

Reduction of Herring Gull Hazards

Lakehead Airport , Lake Superior
Ontario, Canada by Ford William.

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Up to 1960, Lakehead Airport, which is located approximately 3 miles from the shore of Lake Superior, had a history of only minor bird hazards to aircraft, mainly occurring during the autumn migration season.

In 1960 the City of Fort William abandoned the municipal garbage incineration plant and opened a sanitary landfill area adjacent to Lakehead Airport property.

Immediately, herring gulls became a hazard to aircraft using the airport. Intensive efforts by airport management with Regional Office assistance over a period of $2\frac{1}{2}$ years failed to reduce the numbers of gulls which daily frequented the airport surfaces and the number of birds increased steadily until as many as 2000 birds were often in the airport area.

In spring 1963, Regional Office requested assistance of Department of Transport Headquarters.

A joint presentation to the Fort William Council by Department of Transport, Trans Canada Air Lines and Royal Canadian Air Force members of the National Research Council Associate Committee on Bird Hazards to Aircraft resulted in a municipal decision to discontinue the landfill operation adjacent to the airport and return to incineration of municipal garbage.

The dump was temporarily closed while the incinerators were tested, reopened while the incinerators were being repaired and finally closed on September 4, 1963. An intensive program of shooting, using 12 gauge shotgun shells and Very pistol flares was carried out by the crash firefighting staff using the crash fire truck as a mobile shooting platform.

The field notes of the shotgun patrol are attached. It is interesting to note that the numbers of birds in the airport area decreased on Saturdays and Sundays when no garbage was brought to the dump. It is indicative that despite a very active shotgun patrol the numbers of birds in the area increased in periods when garbage was being brought to the dump and decreased each time dumping ceased. Patrols persisted in shooting until all birds were cleared from airport on each patrol. Two marksmen were used on each patrol, one firing from the top turret and one from the side of the vehicle while vehicle moving at high speed over runway surfaces and slower speeds over off-runway areas.

LAKEHEAD AIRPORT

Date	Time	Prevailing Weather	Birds on Runway	Birds on Dump	Flying over Runway	Location of Birds	Action Taken	Bird Reaction	Airport Operators Remarks
July 23			50 +	1000 +					
26			50	1000					
29			5	75					
30	0930	Cloudy, cool	100			Button Runway 12	Shot 2 Very Flares 3 Shotgun Shells from fire truck Killed one gull	Left runway area, did not return	Edible garbage dumping ceased and area covered with fill Aug. 28/63.
	1100	Variable winds	0	25					
	1300	Low 46	0	50					
	1430	High 73	0	70					
	1800		0	100					
31	0900	Cloudy, winds light	40			Button Runway 12	2 Very, 3 Shotgun shells, killed 1 gull, wounded 1.	Dispersed	Trucks hauling dry and inedible garbage to dump site.
	1030	Low 47 High 63	40			Button Runway 12	1 Very, 2 Shotgun 1 gull wounded	Dispersed	
	1050		40			Button Runway 12	1 Very, 2 Shotgun	Dispersed	
	1320		30			" " "	3 Very, 6 Shotgun 3 gulls killed, 2 wounded	Dispersed and left area.	
	1530		2			" " "	1 Very, 3 Shotgun 1 gull wounded		
	1800		0	0					
Aug. 1	0900	Clear wind W-10, Low 54 High 75	75			Button Runway 12	2 Very, 1 Shotgun 1 gull killed	Rose to 1000ft. dispersed in all directions	Gull flock wary of crash truck. Rose when vehicle still 500 ft. away. Obser- vations indicate gulls afraid of flares. Flares and shooting appear effective in dispersing gulls.
Aug. 1	1030		0	0	5-10	Over airport area	2 Shotgun blasts	Left area	
	1330	Partly cloudy	0	0	5-10	" " "	2 Flares, 2 shots	" "	
	1600	Wind W, Low 55	0	0					
	1930	High 86	0	0	0				

