



THE SPORTSMAN

“Conservation is Our Aim”



SYDENHAM SPORTSMEN'S ASSOCIATION,
 P.O. BOX 264 OWEN SOUND, ONTARIO,
 N4K5P3
www.sydenhamsportsmen.com/
 Affiliated with the OFAH, the Ontario Federation of Anglers and Hunters



SSA On Line

 Web Site

Volume 38 No. 4 April, 2018



THE NEXT GENERAL MEETING,

First Thursday of each month, October to June,
 September exception -> second Thursday

Thursday
April 5, 7:30 pm
AT THE CLUB HOUSE,

President's Message (April 2018)

Hey everyone, I hope all of you have made it through the winter well and are looking forward to brighter and warmer days. The clocks have now been set back and the evening sun stays out a little longer. I was just out to the Swap Meet this morning and what a great turnout – once again great job Stew & Garry along with all who took part. I also noticed both days this weekend that the ice fishing fanatics are in full force out from the old RCA plant – I don't know how much success they are having but it is great to see that our winter fishery is still strong here.

THE CLUB HOUSE is: on the Lincoln Park Road, in the township of Georgian Bluffs, or {082535 Side Road 6}, or {217567 Concession 3 Side road, behind Gord Maher Centre}

Earth Day will be Saturday, April 21st, 2018.

Annual Chili/Chowder/Stew/Soup Night is on Wednesday, May 9, 6:00pm, at the Clubhouse

We have arrived at a date for our 2nd Annual Chili/Chowder/Stew/Soup Social Evening to be Wednesday, May 9th at the Clubhouse from 6:00 pm. For those interested please see me at the General Meetings or by phone/email if you can't make it out to the meetings (226-664-0644 or scott.grimoldby1@gmail.com). As last year we are looking for cooks to prepare dishes as well as looking for someone to bring a dessert if possible. We look forward to having our members show their cooking skills as well as those only wishing to take part. The cost has yet to be decided but it will be minimal, and I look forward to seeing as many out who can make it.

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To the SSA members, from Jim Hastie. Since many of us do not know how to use the AED machine, **On April 5 at the general meeting**, Sue Williams will present an overview of the Automatic External Defibrillator (AED). The presentation will include activation of Emergency Medical Services, Heart and Stroke 2015 CPR guidelines as well as application and use of the AED.

The presentation will be an interactive, hands on format. Sue is a Critical Care Flight Paramedic with Ornge Air Ambulance.

**Over 60 Years Promoting Conservation**



Sydenham Sportsmen's Association

President: Scott Grimoldby  
1st Vice President: Fred Geberdt  
2nd Vice President:  
Bill Douglas  
Recording Secretary:

Past President: Mike Prevost  
Treasurer: Dennis Wiseman  
Correspondence Secretary:  
John Ford

Directors:  
Jeff Caldwell, John Ford,  
Wayne Gallagher,  
Chris Geberdt, Jim Hastie,  
Al Hillis, Jim Jansen  
Ron Robb,

*Please inform John Ford if your address, phone number, or, email has any changes!*



Newsletter: Dave Skelton  
Webmaster: Bruce Farrell  
Membership: John Ford  
Key Keeper: John Ford

Clubhouse Bookings:  
Contact-  
**Ron McCartney** (Club Custodian)  
Home 519-794-3456  
Cell 226- 668-6031  
ultrasoundkennel@gmail.com



**Monthly Meeting  
Draw Prize Winners**



MARCH 8, 2018  
PRIZE DRAW WINNERS

Armor All Wipes      Jim Hastie  
BBQ starter          Klaus Wagner  
Rod & reel            Mary Hillis  
Rod boat holder      John Snook  
Weigh in bag         David Bellamy  
Drink dispenser      Wayne Gallagher  
Frank wipes          George Albright  
BBQ lighter          Charlie Bellamy  
Saw clock             Ron McCartney

Red tag \$50.00 LCBO Gift Card  
Ron Robb

Thanks to all for participating



**Club Level Handgun Safety Course**

There is a new contact for anyone looking to take the club level handgun safety course. This course is required prior to shooting a handgun on your own at the club.

Please Contact: Dave Fritz [daveandpat.fritz@gmail.com](mailto:daveandpat.fritz@gmail.com)



From: Scott Petrie <[spetrie@deltawaterfowl.org](mailto:spetrie@deltawaterfowl.org)>  
**Delta's YHCC and new RD Hire for Ontario**

Hello Folks,

Two important Delta announcements for Ontario waterfowl hunters and youth that want to get their hunting license for this fall.

