an in-flight tremolo, the male began swimming west away from the family. He rejoined the family four minutes later and continued feeding the chicks with his mate. At 9:15 I saw a loon (an intruder?) by the north island channel. A parent with the chicks swam southwest-west—toward that loon. The male flew in from the northwest landing near the family that were slightly north of the north island channel. I did not see him take off. Later when I approached the islands, the male stayed

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			westerly while the female led the chicks east. Both parents occasionally dove and fed the chicks. Then at 9:51 I heard a yodel with four repeating phrases. After that I only saw the female swimming with the two chicks.
6/29/10	3:30-4:00 p.m.		One adult loon was preening in Boniface Bay. The chicks had their heads tucked.
6/19/10	1:50-2:25 p.m.	West wind	Two parents and two chicks were west of the islands. The chicks are nearly the length of the female. Both parents fed the chicks after 30 second dives. At 2:05, one of the parents wailed twice. Overhead a bald eagle circled above them. One parent stayed close to the chicks, occasionally peering. The other parent's head was tipped up. When the eagle was out of sight, both parents resumed diving (45 seconds) and feeding the chicks. One chick dove for 30 seconds –just under the surface of the water-I could see little splashes.
6/18/10	7:15-8:00 a.m	62°F calm, sunny south wind 5-10 mph, storms yesterday afternoon	As I launched the canoe, I heard a yodel with eight repeating phrases, followed by two tremolos. I did not locate the family until ½ hour later. They were in Boniface Bay. The male had just joined the female and the two chicks from the south. Both parents dove (40 seconds) and began feeding the chicks. The chicks were lighter in color with black heads.
6/18/10	2:45 p.m.	75° sunny	Loons are in Boniface Bay as canoes pass by. One parent wails after the last canoe passed them on the way to the chapel.
6/15/10	11:00-11:20 a.m.	60°F partly sunning but storms rolling in, misty	One loon was in the northwest corner of the bay; the other parent and chick were closer to the swimming beach.
6/14/10	3:50-4:55 p.m.	69°F East wind 5-10 mph, partly sunny, high humidity	The chicks are about 1/3 -1/2 the length of the parents. A canoe was east of the chapel and the parents in Boniface Bay wailed. One chick twice dove for 15 seconds, splashing water as it did so. After diving, it reared and stretched its wings. The parents fed the chicks briefly and then dove for themselves while the chicks preened and drifted. One of the parents joined the chicks while the other splashed (a bird bath) vigorously, and then rubbed its head, reared stretching its wings, and side roll. One parent napped for about 10 minutes and the chicks might have been napping too. At 4:40 the parents both wailed for a total of six times. Then I saw that a large bird (perhaps a bald eagle) was flying south over the loon family. The parents and chicks continued swimming east, sometimes peering, sometimes preening, sometimes diving.
6/13/10	1:25-3:00 p.m.	69°F calm	Chicks and parents were between the chapel and the islands. There were several canoes on the lake and the loons wailed and tremoloed.
6/11/10	3:15-4:00 p.m.	66°F high humidity	Both parents and both chicks were in Boniface Bay, peering or sleeping. Chicks seemed doubled in size since hatching.

