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O'HARE AIRPORT DEER CONTROL

James H. Witham

18 April 1988

City of Chicago, Department of Aviation
Chicago International Airport, P.O. Box
66142, Chicago, Illinois 60666

Contract Period - 1 December 1987 -
15 April 1988

University of Illinois Acct. # 1-5-35758

FINAL REPORT

TO: O'Hare International Airport, ATTN: Russell Gebhardt
Aviation Safety Director, (312) 686-2209

FROM: James H. Witham, Illinois Natural History Survey
(312) 289-7620

DATE: 18 April 1988

SUBJECT: Contract summary: O'Hare deer reduction program

Background: The history of deer management on O'Hare International Airport and recommendations for deer management were submitted previously (Witham and Jones 1987). During fall 1987, O'Hare selected the option to pay for deer removal by contract to the Illinois Natural History Survey (INHS) Urban Deer Study. Herd reduction was performed by INHS personnel as an experimental study of the research program. This option was viewed as a one-time-only opportunity that will not be available during subsequent years.

Initial contract period: 1-31 December 1987

Contract extensions: 1-31 January 1988, 1-29 February 1988,
1-31 March 1988, and 1-15 April 1988.

Permit: Illinois Dep. Conservation (IDOC) Nuisance Deer Removal Permit issued to Mr. Russell Gebhardt, O'Hare Aviation Safety Director

Evaluations of the minimum number of deer on O'Hare property:

1. Helicopter flight 17 Dec 1987 (a.m.) - aborted by IDOT EMS pilot due to pending medical emergency response.
2. Helicopter flight 17 Dec 1987 (p.m.) - 66 deer (Appendix A), excellent visibility.
3. Helicopter flight 30 January 1988 - 18 deer (Appendix B), incomplete coverage due to heavy landing/departure traffic, poor background for visibility because of recent snow melt.
4. Helicopter flight 7 April 1988 - 5 deer (Appendix C), poor visibility because of lack of snow, only 1 group observed. Deer that remained bedded in wooded areas would have been difficult to observe.

Deer removal: (Table 1)

1. Live-trap and translocation - eight deer were live-trapped using rocket nets and translocated to the 5th Army Training Area near Joliet, Will County, Illinois. Translocation was permitted by the IDOC and U.S. Department of the Army for

research purposes of INHS to determine the survival and movements of translocated deer.

2. Live-trap and euthanize - Four deer were live-trapped with rocket nets and then euthanized by shooting while restrained under the net.
3. Lethal removal with firearms - Ten sites were baited with shelled corn to draw deer into specific controlled locations. Bait stations were carefully selected in areas where deer were concentrated and where elevated dirt or landfill mounds (burmes) were present. Burmes were used as backdrops to safely stop discharged bullets. Marksmen shot 38 deer from elevated blinds and from elevated positions on burmes. Four deer were shot from vehicles at locations where the bait site was positioned adjacent to a burme.
4. One subadult deer was wounded and not recovered after it moved into a location where the discharge of a second bullet would have been unsafe.
5. Age specific fetal rates were determined from counts of fetuses. No subadult does (N=9) were pregnant. The one yearling doe examined carried twin fetuses. The fetal rate of 14 adults was 2.14 fetuses/adult. Based on these data, the female deer removed from the airport (by live-capture and shooting) would have produced 42 fawns during May-June 1988.
6. Total number of deer removed from the airport.....54
Number of fetuses within females that were removed.....42
7. We found evidence that one deer was illegally shot on 22 or 23 February near the tree nursery at Thorndale (adjacent to runway 14R).

Carcass utilization: The carcass of one yearling doe was given the Field Museum of Natural History (IDOC permission to P. Brunsvold, Museum taxidermist) for mounting and display. INHS personnel performed postmortem examinations on the remaining 45 carcasses. Forty-four carcasses were processed and packaged by Drey Miller and Kray, Inc., a state-licensed meat packing facility in Hampshire, Illinois. Total cost of processing was \$2,033.80. The 44 deer produced a total of 2164 lbs. of ground venison which was delivered frozen to the Greater Chicago Food Depository for distribution to the needy of Chicago. Market value of the ground venison was \$ 8,115.00 (based on \$ 3.75/lb retail value of commercial ground venison, 4/14/88, Czimer Foods, Lockport, IL). One deer with a fractured and infected foreleg was unfit for human consumption.