As per below, we are happy to announce that we have hired Barry Keicks as a Regional Director for Ontario. Delta is growing very quickly in Ontario and we are excited to have Barry join our Team! Feel free to contact Barry if you are interested in starting a new Delta Chapter or if you would like to assist with an existing Chapter: [bkeicks@deltawaterfowl.org](mailto:bkeicks@deltawaterfowl.org)

We will be offering our Youth Hunting & Conservation Course again this summer and this is in partnership with the Ontario Federation of Anglers and Hunters.

Registration for the 2018 Youth Hunting & Conservation Course opened this morning. Attached is an information flyer, feel free to send to this to anyone you think may be interested – sorry but must be an Ontario resident.

People can register at [www.deltawaterfowl.org/yhcc](http://www.deltawaterfowl.org/yhcc). If you have any questions please contact Maya Basdeo, our Ontario Waterfowl Programs Manager: [mbasdeo@deltawaterfowl.org](mailto:mbasdeo@deltawaterfowl.org)

Keep well! Scott

I am looking for members interested in another Chili/Soup/Stew/Chowder night as to if they would be making something or wishing to attend with more information and a firm date & cost to follow.

Please contact me at [scott.grimoldby1@gmail.com](mailto:scott.grimoldby1@gmail.com) or 226-664-0644.

Scott G, president



**Skeet Tournament**

Saturday, April 14th,  
starting at 10am

Cost \$12

50 targets, Lewis Prize Money

Lunch will be available.

Contact Jeff Caldwell for more info

[jrc870@gmail.com](mailto:jrc870@gmail.com)



**Handgun**  
**Stew Wallace**



**MARCH SWAP MEET.**

We had a great turnout for this swap meet, probably aided by the nice weather, specially ordered for the event. The parking lot was full and some had to park on the road, always a good sign for an SSA event.

There were several new vendors and it looked like a lot of people went home with new stuff, including Garry and me. Blake Smith's son, Mike was there and sold much of Blake's residual shooting supplies and very generously donated the considerable proceeds to the club, along with more goodies to go into our annual auction.

A good day all around and we even managed to sell out of coffee and donuts, so the proceeds for this also goes back into the club kitty.

Thanks to all who attended, there will be more !

Stew W/Garry W



*Photo by Rob Cameron*

**Tribute to a**  
**Departed Conservationist**

Recently, a friend and supporter of the SSA and Owen Sound Salmon Spectacular passed on to the Happy Fishing Ground. Lorne Fletcher, the owner of Fletcher Sports, just outside Owen Sound, finally lost his long time battle with cancer. His passion was rod building and I spent many hours in discussion about that with him.

For many years, Lorne not only was a club member but was also a long time derby sponsor. He donated many rods and reels to the Salmon Spectacular which ended up in the hands of delighted youngsters.

***R I P Lorne, we will miss you!***

**OFAH Conservation**  
**Lottery Tickets**

If you have tickets out, please sell the remainder and bring them in at the meeting. However the deadline for getting in tickets is the May general meeting.

**31 st Annual**  
**Owen Sound**  
**Salmon Spectacular**

The derby is really just around the corner, time wise. This year's Edition starts on Friday August 24 and ends on Sunday September 2. As you can appreciate, it takes many volunteers to make this major fundraiser for the SSA operate. We have a weigh in station, a food booth, a PR booth, a Bar and a food booth. All of these must be staffed over the 10 days.

I plan to have the Weigh in Station Schedule at each meeting so that you can easily sign up. If you are new to the club, this is a great way to get to know people and also help to fund conservation. You can also call me or email me to help. My telephone number is 226 664 0960 and my email is

johnrichardford5@gmail.com



**Wildlife Advisory Committee**

This group looks after the Demonstration Wildlife Management Area adjacent to the Clubhouse. It's difficult to believe that this was once a depleted pasture field. Much work has occurred with some done by those no longer with us. This is named after a dedicated conservationist and retired Conservation Officer: Blake Smith.

Our committee is planning to clean up debris in this area, fertilize the trees and spray for Wild Chervil.

As well, John Morneau is spearheading a conservation project on Bothwell's Creek just outside Owen Sound. As you travel along Highway 26 you can see several previously done projects by the SSA.

This one involves getting permission from landowners, removing necessary debris from the stream and planting trees and shrubs to aid in stream bank stabilization.

