1998 ANNUAL REPORT
of the
Anchorage Waterfowl Working Group

Canada geese were in Anchorage longer than usual in 1998. Local geese began arriving on March 23 in response to a rapid snowmelt and balmy spring conditions. A late fall kept large numbers of geese in town until early November.

Goose Population Estimate

Crowley (1998) summarized the population status of Anchorage's Canada geese from 1996 to 1998 by compiling goose population counts and collar sightings in Anchorage, and goose leg band returns from hunters throughout the Pacific Flyway. By collaring more geese we have increased the statistical confidence in the population estimate. An estimated 4,650 $\pm$ 183 geese returned to Anchorage in spring 1998, although this may have included some geese that were migrating through. A mid-summer count, during the molt, estimated 3,860 $\pm$ 261 geese, although this did not include at least 100 geese in the Anchorage Coastal Wildlife Refuge. The actual number of resident Anchorage geese probably lies between the spring and summer estimates.

Surveys indicated that the goose population increased rapidly in the 1980s and early 1990s (12-15% annually) but has since slowed to an annual increase of approximately 6%. In Anchorage, increased shooting on airports, egg collecting, and gosling translocations have contributed to the reduced rate of growth. Numbers of Anchorage geese taken by hunters, primarily in Oregon and Washington, have also increased, from about 100 in 1993 to about 250 in both 1996 and 1997. In 1997 hunters reported shooting 108 Canada geese in the Anchorage Coastal Wildlife Refuge. A preliminary tally of 1998 hunter reports shows at least 118 geese were shot in the refuge. Presumably, many of these were local geese. A few of Anchorage's Canada geese are also shot by Alaskan hunters outside of the Municipality. However, despite lower reproduction and increased mortality of adult birds, the Anchorage goose population continues to increase.

Goose Movement Study

York *et al.* (1997) summarized goose movement and distribution data collected by the National Wildlife Research Center in Anchorage in 1997. Habituated geese are especially difficult to disperse because they tend to return. This increases the hazard to air safety in the vicinity of airports. In 1997, 20% of collared geese returned at least once after hazing to Elmendorf AFB, 23% returned to Anchorage International Airport, and 38% returned to Merrill Field. These are conservative figures, because reading collar numbers was secondary to immediate dispersal. Records kept by dispersal staff at Anchorage International Airport indicate that most of the collared geese observed in 1998 had been hazed away from the airport in previous years as well.

The study identified specific parks and lakes as staging areas and refuges for geese that frequent Anchorage airports. Balto Park, Cheney Lake, and Jean Cartee Fields were the main staging areas prior to moving onto Elmendorf AFB. Davis and Mountain View parks were the primary sites used immediately after hazing. Most of the collared geese observed at Anchorage International Airport had originally been captured on Lake Hood and Spenard Lake. Other molting areas used by geese frequenting Anchorage International Airport included Westchester Lagoon, Sand Lake, and Campbell Lake. Most of the collared geese using Merrill Field were originally captured while molting on Westchester Lake (considered distinct from the lagoon west of Minnesota Drive), Waldron Pond, University Lake, and Aleut Plaza. Although geese that are attracted to the three airports tend to use unique combinations of nearby feeding and molting areas, evidently geese found anywhere in the Anchorage Bowl are likely to threaten public safety on at least one airport during their summer residency.

The report summarizing this study also refers to national figures. Canada geese may soon become the most common bird species involved in aircraft bird strikes in the United States. Goose collisions have doubled since 1990. Each year an average of 60 goose strikes are reported to the Federal Aviation Administration, and the FAA estimates an additional 240 strikes are not reported. Nearly 50% of all goose strikes involve some degree of damage to the aircraft and at least 24% adversely affect the flight.