Demonstrations of techniques:

1. Gebhardt and Bloom (O'Hare) participated in the live-capture and handling of deer. O'Hare personnel transported 3 deer to the release site.
2. Gebhardt was an observer on one helicopter census.
3. Bloom shot one deer from an elevated blind under the direction of INHS personnel
4. Corrozzo (CAC) visited the INHS field office, discussed deer capture, and examined equipment.
5. Corrozzo visited bait sites on O'Hare Airport and discussed deer removal with Witham (INHS)

Current population status: It is likely that 5-20 deer remain on O'Hare property. Deer removal will be necessary next year, and during subsequent years, unless deer are extirpated from O'Hare property. It is may not be logistically feasible to remove all deer. Furthermore, immigration from nearby forest preserves may contribute new animals even if all resident deer are removed.

Recommendations:

1. O'Hare and Chicago Animal Control personnel should review and discuss Recommendations for Deer Management on O'Hare International Airport pages 13-18 (Witham and Jones 1987):
 - a) Problem statement.....p-13
 - b) Program goal.....p-14
 - c) Objectives.....p-14
 - d) Decision rule.....p-14
 - e) Long term options.....p-15
 - f) Short term strategies...p-16
 - g) List of strategies.....p-17
 - h) Program evaluation.....p-18
2. O'Hare and Chicago Animal Control administrators should meet during spring 1988 and clearly define their future level of involvement in deer control on airport property. If stated committments are not sufficient to implement deer control during winter 1989, then alternative measures should be developed:
 - a) Chicago Animal Control possesses the expertise to operate an effective deer control program on the airport, however, CAC has stated that they have no additional personnel to perform such work (Poholik, pers. commun.). It is apparent that CAC would like to avoid direct involvement in deer control on O'Hare property.

- b) O'Hare personnel have limited knowledge of, and interest in, wildlife control which reduces their ability to conduct a sustained deer management program with the persistence necessary to be effective. This attitude should and can be changed during the next year. Financial resources of O'Hare are apparently adequate to fund annual deer control and other related land management activities (Gebhardt, pers. commun.).
 - c) Deer numbers have been reduced to a reasonable level by INHS personnel and will be manageable if O'Hare and CAC are willing to develop cooperative solutions based on their combined expertise and resources.
 - d) The INHS Urban Deer Study will conclude in 1989 and will not be available to perform deer removal by contract in the future.
3. O'Hare personnel should recognize that previous efforts to control deer numbers during 1984-87 were not sufficient to offset the combined effects of deer productivity and immigration. A much greater level of sustained commitment is necessary.
 4. Live-trapping only will not effectively offset herd increase. Any deer that are live-trapped should be euthanized. Translocation of deer is not advocated by the IDOC because deer abundance statewide is currently increasing.
 5. INHS has demonstrated that deer numbers can be safely and efficiently reduced by shooting deer over pre-baited sites. Safety should be maximized by shooting from elevated blinds, using a scoped 12 gauge shotgun with "deer slugs", and placing the bait sites in locations where burmes serve as backdrops. No flat (horizontal) trajectory shooting should be permitted. Shooting from vehicles should not be permitted because of a lack of control over the position of the deer, and the inevitable temptation for the shooter to rationalize that the background was safe.
 6. Illegal shooting of deer by O'Hare police, O'Hare personnel, and/or contractual construction workers should not be apathetically ignored nor covertly condoned. Evidence at the site of the illegal shooting of a deer at Thorndale nursery (22-23 February) clearly showed that the deer was shot from, and loaded onto, a vehicle. Vehicle access to this area is highly restricted.
 7. It is unlikely that the "living" fence or "pain and terror" fence, as discussed in a 30 April 1987 meeting at O'Hare Airport, will be a practical or effective solution to reduce deer conflicts on the airport. If a barrier is to be used, strategically placed electric fences can be highly effective in excluding deer from runways. Such electric barriers are

specifically made for the exclusion of deer and have been used near runways on major airports. An electric fence system should be used in conjunction with a program of direct removal of deer.

8. Undeveloped O'Hare property is excellent deer habitat. Land management practices that will decrease the quantity and quality of deer habitat should be investigated as a long term solution. The probability of deer-aircraft incidents is enhanced by the presence of deer habitat near active runways.
9. Any deer removal program will require prior approval and appropriate permits from the Illinois Department of Conservation.

Literature Cited:

Witham, J.H., and J.M. Jones. 1987. Recommendations for deer management on O'Hare International Airport, IN Biology, ecology, and management of deer in the Chicago metropolitan area. Illinois Dep. Conserv. P.R. Proj. No. W-87-R-7.