**ABSTRACT** We present a comprehensive look at a sample of bear spray incidents that occurred in Alaska, USA, from 1985 to 2006. We analyzed 83 bear spray incidents involving brown bears (*Ursus arctos*; 61 cases, 74%), black bears (*Ursus americanus*; 20 cases, 24%), and polar bears (*Ursus maritimus*; 2 cases, 2%). Of the 72 cases where persons sprayed bears to defend themselves, 50 (69%) involved brown bears, 20 (28%) black bears, and 2 (3%) polar bears. Red pepper spray stopped bears' undesirable behavior 92% of the time when used on brown bears, 90% for black bears, and 100% for polar bears. Of all persons carrying sprays, 98% were uninjured by bears in close-range encounters. All bear-inflicted injuries ( $n=43$ ) associated with defensive spraying involved brown bears and were relatively minor (i.e., no hospitalization required). In 7% (5 of 71) of bear spray incidents, wind was reported to have interfered with spray accuracy, although it reached the bear in all cases. In 14% (10 of 71) of bear spray incidents, users reported the spray having had negative side effects upon themselves, ranging from minor irritation (11%, 8 of 71) to near incapacitation (3%, 2 of 71). Bear spray represents an effective alternative to lethal force and should be considered as an option for personal safety for those recreating and working in bear country. (*JOURNAL OF WILDLIFE MANAGEMENT* 72(3):640–645; 2008)

Throughout North America, bear–human conflict periodically results in serious, sometimes fatal, injuries to both bears and humans (Herrero 2002). These conflicts between bears and people include negative interactions that are aggressive, defensive, or nuisance in nature (Gore et al. 2006). A few studies have investigated bear–human conflict in North America (Herrero 1970; Middaugh 1987; Herrero and Higgins 1999, 2003; Miller and Tutterow 1999). Miller and Tutterow (1999) reported that brown bear (*Ursus arctos*; synonymous with “grizzly bear” and hereafter brown bear) attacks resulted in 2.75 injuries and 0.42 deaths per year in Alaska, USA, from 1986 to 1996. Miller and Chihuly (1987) found that 72% of nonsport brown bear deaths in Alaska were the result of aggressive bear–human interactions. It is likely that some of these bear fatalities could have been avoided had nonlethal deterrents been available. On Alaska's Kenai Peninsula, the number of brown bears killed in defense of life or property has increased more than 5-fold in recent years and presently exceeds population sustainability (Suring and Del Frate 2002).

People rely on a variety of deterrents for protection from bears, including firearms, red pepper sprays, signal flares, incendiary screamers, and an assortment of noise makers (Herrero 2002). Red pepper spray repellants, hereafter bear spray, were initially developed in the 1960s as a defense against aggressive domestic dogs (Miller 2001). The active ingredients in bear spray, capsaicin and related capsaicinoid compounds, produce a nonlethal yet debilitating response, including coughing, sneezing, bronchoconstriction, apnea, retrosternal discomfort, laryngeal paralysis, and temporary blindness (Miller 2001). Miller (1980) tested dog repellent sprays on captive brown bears and found that charging bears were stopped when sprayed in the face. Spraying resulted in swift retreats to the farthest corner of the cage where bears rubbed their eyes and blinked vigorously (Miller 1980). Encouraged by these results, Miller (1980) advocated the development of red pepper spray–based repellents for bear defense.

Initial tests of the improved formulation and packaging proved promising, so research trials were conducted involving captive bears (Hunt 1984). Rogers (1984) reported positive results when red pepper spray was used on freeranging black bears (*Ursus americanus*). Importantly, none of these studies reported bears responding aggressively when sprayed. Herrero and Higgins (1998) analyzed 66 nonexperimental incidents in which bear spray was used on both wild brown and black bears and found that in aggressive encounters with brown bears bear spray ended the bears' unwanted behavior in 94% (15 of 16) of incidents. However, in 6 cases the bear continued to act aggressively; in 3 of these cases the bear attacked the person spraying. In 88% (14 of 16) of the cases the bear(s) eventually left the area after being sprayed.

Results regarding black bears were more variable, but no humans were injured after spray use.

Some people have been reluctant to rely on bear spray for protection. We believe several reasons contribute to their reluctance. Chief among these is the notion that bear sprays are too weak to dissuade curious or aggressive bears from approaching people. Additionally, some people believe that wind can easily render sprays ineffective and that wind driven spray may incapacitate the user. We present data from Alaska bear spray incidents that address these concerns. Additionally, we present bear spray incidents 1 involving polar bears (*Ursus maritimus*), the first reported in the literature. Our goal was to provide data regarding the effectiveness of bear spray over a 20-year period. Given the overall lack of evaluation of the efficacy of bear–human conflict interventions, including bear spray, analysis of bear spray effectiveness is needed (Gore et al. 2006). Insight about bear spray efficacy may contribute to more informed decisions regarding its use and reduce human injury and nonsport loss of bears.