Environmental Assessment and Management Plan

The U. S. Fish and Wildlife Service completed an Environmental Assessment (EA) in March (USFWS 1998). About 400 copies have been distributed. The EA found that lethal control of nesting Canada geese in Anchorage posed no significant impact to goose populations. The USFWS recommended that the State of Alaska, Municipality of Anchorage, and U. S. Air Force use lethal control as a first response to geese on airports, rather than repeatedly hazing the geese. Strictly regulated egg collecting in some areas and translocating goslings were also recommended methods for reducing the goose population in Anchorage. The EA recommended habitat alteration, e.g., fewer grassy lawns, as the most cost-effective remedy for limiting goose population growth. However, federal and state agencies have no control over that option on municipal or private property.

In April the Anchorage Waterfowl Working Group completed a management plan based on these recommendations (AWWG 1998). The management plan will be reviewed and revised annually, if necessary, to achieve a population goal of 2,000 geese by the year 2002.

Alkali Grass (*Puccinellia*) Research Project

The AWWG is supporting research on alternative ground covers that do not attract geese. Arctic alkali grass (*Puccinellia arctica*) is widespread on the North Slope, although its distribution appears to be patchy. It grows well in disturbed soil and is

tolerant of salt and hydrocarbons. Pete Scorup, owner of Northern Native Seeds, never observed geese eating this species in 25 years of research on vegetation study plots on the North Slope. He planted several rows of the grass in the Palmer area in 1995 and has been monitoring growth and collecting seeds (5,000 seeds/gram). In 1998, Scorup recommended conducting experiments to assess the grass's palatability for urban Canada geese. Palatability can change when a species is translocated to different soils and when the plants are treated with fertilizer, lime, or other chemicals. Potential flaws are *Puccinellia* is a poor competitor with other plants, and its ability to sustain mowing or trampling is unknown.

The project was funded with a $6,000 Partners With Wildlife grant from the U. S. Fish and Wildlife Service. Dr. Carl Tobin, with Alaska Pacific University, and Pete Scorup established experimental plots at Jewel Lake Park, Loussac Library, and APU campus in 1998. Municipal Parks and Beautification contributed approximately $3,000 of staff time to remove existing turf and reseed experimental plots with *Puccinellia*.

Geese did not use the APU campus site this summer, possibly because groundskeepers did not fertilize the surrounding lawn. Preliminary data from the other two sites indicated geese tended to eat less *Puccinellia* than Kentucky bluegrass. Geese also spent less time on *Puccinellia* plots, as measured by amounts of feces deposited. Well-fertilized *Puccinellia* developed nearly complete ground cover over the summer and tolerated mowing like bluegrass, but its resistance to trampling and heavy human use has not been determined.

Airport Hazing and Goose Kills

USDA Wildlife Services hazed 11,183 Canada geese (including repeats) from Anchorage International Airport this summer. They collected 15 eggs and captured 92 geese (82 goslings were moved to Susitna Flats but the 10 adults were taken to Palmer Hay Flats). Adult geese return to the capture site after molting; however, the airport believed even a month's absence was preferable to letting floatplanes dodge the geese on the lakes all summer. The hazing crews killed 165 geese on airport property in conjunction with normal hazing. Only one goose was killed at Merrill Field and 10 geese (3 or 4 adults) were translocated to Palmer Hay Flats. Elmendorf AFB killed 30 geese in 1998 (compared to 4 in 1997) due to an expanded lethal area and more aggressive hazing.

USDA Wildlife Services was paid about $130,000 for hazing birds and mammals at Anchorage International Airport in 1998; about 75% of the time was spent on geese (C. Rossi, pers. commun.). USDA Wildlife Services was paid about $11,000 for hazing birds at Merrill Field; about 90% of the time was spent on geese (C. Rossi, pers. commun.). The Elmendorf bird-dispersal program cost $325,500 in 1998, mostly ($277,500) for labor. Elmendorf spent an additional $100,000 in planting trees to discourage goose feeding on grass near the runways; the trees were free, so most of this was also for labor (K. Wedemeyer, pers. commun.).

Transforming natural areas into manicured and fertilized lawns continues to create additional goose habitat in Anchorage, sometimes in inappropriate locations. The lawn

at a new elementary school near Merrill Field is attracting geese that threaten flight safety.