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		(84%) 7 mph north wind	
6/9/10	7:30 a.m.	60°overcast	Both parents and chicks were feeding in the northwest corner of the lake.
6/7/10	4:30-4:40 p.m.	73°F SW wind 5 mph	Both parents were making short dives (20 seconds) feeding chicks east of the islands.
6/5/10	7:20-8:30 a.m.	59°F calm, sprinkling	Parents and chicks were south of the chapel near the east shoreline. The parents were diving but also swam side by side and made coordinated dives with the chicks swimming behind. Making 30 -45 second dives, the parents began feeding the chicks. At 7:30 one parent carried both chicks on its back intermittently while the other parent dove and preened (head rub, counterclockwise side roll). Near 8:00 there were in-flight tremolos and the male yodeled three times, twice with four repeating phrases and the last yodel with three repeating phrases. At 8:30 in-flight tremolos came from the south. The male yodeled three times, each time with six repeating phrases.
6/4/10	7:25-8:00 a.m.	66° humid, partly cloudy, calm	Parents and chicks were in Boniface Bay. One parent was diving. When a loon flew overhead flying southeast, the male yodeled twice, each time with 4 repeating phrases. There was also a tremolo from the northeast. (Later at 8:13 a.m. I saw two loons on West Gemini diving and peering.)
6/3/10	7:40-8:06 a.m.	50°F calm sunny	Initially, the Sagatagan female loon and two chicks were in the northwestern part of the lake. The female peered and dove repeatedly, while one chick peered frequently. One chick sometimes swam with its mouth level with the water. At 7:44 I saw two loons mid-lake, probably intruders. (Intruders were chased off Stumpf at about 7:30.) A minute later, there was a yodel with 6 repeating phrases. One of the intruders might have tremoloed. The intruders dove, peered and scanned above water. Then they made splashy coordinated dives. At 7:48, the Sagatagan male approached the intruders and lots of peering and diving. Two of the three loons reared with outstretched wings. Then the Sagatagan female joined the three loons, leaving the chicks behind. At 7:50, the two intruder loons swam east, while the Sagatagan male and female followed. One of the loons hooted. At 7:52 one of the intruder loons flap/splashed away from the Sagatagan pair. The Sagatagan male yodeled with six repeating phrases and then reared with outstretched wings. The remaining intruder loon also reared with outstretched wings. All three loons dove. The Sagatagan pair swam with their bills pointed down toward the water. At 7:54, the remaining intruder tremoloed as it flapped. The Sagatagan male yodeled with four repeating phrases. The remaining intruder loon tremoloed as it

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			walk/flapped across the water toward the chapel as though it could not get airborne. One of the Sagatagan loons started to follow but then retreated back to its mate. At 7:58, the intruder loon that had left the threesome at 7:52 took a running start east and then flew southeast over the intruder by the chapel. The (injured) intruder by the chapel took a running start and flew northeast. The Sagatagan pair hooted. The chicks were still side-by-side in the northwest corner of the lake while the parents swam together mid-lake. At 8:00, the parents preened with head rubs and then wagged their feet. Then they both started a running take-off northeast. Then they turned, flew back to the chapel and then west toward Stumpf. I heard a tremolo close behind me (on a bench on the west side of the lake) and then saw three loons flying east-southeast over me. Two loons continued flying south. One spiraled down to the northeast corner of the lake, landing southeast of the chicks. As it approached the chicks, the chicks dove. At 8:04, this adult loon (Sagatagan female) reunited with the chicks. The female wagged its feet while the chicks followed closely behind. At 8:05, the female lifted its wing for the chicks and hooted several times.
6/3/10	1:59-3:00 p.m.	Clear, high clouds, 74°F S-SE wind 5 mph	Moving north and immediately west of the chapel, the parents fed the chicks, occasionally hooting. After the feeding session, one chick followed and one chick rode on a parent's back while the other parent lagged behind and preened. The leading parent submarine-dove. Meanwhile, the other parent peered. The trailing parent began submarine swimming (back below the surface of the water). At 2:35 the trailing parent hooted six times as the distance between the parents increased. The last hoot was wail-like. Four more hoots followed. Then hoots without pausing—like a clucking chicken. The trailing parent reared and stretched his wings and then joined the leading loon and chicks, and wailed. Both parents then started tremolos and wails. I was 150 meters away in the marshy /boardwalk area south of the chapel and assumed that the trailing parent had become concerned about my presence and alerted the other parent. I remained motionless. At 2:41 the wails turned to hoots. One parent dove and the other wagged its foot. The chicks peered and made short dives. At 2:44, there was a soft wail rising in pitch, followed by one that lowered in pitch. The loon that had been trailing and which alerted the mate to my presence, swam northwest and hooted four times without pauses—like a clucking chicking. Its mate the chicks followed. Then the formerly trailing loon began diving. Its mate hooted and the chicks peered where the formerly trailing loon dove.
6/2/10	53°F NW	7:47-8:32	Initially the two chicks were swimming close to the canoe