Date	Time	Prevailing Weather	Birds on Runway	Birds on Dump	Flying over Runway	Location of Birds	Action Taken	Bird Reaction	Airport Operators Remarks
Aug. 2	0830 1115 1400 1545 1845 2030		0 0 0 0 0 0	70 0 4 0 25 0	5 0 0 0 0 0		3 flares, 2 shots 1 Flare	 Gulls flew away to NE	Gulls appear very wary of flares.
Aug. 3	0905 1000 1350 1750 1910	Scattered thunder storms Wind NW 20 Low 56 High 75	0 0 0 0 0	0 200 0 0 50	5-8 0 0 0 0	Over Button Runway 12	1 shot after flight departure 2 Flares fired toward dump. 2 Flares, 2 shots	Gulls left area " " " Left area. Did not return.	TCA Viscount Flt. 50 killed 2 on takeoff
Aug. 4	0930 1345 1500 1630 1900	Sunny, winds light Low 53 High 80	0 0 0 0 0 0	60 2 0 0 0 0	 0 0 0		2 Flares, 2 shots fired toward dump 1 shot fired toward dump.	Left area. Did not return " " "	
Aug. 5	0910 1130 1415	Rain showers Light winds Low 59 High 85	0 0 0 0	15 0 0 0	0 0 0 0		2 flares fired toward dump.	Left area. Did not return.	
Aug. 6	0920 1115 1330 1530 1810 1900 2030	Sunny W-8 Low 57 High 83	8 0 0	0 150 150 150 100 150 -	0 0 8	Flying around dump			Tractor reopening wet garbage dump area. City dumping wet edible garbage as of this date.
Aug. 7	0930 1045 1330 1530 1900	Sunny Light winds Low 55 High 82	15 0 0 0 0	100 200 300 150 100	- 0 0 0 0	Over button Runway 12 Near button Runway 12	4 flares fired. 2 flares, 2 shots fired 1 flare, 2 shots	Gulls dispersed -- did not return. Dispersed but returned in 10 min. Left area, did not return.	Birds on garbage dump stayed. Wet garbage being dumped

Date	Time	Prevailing Weather	Birds on Runway	Birds on Dump	Flying over Runway	Location of Birds	Action Taken	Bird Reaction	Airport Operators Remarks
.8	0930	Variable cloud-	5	250		Button Runway 12			Just prior to heavy thunderstorms.
	1130	iness. Light	1	400					
	1400	winds, Low 53	0	150					
	1530	High 81	0	50					
	1930	Thunderstorms	0	0	0				
.9	0915	Sunny, winds light N-10 Low 55 High 68	0	500					Gulls feeding on freshly dumped garbage. City continuing dumping garbage while incinerator being repaired.
.9	1100	Scattered cloud	0	500	3	Over Runway 12	1 Flare, 1 shot	Birds over runway	
	1300	NE-8	0	150	4	" " "	1 Flare	left	
	1530	Low 48 High 71	0	100	7		4 shots	" " "	
	1800		0	0	0				
.10	0845	Broken to	35	400	0	Over intersection of Runways	2 Flares, 2 shots	Birds over runway	
	1030	overcast W-7	0	400	0		Killed 1 gull, wounded one.	left airport.	
	1330	Low 44	0	50					
	1545	High 77	0	50					
	1900		0	50	6		1 Flare, 1 shot	Birds over runway left airport.	
.11	0845			400	5	On button runway 30	1 shot	Dispersed	No garbage dumped this date (Sunday)
	1000			350					
	1200		0	0	0				
	1400		0	0	0				
	1720		3	0	0		1 flare	Dispersed	
.12	1830		0	0	0				
	0845		100	600		Button Runway 12	1 flare, 4 shots	Left but returned to runway	Gulls wary of fire truck espec. when flasher operating. Shots not as effective as very flares and shots. Flare supply exhausted. More difficult to scare birds without flares.
	1015		7	200		" " "	5 shots, 4 gulls killed.		
	1400		75	300			4 shots	Birds left runway area.	
	1545		0	600			14 shots, 6 gulls killed, 1 wounded		
	1800		0	300					
.13	0815	Partly cloudy Rain showers	50	150		Button 30	6 shots	Dispersed	Steady stream of gulls coming to garbage dump to meet first garbage trucks. City officials advise dumping of edible garbage expected to be discontinued Aug. 19.
	1115	N-10 to 20 Low 53 High 67	0	150					