Table 1. Sex and age composition of deer removed from O'Hare International Airport, 1 December 1987-15 April 1988.

Sex/Age Class	<u>Live-capture</u>		Shot over bait	Totals
	Translocate	Euthanize		
Female				
Subadult	2	1	8	11
Yearling	0	1	2	3
Adult	2	1	14	17
Male				
Subadult	2	1	5	8
Yearling	0	0	4	4
Adult	2	0	9	11
Totals	8	4	42	54

Appendix A. Summary of aerial survey, 17 December 1987.

TO: O'Hare Airport Authority, ATTN: Russell Gebhardt
FROM: James H. Witham, Illinois Natural History Survey
DATE: 7 January 1988
SUBJECT: Results of aerial census, 17 December 1987

SUMMARY:

Search Time

Start - 1438 Finish - 1517 Total - 39 minutes

Aircraft Bell Long Ranger, Illinois Dep. Transportation

Observers Pilot (IDOT)
 J. Witham (INHS)
 J. Jones (INHS)

Conditions excellent observability, minimum of 6" snow base

Counts

<u>Location</u>	<u>No. Deer</u>
W/SW of runways 14R/32L	53
NW of runways 14R	0
E of runway 14L, N of runway 18	13
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Totals	66 deer

Narrative

The INHS conducted a 39 minute flight to count deer on O'Hare property on 17 December 1987. Conditions were excellent for observing deer; a minimum snow base of 6" depth was present. The majority of deer were concentrated west of runway 14R/32L (N=53). Group size ranged from 1-7 deer. It should be noted that 13 deer were observed in the woodlot N of runway 18 which represents the highest count of deer ever observed on that site (1984-1987 helicopter censuses).

Other wildlife observed during the flight included: cottontail rabbit (1), crows (numerous), domestic cats (2), pheasants (5), raptors (13), red foxes (2), and waterfowl (6).

Appendix B. Summary of aerial survey, 30 January 1988

TO: O'Hare Airport Authority, ATTN: Russell Gebhardt
FROM: James H. Witham, Illinois Natural History Survey
DATE: 10 February 1988
SUBJECT: Results of aerial census, 30 January 1988

SUMMARY:

Search Time

Approximately 40 minutes

Aircraft Bell Long Ranger, Illinois Dep. Transportation

Observers Pilot (IDOT)
J. Witham (INHS)
J. Jones (INHS)

Conditions very poor observability, 55 F temperature melted snow base, soil/vegetation very dark because of moisture

Counts

<u>Location</u>	<u>No. Deer</u>
W/SW of runways 14R/32L	10
NW of runways 14R	0
E of runway 14L, N of runway 18	8
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Totals	18 deer

Narrative

The INHS conducted a 40 minute flight to count deer on O'Hare property on 30 January 1988. Conditions were exceptionally poor for observing deer; snow cover had melted because of 55 F temperature and the soil/vegetation background were darkened by moisture. Deer were exceptionally difficult to detect.

Air traffic controllers were changed during the middle of the flight. The second controller was less cooperative and we terminated the flight without searching all areas.

Record of flight should be maintained however it should be clearly recognized that data are not meaningful. More deer are present on O'Hare property than counts indicate.

Appendix C. Summary of aerial survey, 7 April 1988

TO: O'Hare Airport Authority, ATTN: Russell Gebhardt
FROM: James H. Witham, Illinois Natural History Survey
DATE: 14 April 1988
SUBJECT: Results of aerial census, 7 April 1988

SUMMARY:

Search Time

Approximately 71 minutes

Aircraft Bell Long Ranger, Illinois Dep. Transportation

Observers Pilot (IDOT)
J. Witham (INHS)
J. Jones (INHS)
R. Gebhardt (OHARE)

Conditions Very poor conditions, no snow, new growth on some woody vegetation beginning to appear.

Counts

<u>Location</u>	<u>No. Deer</u>
W/SW of runways 14R/32L	5
NW of runways 14R (did not survey)	
E of runway 14L, N of runway 18	0
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Totals	5 deer

Narrative

The INHS conducted a 71 minute flight to count deer on O'Hare property on 7 April 1988. Conditions were exceptionally poor for observing deer; no snow cover was present. The 5 deer observed were in one group and were relatively easy to distinguish. However, it would have been difficult to detect deer that remained motionless in cover.

Record of flight should be maintained. There are a minimum of 5 deer remaining on O'Hare Airport property. It is likely that the actual number of deer is less than 20 animals.