The 1998 management plan assured the public that agencies would not kill captured geese in 1998. USDA Wildlife Services would like to capture and kill adult geese that molt on Lake Hood and Spenard Lake, the floatplane base that is on Anchorage International Airport property. Ten adult geese molted on the lakes in 1998.

More geese appeared to be struck and killed by vehicles in Anchorage this summer than usual. No one counted road-killed geese; however, the number was at least several score and perhaps more than 100. Twenty-one injured adult geese and 16 goslings were brought to the Bird Treatment and Learning Center. Thirteen of the injured adults and 2 goslings subsequently died from their injuries or were euthanized.

Goose Nesting Study

Although Canada geese have been studied more than most wild birds, urban goose populations have adapted to a different environment and exhibit behaviors that are unusual in wild geese. Goose population models require input on goose nesting success and survival to adulthood that may be different from that found in wild populations. A goose nesting study was initiated in 1998 to get specific information on Anchorage's goose nesting success, renesting rates, and gosling survival.

Lea Hix, a University of Alaska graduate student, found 122 goose nests in 1998, but included only 85 in her field experiment (the others were either predated by humans, dogs or wildlife or a clutch wasn't laid). Of the study nests, 41 were "controls" (i.e., no eggs were collected), 24 nests had all but one egg removed, and 20 nests had all eggs removed. Specific information on nest success in various areas will be reported later; however, Lea found no statistically significant difference in the rate of nest abandonment between the control nests and nests with all but one egg removed. These results are still preliminary, but they suggest that a pair is not likely to renest if an egg is left in each nest by egg collectors. Lea was unable to determine the rate of renesting by pairs from nests where all eggs were collected because it was nearly impossible to find nests in the lush midsummer growth, and she rarely saw collared geese near the original nest sites after she emptied the nest.

Egg Collection

Other communities in the contiguous 48 states with overabundant Canada goose populations have tried several methods to reduce or stabilize growing goose populations by reducing hatching success. If all eggs in a nest are collected, the pair is likely to renest at least once. Some communities have addled eggs by shaking or killed embryos by coating eggs with an impermeable substance such as vegetable oil or paraffin. Female geese seldom renest as long as the eggs are left in the nest; however, they may continue to sit on the eggs for weeks after they would have hatched. Because female geese eat very little during incubation, this prolonged incubation period is stressful and may prove injurious.

Alaska is unique among the states in that some people have retained a strong tradition of collecting eggs from wild birds, including geese, for consumption. The Migratory Bird Treaty Act does not allow egg collecting; however, Canada goose eggs may be collected under special depredation permits. To avoid renesting, it is important to leave one egg in each nest.

The U. S. Fish and Wildlife Service and Alaska Department of Fish and Game issued permits to landowners and managers, including the Municipality, who wanted to participate in reducing the goose population by allowing eggs to be collected for human consumption. Most of the marshes and bogs searched for nests were municipal property. Volunteer egg collectors, operating under the provisions of the permits, collected about 300 goose eggs in early June. Approximately 200 more eggs were collected during the nesting study. All eggs were donated to the Elders Programs of the Southcentral Foundation and the Cook Inlet Tribal Council. This appeared to be a popular program with Alaskan Natives and the public in general. The only problem was an apparent increase in illegal egg collecting (i.e., not under the provisions of a permit). Illegal egg-collecting is problematic because it leads to trespassing and the eggs of other species, such as ducks and gulls, are also collected. There is no easy or accurate way to determine the number of eggs collected illegally.

Gosling Translocation

Moving goslings to other suitable habitat in upper Cook Inlet is a nonlethal way to reduce the number of geese in Anchorage. USDA Wildlife Services translocated molting adults and goslings from Anchorage International Airport and Elmendorf AFB to Palmer Hay Flats (approximately 24 miles northeast of Elmendorf AFB) in 1996 and 1997. Three hundred eleven geese were translocated in 1997. The National Wildlife Research Center found 96% of collared adult geese (n = 132) and all of the collared juvenile geese (n = 14) returned to Anchorage after the molt in 1997. Only 4 of these juvenile geese were seen in Anchorage in 1998. None of the translocated juveniles were reported shot in the 1997/98 hunting season or during airport hazing; therefore, the status and whereabouts of 10 of the juveniles are unknown. Other states have also found that many juvenile geese translocated short distances in the company of adult geese return to the capture area after the molt.