## **METHODS**

We collected bear spray incident records from 1985 to 2006 from state and federal agencies, newspaper accounts, and anecdotally. We included all Alaska records (31) previously analyzed by Herrero and Higgins (1998) so we could present a comprehensive, updated assessment of bear spray incidents from Alaska. Bear spray incident variables of interest included date, time, location of incident, number of persons involved, person's activity before interaction, bear species and age-sex class, bear's activity before being sprayed, manufacturer of spray used, wind effects, effects on humans, dosage of spray administered, dosage of spray received, distance to bear when sprayed, bear's response to spray, mechanical problems, and whether the bear returned after being sprayed. Whenever records were incomplete ( $n=10$ ), we interviewed individuals involved. We regrouped values for the variable distance to bear when sprayed into broader categories to aid analysis (e.g., 0–5 m, 6–10 m, and 11–20 m). Subjectivity of incident records, presence of confounding factors (e.g., multiple manufacturer's products having been used), and small sample sizes limited statistical analyses.

We pooled bear spray incident data by bear species and bear behavior, consistent with Herrero and Higgins (1998). Data included incidents involving black, brown, and polar bears. We labeled bears curious if they were exploring the environment in a nonaggressive manner. We deemed bears aggressive when the encounter included behaviors such as charging, agonistic vocalizations, or persistent following (Herrero and Higgins 1998). In some instances, we could not infer the bear's behavior and we classified those behaviors as unknown. We pooled data by behavior of the bear before being sprayed into 2 categories, food motivated and nonfood motivated, consistent with Herrero and Higgins (1998). Bears in the first category were perceived to be searching for human food or garbage. If aggressiveness was involved in these incidents, it was with respect to acquiring food or garbage. Bears in the second category were acting aggressively, and they were not attempting to acquire food or garbage.

We defined successful outcomes as bear spray having stopped the undesirable behavior of the bear. A bear that no longer pursues a person, breaks off an attack, abandons attempts to acquire food or garbage, or turns and leaves the area are examples of successful outcomes. We deemed failures spray incidents in which the bear continued its pursuit, persisted in attempts to acquire food or garbage, or showed no change in its undesirable behaviors. A bear not leaving an area after being sprayed, however, was not deemed a failure so long as threatening behaviors, rummaging through trash, or direct risks to people ceased. To address wind effects on spray, we tested the velocity of bear spray issuing from canisters at the actuator, or nozzle, using a Kestrel wind meter (Nielsen-Kellerman, Inc., Sylvan Lake, MI). We held the meter approximately 5 cm from the actuator and released a 1-second burst of spray. We recorded maximum wind speed attained. We replicated this procedure 5 times to calculate a mean exit velocity for bear spray. We used the G test for goodness-of-fit for differences between observed and expected frequencies (Dytham 2003). We selected the G test because we were dealing with observed frequencies of various categories and expected proportions for those categories that we did not derive from the data. We set significance at  $P \leq 0.05$ .