Date	Time	Prevailing Weather	Birds on Runway	Birds on Dump	Flying over Runway	Location of Birds	Action Taken	Bird Reaction	Airport Operators Remarks
Aug. 13	1445	Scattered cloud, Wind NNE Low 53 High 67	0	150					
Aug. 14	0830 1100 1415 1530 1830 1930	Overcast to Broken NW-15 Low 47 High 63	35 1 2 0 0 0	300 100 300 0	7	On Runway Button Runway 12	2 shots Approached in truck Shot one, wounded 2	Dispersed Left area Dispersed	Many gulls in area appear to be young ones.
Aug. 15	0715 0825 0900 1115 1315 1600 1830	Broken Overcast Light winds Low 43 High 63	0 0 0 0 0 0 3	0 500 1000 400 500 600 0	10	Over Button Runway 12 Runway 12	2 shots 1 shot	Dispersed	100 crows button R/W 30, left area when approached
Aug. 16	0710 0725 1120 1145 1415 1900	Overcast, rain E-15, Low 42 High 55	6 400 300 100 150 50 0	400 200 1100 800 30	150	Button 12 On runway 25 Button 12 " " Button 25 On R/W 07, 25 & 30	1 shot, 1 wounded Fired several shots 7 killed, 4 wounded 8 killed, 3 wounded 1 shot fired 7 killed, 2 wounded	Left area Dispersed Left area Dispersed " "	Birds difficult to move.
Aug. 17	0900 1100 1645 1915	Scattered cloud Light winds Low 40 High 71	20 0 0 0	200 50 0 0		Button Runway 12	2 shots	Dispersed	No garbage dumping this date (Saturday)
Aug. 18	0845 1000 1310 1645 2000	Broken cloud SW-10 Low 41	0 2 0 0 0	75 100 0 0 0		On runway 12	1 shot	Left area	300 gulls in farm field North Runway 25. No garbage dumped to-day.
Aug. 19	0725 0900 1115 1415 1900	Scattered cloud West wind Low 48 High 78	0 0 0 0 0	25 100 500 200 20	1		1 shot		Gulls appear wary of runway areas with exception of Aug. 16 when they persisted in entire airport area.
Aug. 20	0730 0915		0 0	0 200		Over airport	2 shot		