The Alaska Department of Fish and Game and USFWS translocated 145 goslings from Anchorage to Seeley Lake, west of the Susitna River in 1998. The goslings were flown to Seeley Lake in a de Havilland Beaver within a few hours of capture and released without adults. The young geese soon joined local flocks. The two flights cost approximately $600. Only one of the 68 collared goslings was subsequently seen in Anchorage, and it may have been passing through on its way south. Ultimately, the success of these efforts depends on where the goslings choose to nest as adult birds.

Municipal Experience With Hazing and Goose Repellent

The city hired a contractor to spray athletic fields and some parks with methyl anthranilate. In summer 1998 the Municipality spent almost $12,000 on the goose repellent, compared with about $6,000 the previous summer. After the geese returned,

in early spring, the contractors sprayed de la Vega Park, the Park Strip downtown, Mulcahy fields, Westchester Lagoon park, and the Loussac Library lawn. Crews did not spray turf during the molt, because the flightless geese could not avoid feeding on treated fields. After the molt, in mid-summer, spraying was continued at Westchester Lagoon, Spenard Lake park, Cheney Lake park, and the softball fields on Northwood leased from Anchorage International Airport. In addition, the Alaska Native Medical Center spent about $1,200 to spray lawns around the hospital and nearby lake, and the Tudor Fund property owners' association (adjacent to the medical center) contributed $2,500 to spray repellent in cooperation with municipal parks.

Jerry Walton reported geese apparently avoided eating grass treated with methyl anthranilate for up to two weeks. However, he observed local geese resting (and defecating) in treated areas. Jerry believed methyl anthranilate treatments were less effective than last year. He speculated that this could be due to more rain this summer or perhaps the geese are becoming habituated to the taste.

Athletic associations and library patrons told park staff that they appreciated the spraying, and Anchorage homeowners and park and municipal staffs from other states asked Jerry for advice on goose control. The Municipality plans to try Flight Control™, a new product manufactured by Environmental Biocontrol International in Delaware, in 1999. In addition to altering taste by affecting different nerves than methyl anthranilate, Flight Control™ alters grass color in the UV spectrum seen by geese, which warns them not to eat it.

The Municipality is in the process of updating its comprehensive plan. AWWG members participated in meetings throughout 1998 to ensure that the plan includes goose population control and habitat management. Only the Municipality can prohibit goose feeding throughout the metropolitan area; make parks and athletic fields less attractive to geese by altering habitat, using repellents, or hazing; and allow lethal goose control on city property.

No-feeding Ordinance

People who feed geese create nuisance geese. Geese learn to congregate for handouts, often at inappropriate locations such as near roads or in parks. Geese from Anchorage's most popular feeding area, Westchester Lake, are frequent visitors at the city's three largest airfields. Geese that have learned to trust people who feed them are the most difficult to haze at airports; thus, they are more frequently shot as a last resort than their wild cousins. Feeding geese is not prohibited by law, except in specific locations. Existing federal laws prohibit feeding geese on Elmendorf Air Force Base. Existing state laws prohibit feeding geese at Anchorage International Airport and in Potter Marsh, part of the Anchorage Coastal Wildlife Refuge. Municipal law prohibits feeding geese at Merrill Field.

An Anchorage-wide no-feeding ordinance drafted by John Richard, the municipality's Chief Prosecutor, was forwarded to Assembly Member Bob Bell in May. It has not been introduced in the Assembly. The draft ordinance would amend Anchorage Municipal Code Title 8 by enacting a new section to read as follows:

8.75.170 Encouraging Waterfowl

A. It is unlawful for any person to knowingly feed waterfowl on public or private property.

B. It is unlawful for any person to deposit or abandon food on public or private property under circumstances in which a reasonable person would know that the food was likely to be consumed by waterfowl.