Date	Time	Weather	Activity
	wind 5 mph, high clouds	a.m.	launch site (beyond the stone arch on Highway 159) while the parents dove along the western edge of the lake (bordering Highway 159). The parents fed the chicks, occasionally hooting to the chicks. It appeared that one of the food items was seaweed or something attached to seaweed. Sometimes the parents would bring food and let it float on the water for the chick to find. The parents continued feeding until the chicks no longer accepted food items. This feeding session was at least 30 minutes long. After the feeding session, while one parent dove, the other peered and both chicks peered. Occasionally the chicks dove but bobbed back up quickly. The loons remained in this area of the lake and sometimes one chick, sometimes both rode on one parent's back. Towards the end of the observation period, the chicks were riding on a parent which was still swimming in the western side of the lake near highway 159 while the other parent was diving by the islands.
6/2/10	11:18-11:53 a.m.	70°F NE wind 5-10 mph, high clouds	Initially one parent with the two chicks north of the chapel, sometime riding, sometimes swimming. The parent wailed twice; then it peered and dove. Both parents surfaced and began briefly feeding the chicks. The parents hooted as they approached the chicks. At 11:45, one of the parents made a long hoot/monotone wail and the chicks climbed on one parent's back. Three minutes later, the parent on which the chicks were sitting submarined dove out from under them. At the conclusion of the observation period, both parents were making short dives.
6/1/10	60°F calm, partly cloudy	6:35-7:41 a.m.	Yodels with eight repeating phrases, seven repeating phrases and three repeating phrases. One loon was diving in far south bay (near Lake Ignatius), it made a running start and flew away at 7:01. At 7:04 there was a yodel with eight repeating phrases north of this presumed intruder loon. At 7:28, both parents were swimming in the north part of the lake close to the monk's beach and one was diving. The chicks were swimming nearby. In response(?) to tremolos from the south, the non-diving parent wailed . At 7:40, the male yodeled twice, each time with four repeating phrases. The male had a chick on its back and the female made a short dive underneath the male.
5/31/10	7:00 a.m.-10:40 a.m.	Initially 51°F calm, sunny	No loons on the nest. I retrieved fragments of two eggs from the nest which was 80 x 100 cm with a depth of 25 cm. Blue flag iris on this island nest were starting to bloom. The two adults with two chicks were in the main body of the lake near the chapel. Initially the two chicks were on the back of one of the adults. The other loon was whipping water from side-to-side with its beak and diving. In flight tremolos seemed to prompt yodels from the male, the first had five repeating phrases, the second had nine repeating phrases. The chicks climbed on and off the back(s) of parents intermittently

Date	Time	Weather	Activity
			<p>throughout the morning, sometimes 10 minutes in the water with brief respites (1-2 minutes) on a parent's back. The chicks entered from the back or side and sometimes the parent raised its wing to aid the chick by propping it up. The parenting loon often made a longer hoot/monotone wail, sometimes a short hoot.</p> <p>At 9:18 a Canadian goose landed south of the loons and one chick climbed on a parents back while the other swam closely behind the second parent. The goose approached the loons and one of the loons wailed. Both the goose and loon flapped their wings, splashing water and then the goose ran on the water away from the loons. The male left the family at 9:30 and dove. The female frequently wailed and sometimes made a long hoot or monotone wail. Then I saw the male swimming rapidly in front of a canoe toward us. It tremoloed several times and stretched it wings and did side rolls and ultimately ran on the water SW as if to distract the canoe from the female and the chicks. The chicks appeared to be 1/3 of the parents width and ¼ its length.</p>
5/30/10	2:00 p.m.		No loons on the nest
5/28/10	7:21 a.m.- 7:31 a.m.	59°F, clear calm	One loon on the nest facing east, I thought it was the male. At 7:26, there was a wail from the north and tremolos to the north and east.
5/27/10	6:14 a.m.- 6:22 a.m.	59°F calm	One loon was on the nest facing north. There were faint yodels from the north (Stumpf?) with four or even five repeating phrases and a yodel from the southeast with three repeating phrases.
5/26/10	10:55- 11:20 a.m.	70°F, SW wind 10 mph	The loon on the nest was facing east and panting. I suspect it was the female. At 10:55 there were in-flight tremolos moving closer followed by seven yodels each with four repeating phrases from the southeast.
5/25/10	5:56 -6:50 a.m.	Calm clear sky, humid, mid 70°F	In-flight tremolos from the south moving east and then north. One loon (probably the female) on the nest facing east. At 6:04, there were three wails to the south and later tremolos.
5/24/10	5:00 p.m.	93°F heavier breeze	The loon on the nest was facing south and panting. In addition, it seemed that its wings were separated from the body.
5/20/10	5:50-9:52 a.m.	Calm clear sky 46°F initially and 72°F at conclusion of observation	Initially the male loon was on the nest, head low but not resting on the ground, rising head and scanning more as the sun rose. At 6:37 a.m. the male left the nest and stretched wings as the female approached the nest. She entered the nest at 6:40 from the NW side and rolled the egg. The male continued out of the bay with two more wing stretches and seven dives until it was out of sight (moving south of the island). At 7:00 the female was panting. She responded to a tremolo from the east by quickly turning her head but then