## RESULTS

We analyzed 83 cases involving the use of bear sprays in Alaska (Table 1), of which 72 incidents involved persons spraying menacing bears, and the remainder ( $n = 11$ ) are examples of spray misuse or bear attraction to residues. We address instances of bear spray misuse separately. From 1985 to 2006, our sample of bear spray incidents showed that Alaska averaged 3.16 reported bear spray incidents per year. Of the 83 incidents we examined, brown bears were involved in 61 (74%), black bears in 20 (24%), and polar bears in 2 (2%;  $G = 196.6$ ,  $P < 0.001$ ). Of the 72 cases where persons defensively sprayed bears, 50 (69%) involved brown bears, 20 (28%) black bears, and 2 (3%) polar bears ( $G = 73.0$ ,  $P < 0.000$ ). All instances of spray misuse ( $n = 11$ ), or of spray residues attracting bears, involved brown bears. In 92% (46 of 50;  $G = 41.4$ ,  $P < 0.001$ ) of close-range encounters with brown bears, spray stopped undesirable behavior in which the bear was engaged. In 90% (18 of 20;  $G = 14.7$ ,  $P < 0.001$ ) of close-range encounters with black bears, spray stopped the bear's undesirable behavior. All bear-inflicted injuries ( $n = 3$ ) involved brown bears and were relatively minor (i.e., no hospitalization required). During 1985–1995, Herrero and Higgins (1998) found bear spray use in Alaska 94% effective overall (30 of 32 incidents;  $G = 31.3$ ,  $P < 0.001$ ); we found that in the decade following bear spray, efficacy was 90% (36 of 41 cases;  $G = 33.4$ ,  $P < 0.001$ ). Bear spray incidents for which time of day was known (65%, 47 of 72) show that none occurred between 0100 hours and 0600 hours, 14 (30%) occurred between 0600 hours and 1200 hours, 14 (30%) occurred between 1200 hours and 1800 hours, and 18 (38%) occurred between 1800 hours and 2400 hours; only one (2%) occurred between 2400 hours and 0100 hours. In 96% (69 of 72) of bear spray incidents the person's activity at the time was reported. The largest category involved hikers (35%), followed by persons engaged in bear management activities (30%), people at their home or cabin (15%), campers in their tents (9%), people working on various jobs outdoors (4%), sport fishers (4%), a hunter stalking a wounded bear (1%), and a photographer (1%). Persons injured in bear spray incidents included 2 hikers and one field biologist. In 62% (31 of 50) of brown bear incidents bears were either acting curious or searching for food or garbage before being sprayed. Of these bears, 13% (4 of 31) were acting aggressively with respect to obtaining food; 87% (27 of 31) were not acting aggressively. In 77% of incidents (24 of 31), one bear was involved, but in the remaining incidents females with cubs made up 10% (3 of 31), large males 7% (2 of 31), and a pair of siblings 7% (2 of 31) of bears involved. In 100% (29 of 29;  $G = 32.8$ ,  $P < 0.001$ ) of these incidents, use of bear spray stopped the undesirable behavior of the bears involved. In 17% of incidents (5 of 29;  $G = 13.5$ ,  $P < 0.001$ ), the bear returned after being sprayed. In 68% (13 of 19) of black bear incidents, bears were either acting curious or were searching for food or garbage. Of these bears, none acted aggressively toward people while in pursuit of human foods. In 77% (10 of 13) of these incidents, one bear was involved, but the remaining 23% (3 of 13) involved family groups. In 85% (11 of 13;  $G = 6.9$ ,  $P = 0.032$ ) of these incidents, bear spray stopped the bear's behavior, whereas in 15% (2 of 13) the outcome was unclear due to confounding factors (i.e., bear trapped inside a structure and unable to flee, linkage between spraying and cessation of behavior unclear). In 11% (2 of 19;  $G = 13.6$ ,  $P < 0.001$ ) of incidents, the black bear returned to the site following initial spraying.

*Continued on page 6*

An **Application Form** may be obtained by using the link below.

<http://www.sydenhamsportsmen.com/> Top menu Bar -> **Membership**

Just fill in the form, and mail to the address on the front page of this newsletter, c/o **John Ford**.

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In both polar bear incidents, subadult bears approached humans in a pickup truck there to observe bears feeding on bowhead whale (*Balaena mysticetus*) remains near the village of Kaktovik, Barter Island, Alaska, USA. In both instances (100%), bear spray stopped the bear's approach and turned the bear away. Neither of these bears returned to the truck following spraying. In 36% (18 of 50) of brown bear incidents, brown bears acted aggressively towards people before being sprayed. In 86% (12 of 14 for which distance was known) of these incidents, the person was first aware of the bear at 15 m, with a mean estimated distance of 6 m. In the remaining 2 instances, bears were first noticed at 25 m and 50 m, respectively. In 64% (9 of 14) of these close encounters, brown bears charged the person(s) before being sprayed. In 85% (12 of 14;  $G1 \frac{1}{4} 7.9$ ,  $P \frac{1}{4} 0.019$ ) of aggressive encounters with brown bears, bear spray stopped the bear's aggressive behavior; in 12% (1 of 14) the person spraying the bear was not injured, but the bear charged through the fog, halting 1 m from the person before moving off. In 12% (1 of 14) of aggressive encounters the bear contacted and slightly injured the person in the interaction (i.e., deep scratches requiring stitches). Of brown bears involved in aggressive interactions unrelated to food procurement, 38% (6 of 16) were single bears, 56% (9 of 16) were females with dependent young, and 6% (1 of 16) were a pair of bears. In 3 instances (21%, 3 of 14) aggressive brown bears returned after being sprayed.