C. It is unlawful for a private property owner or lessee to permit food to remain available under circumstances in which a reasonable person would know that the food is likely to be consumed by waterfowl.

D. Nothing in this section is intended to restrict the raising or keeping of domesticated waterfowl.

E. Violations of this section shall be punishable by a fine of not more than $300.00.

Assembly Member Bell and others are encouraged to submit this ordinance for consideration.

Homeowner Assistance

In March 1998 the Alaska Department of Fish and Game, U. S. Fish and Wildlife Service, and U. S. Department of Agriculture Wildlife Services published a brochure--*Homeowners' Guide to Goose Solutions*--that explained and illustrated techniques for minimizing goose problems on residential and commercial lawns. The guide was made available free-of-charge at local home-and-garden stores--including Eagle Hardware, Home Depot, Alaska Mill and Feed, Bells Nursery, and Alaska Greenhouse--and the main municipal parks office and the municipal greenhouse. In contrast to recent summers, AWWG agencies received few complaints about goose problems on residential lawns this summer.

The brochure, Environmental Assessment, and other information is available on the U.S. Fish and Wildlife Service website (www.r7.fws.gov/mbm/ancgeese/index.html) and the brochure is also on the Alaska Department of Fish and Game website (www.adfg.state.ak.us).

1999 Research Projects

Public Education and No-feeding Signs -- The Municipality has contributed $16,000 to a $13,000 Alaska Department of Environmental Conservation 50/50 Water Quality Matching Grant to improve water quality by educating the public about feeding waterfowl. They have hired a consultant to develop signs and a public education plan to address goose problems in parks and public waterbodies. The subcommittee (and anyone else that wants to help) will meet this winter and intends to implement the plan by April.

Goose Nesting Study – The goose nesting study will continue through the 1999 molt.

***E. coli* Research** – Municipal Water Quality and Alaska Department of Fish and Game staff will collect feces samples from a variety of waterbirds and mammals to determine their relative contributions to degraded water quality in Anchorage lakes and streams.

Alkali Grass (*Puccinellia*) Research – Dr. Carl Tobin plans to establish a two-acre plot at Klatt fields in addition to monitoring the existing experimental plots.

Gosling Feeding Trials –Christopher Rhea, an APU graduate student under the direction of Carl Tobin, will conduct gosling feeding trials. The experiment will determine food preference and growth rates of goslings fed a common turf grass, such as Kentucky bluegrass, compared to *Puccinellia*. They may also test the hypothesis that a diet that includes white bread is not as good for geese as one without human handouts. Dr. Tobin will apply for federal and state permits for holding the goslings and, if the experiment is conducted, the goslings will be translocated to Susitna Flats after the summer trials with other goslings captured at molting lakes in town. Dr. Tobin plans to use 40 to 60 two-week-old goslings and keep them about three weeks.

Recent Literature on Canada Geese and Goose Control

A new, comprehensive guide to techniques for managing Canada geese in urban areas by Smith *et al*. (1999) can be obtained from Cornell University, Media and Technology Services Center, 7 Cornell Business & Technology Park, Ithaca, NY 14850 (607-255-2090 or Dist_Center@cce.cornell.edu) for $10 plus mailing ($12.95 to Anchorage).

Urban populations of Canada geese tend to aggregate young birds in mixed broods, consisting of natural and adopted goslings. Researchers measured distance of goslings from adults and mortality for five years to predict the survival value of this creching behavior. Adopted goslings tended to be farther from female adult geese than natural goslings. Mixed broods improved the survival of natural goslings (Nastase and Sherry 1997).

The FAA has compiled a synopsis of data on wildlife strikes to civil aircraft in the U. S. from 1992-1996 (Cleary *et al.* 1997). Most bird strikes occur near airports (34% during approach and 21% during take-off) and at low altitudes (55% under 100 feet and 79% under 900 feet above ground level). Sixteen percent of reported bird strikes damaged the aircraft. Gulls are the species most often involved in reported strikes to civil aircraft (31% vs. 12% for waterfowl); however, gulls and waterfowl account for equal numbers of damage reports (both 16%), and waterfowl account for the most reported aircraft down time and monetary losses (35% of all reported wildlife aircraft strikes). Less than 20%

of all strikes at three major U. S. airports were reported to FAA. Wildlife aircraft strikes were estimated to cost in excess of 406,000 hours/year of aircraft down time and $216 million/year in direct monetary costs.