Time	Prevailing Weather	Birds on Runway	Birds on Dump	Flying over Runway	Location of Birds	Action Taken	Bird Reaction	Airport Operators Remarks
00	Sunny, West winds	0	150	5	5 over Button 12	2 shot	Left airport	2 birds shot were on taxiway
00	Low 49	0	100	several	Over Button 12	2 shot	" "	shot 2 low flying gulls
00	High 84	0	5					
00	Partly cloudy	2	200	2	Threshold Runway 12	1 killed, 1 wounded	Left airport	
05	Light winds	3	500		" " "	1 killed	" "	
10	Low 55	0	600	3	Over " " "	1 wounded	" "	
20	High 80	0	60	4	" " " "	2 killed	" "	
00	Cloudy	0	75					
00	Rain showers	20	800		On button Runway 12	2 killed	Left airport	
10	Light winds	0	800	100	Over button Runway 12	3 killed	" "	
20	Low 57	0	300					
30	High 67	0	40					
05	Cloudy	0	20					Now almost impossible to get
15	Light variable	10	600		Button Runway 12	2 killed	Left airport	near birds on runway with crash
30	winds	0	800	100	Over button 12	11 shot	Left airport	trucks.
13	Low 42	0	150					5 killed 6 wounded. No leg bands.
30	High 68	0	0	2	Over Runway 12	1 killed	Left airport	Majority of birds seen are grey
05	Variable	150	75		On button of	Killed 5 gulls	Left airport	coloured.
45	cloudiness,	0	75		Runway 12	1 crow		Saturday, no garbage
30	East winds	0	0					dumping
30		0	0					
45		0	0					
30		0	0					
00		0	0					
30	Scattered clouds	0	0					
30	Light winds	0	0					Sunday, no garbage
30	Low 38	0	0					dumping
30	High 67	0	0					
00		0	0					
15	Foggy	0	0	0				Gulls becoming very wary of
15	Sunny periods	0	0	0				crash trucks and personnel on
15	Light winds	12	1000	0	On Runway 12	2 killed	Left airport	foot and are keeping away from
15	Low 39	0	100					runways more than in the past.
30	High 61	0	300	several		Fired 2 shots	Dispersed	Note decrease in gulls on Sat.
30		0	0	0		1 flare		and Sun. when no garbage being
00		0	0	0				dumped.

e	Time	Prevailing Weather	Birds on Runway	Birds on Dump	Flying over Runway	Location of Birds	Action Taken	Bird Reaction	Airport Operators Remarks
. 27	0720	Overcast	0	0	0			Left airport	Gulls on dump now frequently rise and leave area when flares are fired at birds over runway.
	0900	Drizzle	6	800		On runway 12	2 flares 2 shots	and dump	
	1115	Light winds	20	500		On runway 12	4 killed 4 shots	Left airport	
	1330	Low 53	0	250			2 flares fired	and dump.	
	1530	High 71	1	500	several	Button runway 12	2 killed	" "	
	1900		0	70					
. 28	0715	Fog	0	0	0			All gulls on airport	All gulls on airport and dump rose and left area when flares fired.
	0915	Overcast	4	600		On runway 12	1 flare fired		
	1100	Rain showers	20	500	100	On runway 12	1 flare fired		
	1315	Light winds	0	800					
	1520	Low 53	300	500	200		1 killed, 3 flares		
	1915	High 69	0	100			fired.		
. 29	0715	Fog	0	0					No shots or flares fired. Birds very reluctant to leave airport.
	0915	Overcast	80	150		Runway 12	2 flares fired	Left airport and dump	
	1100	Rain	50	100		" "	1 flare fired		
	1330	Light east wind	100	200			Approached with crash truck	Left airport	
	1520	Low 54					26 gulls shot	Left airport	
	1830	High 61	100						
. 30	0715	Clear sky	0	0	0				
	0845	Light winds	4	200	several	Runway 12	9 gulls killed	Left airport	
	1045	Low 43	0	300	100	Over Runway 12	10 killed		
	1315	High 67	1	300		Button 12	2 killed	Left airport	
	1530		0	250	100		4 killed		
	1800		0		100 crows	Button 25	1 flare fired	Left area	
st. 1	0830	Sunny	0	0	0				Sunday - no garbage being dumped.
	1030	SW-10	0	0	0				
	1415	Low 46	0	0	0				
	1830	High 75	0	0	0				
st. 2	0855	Cloudy	0	0	0				Labour Day Holiday - no garbage being dumped.
	1000	E-10	1	10		Runway 25	1 gull killed		
	1115	Low 50	0	0	0				
	1330	High 65	50	0	0		4 killed	Left airport	
st. 3	1525		0	0	0				Nearly all birds killed lately are young gulls. Older birds warier and better judges of shot-gun range.
	0720	Sunny	0	0	0				
	0845	Light winds	0	50	20	Over button 12	1 shot	Left airport	
	1130	Low 39	0	100					
	1545	High 61	0	150					
	1840		0	0	0				

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