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			went back to scanning, occasionally shaking her head as though bugs were bothering her.
5/19/10	7:40 a.m.	Calm sunny 64°F	One loon facing south on the nest, probably the female, rearranged the egg and settled facing south. I heard 5 wails from the east and one of the wails had 4 tones). I saw the 2 <sup>nd</sup> loon on the west side of the island.
5/18/10	6:15-7:40 a.m.	Calm, clear 50°F	One loon the nest. Tremolos all around throughout this observation period, probably airborne. The loon on the nest jerked its head several times, as though bothered by mosquitoes.
5/17/10	2:30 p.m.	70°F southwest wind 5 mph	One loon on the nest facing southeast, panting.
5/14/10	1:47-2:30 P.M.	70°F west wind 10-15 mph	One loon on the nest facing north.
5/13/10	7:18-9:45 a.m.	45-50°F calm, misting at first, heavier rain later.	Initially a loon on the nest faced north, rearranging the nest material and rolling the eggs. I thought that this was the female. From 9:00-9:10 a.m. the loon wailed 16 times with a maximum of 240 seconds and a minimum of 8 seconds between wails. The last wail was shorter and sounded more insistent. At 9:21 the loon rearranged nest material. At 9:38, the loon got up and resettled facing west-north west.
5/12/10	6:20-9:00 a.m.	45°F East wind 5 mph, overcast	<b>Nesting duty exchange:</b> Initially the male was on the nest with its head resting on the nest facing southeast. Starting at 6:50, there were a series of wails from the east-southeast until about 7:03. At 7:10 the female arrived, swimming low in the water. It dove and came up near the south side of the nest and circled around the west side. At the 7:12, the male slipped off the nest on the southwest side. As it left, it bill-dipped and preened. The female swam counterclockwise around the nest and entered from the northwest corner, repositioned the egg and settled facing southeast. At 7:22 two wails came from the east. At 8:37 there were four yodels with two repeating phrases from the south-southeast. At 8:47 there were three more yodels and one of the yodels had four repeating phrases.
5/7/2010	6:30-8:00 a.m.	43°F light rain, calm	<b>Nesting duty exchange:</b> Initially the male loon was on the nest facing east and had its head down and curved to the side. At 7:01 it turned its head abruptly north after a tremolo from the south-southeast, as thought it was locating the sound. At 7:19, it left the nest and swam briskly south east. The female loon appeared and the two did a couple of bill dips as they passed each other. The male reared extending its wings twice. The female circled the nest counterclockwise a 1 ½ times before entering from the northwest corner at 7:24. Supporting itself with its wings, it rotated the egg. Then it rearranged the nest

Date	Time	Weather	Activity
			material and hooted (!) The female continued to rearrange nest material and repositioned the egg until I left.
5/6/2010	6:00-7:52 a.m.	43°F overcast, calm	<b>Nesting duty exchange:</b> Initially the male loon was on the nest, head low facing east-southeast. When it heard four wails at 6:30 a.m., it picked its head up and answered with a tremolo. (I think it was aware of my presence by the noise I made walking into the woods—often looked in my direction.) At 7:35 the female approached the nest and circled it a few times while the male slipped into the water. Two large eggs were visible. The female flopped on the nest and with partially open beak it rolled the egg and then settled on it facing west-northwest
5/5/2010	Noon	Sleeting	Loon nest in far west point of Sagatagan