Waterfowl can disseminate infectious oocysts in the environment (Graczyk *et al*. 1998). Fecal droppings of migratory Canada geese collected from nine sites near Chesapeake Bay were examined for the presence of *Cryptosporidium parvum* and *Giardia* spp. *C. parvum* oocysts were found in feces at seven of the nine sites, and *Giardia* cysts were found at all nine sites. The oocysts from three sites were infectious for mice and, presumably, humans. The authors speculated that the *C. parvum* oocysts may have been acquired by the geese from cattle farms in the area, and study results cannot be generalized to other populations of geese that may not have had contact with cattle or pastures. *C. parvum* can produce life-threatening infections in immunocompromised and immunosuppressed people. *Giardia* cysts are also potentially dangerous to humans and other animals.

Seventy percent of Canada goose droppings tested in DuPage County, Illinois, contained *Cryptosporidium* oocysts and *Giardia* cysts (Rozek 1998). An infectious disease specialist believed the risk of contracting giardia from Canada goose droppings in parks, golf courses, and playgrounds was small, but not non-existent.

Potentially virulent strains of Newcastle disease virus are maintained in migratory waterfowl populations, and some strains may be transmitted to domestic poultry and acquire pathogenicity in chicken populations (Takakuwa *et al.* 1998). Feces samples for this study were collected from waterfowl in Alaska and Siberia from 1991 to 1996.

Several studies have shown that methyl anthranilate repels Canada geese. However, a recent study using captive Canada geese found no evidence that AG-36, a methyl anthranilate compound, repelled geese from feeding on turf at rates of up to 150 pounds per hectare (Belant *et al*. 1996). The researchers speculated that methyl anthranilate may repel geese at higher application rates; however, it may not be cost-effective at current retail prices. The researchers estimated that, at 61 pounds per acre, each application of AG-36 to turf would cost $350 per acre.

Research continues on other avian feeding repellents. A new chemical, anthraquinone (Flight Control™), shows promise for Canada geese (Dolbeer *et al.* 1998). Like methyl anthranilate it has low toxicity to birds and mammals. It has an advantage over methyl anthranilate or lime in that it does not have an odor or discolor grass. Further laboratory and field trials are needed to refine minimum repellent levels and to enhance retention on treated vegetation.

Dead Duck Decoys, a company advertising on the Internet, has developed a plastic model of a dead Canada goose (Dead Duck Decoys 1998). Dropping two or more of these “decoys” on a lawn or along the edge of a pond can keep geese from landing. Each decoy costs $79.95, or you can order the Golf Course Kit, with 14 decoys, for $999. The website includes links to news articles and other testimonials to their effectiveness. Users note that the decoys must be moved frequently, or the geese will become habituated.

Urban Canada geese can pay their way in Toronto under a plan recently devised by Peter Lerat (Schneider 1997). Mr. Lerat caught a goose in the city and carried it into a doughnut shop, vowing to choke the goose to death unless someone paid a ransom. After collecting his fee, Mr. Lerat dropped the goose and ran. The goose was taken to the Toronto Humane Society and eventually released in a local park.

Finally, if you happen to be one of those people who think goose feces has no redeeming value, you may be surprised to learn how nutritive it is. Researchers in Spitsbergen have observed reindeer feeding on goose droppings (van der Wal and Loonen 1998). Large numbers of barnacle geese compete with reindeer for limited grass and herbs, but the geese digest little of the cellulose. Reindeer prefer grassy droppings to mossy droppings and, although they also eat moss, the reindeer would rather eat grassy droppings than moss. Reindeer fed on droppings "like a vacuum cleaner," swinging their head from side to side with the mouth held just above the ground. Near a lake with lots of geese (with an estimated 28 droppings per square meter), reindeer consumed an estimated 36% of all droppings. The researchers estimated 6 to 8 reindeer could live on goose feces alone during the two-month period when geese are present.

1999 Management Plan

The 1998 goose population estimate was only slightly higher than the previous summer (instead of 12-15% higher). Airport representatives still believe there are too many geese in the area; however, they acknowledge that there has been progress in controlling goose numbers. During the environmental assessment a small but vocal segment of the public wanted the AWWG to recommend nonlethal control first, except on airports, and Anchorage Audubon recommended trying nonlethal control for two years. There was consensus that we could make minor revisions to the 1998 management plan, thereby postponing a large capture-and-kill operation for one more year. However, AWWG members also reconfirmed the need to reach the population goal of 2,000 geese by the year 2001.

Our proposed management plan for 1999 is as follows.

Egg collecting and gosling translocations will be continued. The Municipality and other interested landowners will apply for depredation permits. We will try to collect more eggs by finding more nesting areas and using more volunteers, and we will try to capture and move more goslings without adults. Potential undiscovered nesting areas include Fort Richardson land near Muldoon and several small lakes in Bicentennial Park. We will try to minimize illegal egging with press releases and media interviews.

Anchorage International Airport will ask for an amendment to their state and federal depredation permits to allow staff to capture and kill adult geese at the floatplane base. In 1998 this amendment would have affected only 12 adult geese. Presumably, these are the geese that lead numerous goslings to Lake Hood and Spenard Lake. Merrill Field may also apply for a permit revision to allow them to kill adult geese at Sitka Park and the adjacent, fenced snowdump that pose an immediate and repeated threat to air safety.

The Municipality will continue to spray methyl anthranilate and experiment with the new repellent, as discussed above. Fort Richardson will spray methyl anthranilate on athletic fields next summer and may attempt to suspend a rope or wire grid over an athletic field to discourage use by geese. Anchorage International Airport, Elmendorf AFB, and Merrill Field will continue to alter habitat on airport property that is attractive to geese, and will continue hazing, including lethal control, on airport property. Elmendorf may conduct an environmental assessment to assess the impact of filling a small wetland area near the runway to remove a waterfowl attractant.

The AWWG is working with two state legislators, Senator Ellis and Representative Croft, municipal planners and others to improve erosion control and public use at the Chester Creek inflow to Westchester Lagoon. The design will incorporate ground cover that discourages use of the area by Canada geese, mallards, and gulls. Feeding these birds will also be discouraged by artwork provided by Northstar Elementary classes. AWWG will continue to ask the Anchorage Assembly to adopt a no-feeding ordinance for waterfowl in the Municipality.

AWWG plans to mail copies of the *Homeowners' Guide to Goose Solutions* to all residents of the Anchorage Bowl who live adjacent to lakes used by geese.

We will continue to monitor goose population dynamics by counting them in spring, summer, and fall. We probably will not band and collar geese next summer, except translocated goslings.

The management plan will be completed in March 1999.

AWWG Members -- Karen Laing, Cathy Rezabeck, Steve Kendall (U. S. Fish and Wildlife Service); Rick Sinnott, Dave Crowley, Tom Rothe (Alaska Department of Fish and Game); Kate Wedemeyer, Capt. Chris McCallan (Elmendorf Air Force Base); Jerry Walton (Municipality of Anchorage, Sports and Recreation); Kristi Bischofberger (Municipality of Anchorage, Water Quality); Tom Kempton (Municipality of Anchorage, Loussac Library); Mack Humphery (Federal Aviation Administration); Bill Quirk (Fort Richardson); Carl Tobin (Alaska Pacific University); Owen Hughes, Sandy Belinky (Anchorage Audubon); Corey Rossi, Jon Spiegel, Pat Gray (USDA Wildlife Services); Howard Smith (Municipality of Anchorage, Merrill Field); Doug Lohr (Anchorage International Airport).

Recognition – Members of the Anchorage Waterfowl Working Group were awarded certificates of appreciation by the Director of the U. S. Fish and Wildlife Service in recognition of their partnership efforts on behalf of wildlife management.

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