In 35% (7 of 20) of incidents involving black bears, bears acted aggressively towards people without an apparent food related motive. In 4 of these 7 aggressive incidents, the bear was apparently surprised at close range ( $\square 15$  m). Only in one case (1 of 7, 14%) did the black bear charge before being sprayed. In 100% (7 of 7) of bear spray incidents involving aggressive black bears, the undesirable behavior was stopped by spraying. No one using bear spray was injured by black bears in any behavioral mode, aggressive, food seeking, or curious. Of black bears involved in aggressive interactions, 100% (7 of 7) were single bears, one reportedly a subadult and the others adults. After being sprayed, 3 bears (43%, 3 of 7) returned, 3 did not return (43%, 3 of 7), and one (14%, 1 of 7) did not leave the general area.

In 7% (5 of 71) of bear spray incidents, wind was reported to have interfered with spray accuracy, although it reached bears in all cases. In 14% (10 of 71) of bear spray incidents, users reported spray having negative side effects upon themselves, ranging from minor irritation (11%, 8 of 71) to near incapacitation (3%, 2 of 71).

On 10 occasions (14%, 10 of 71) the sight and sound associated with spray release were reported as key factors in changing bear behavior. In 67 spray incidents for which distance was reported, the mean distance between user and bear at the time of spraying was 4 m (range 1–15 m). One user commented that he had “squarely hit the bear” at 10 m, although at distances  $\leq 5$  m success was variable. When bears were sprayed at  $\square 3$  m (33 cases), the spray always enveloped the bear, with only one resulting in a failure to deter the attacking bear.

Three persons (2% of the 175 persons involved in 71 separate incidents) suffered injury by bears that had been sprayed with bear deterrent. One person halted the attacking bear by spraying it at close range in the face, and the other 2 persons were unable to spray a second dose because the initial attack knocked the spray canister from their hands. Nonetheless, only one of the 3 reported that the spray had failed to protect them. No mechanical failures of spray canisters were reported in the 71 cases.

We analyzed 11 incidents of spray misuse that resulted in unintended consequences. In 45% (5 of 11) of incidents, persons applied spray to objects they hoped to protect from damage by curious bears; these efforts all failed. In 2 instances (18%), persons applied sprays as a zonal repellent but reported bears inordinately attracted to these locations (i.e., tent and on river bank). In 2 instances (18%), persons reported bears attracted to spray residues following use of bear spray for practice purposes. Repeated sprays ( $n \frac{1}{4} 5$ ) with fully pressurized cans showed mean exit velocities 112.64 km/hr (70.62 miles/hr).

## DISCUSSION

Two decades of bear spray use in Alaska confirm that it is an effective bear deterrent. Findings by Herrero and Higgins (1998) regarding the efficacy of bear spray in Alaska from 1985 to 1995 were comparable to ours for the following decade, 1996–2006. As there were only 2 incidents involving polar bears, these results should be interpreted with caution. However, we located 3 additional polar bear incidents, 2 from Russia and one from northern Canada, which support our findings (Cochran 2000, Ovsyanikov 2004). In Russia and Canada, bear spray successfully protected the user from injury by aggressive polar bears. The only injuries ( $n \frac{1}{4} 3$ ) brown bears, consistent with findings by Middaugh (1987) and Herrero and Higgins (2003) that brown bears are the most aggressive of all 3 North American bear species. We found little change in the overall efficacy of bear sprays between the 2 decades of study (94% vs. 90%), in spite of reported improvements by manufacturers (e.g., increased capsaicinoid content, pressure, and dispersal distance). Differences in bear deterrent spray brand formulation (e.g., % capsaicin, chemical carrier composition, and vol), spray duration, and distance exist, but our data were too few for rigorous performance comparisons or analysis. In 18% of cases we analyzed (13 of 72), both brown and black bears resumed their threatening behavior after having been sprayed the first time. In these instances, repeated spraying eventually deterred bears such that the user could escape the situation.

Bear spray diffuses potentially dangerous situations in the short term by providing the user time to move out of harm's way and allowing the bear time to reassess the situation and move on.

When food or garbage is involved with bear conflict, bear spray is effective initially, but one can expect bears to continue returning until these attractants are removed or otherwise secured. In surprise encounter situations, bear spray buys time for both the human and bear to go their separate ways.

Consistent with others' findings regarding bear-human conflict, our data show hikers to be the largest group involved in bear spray incidents (Middaugh 1987, Herrero and Higgins 2003). This activity correlates with the most frequent time of day for bear spray use, between 0600 hours and 1800 hours (60%; Fig. 1). The increase in bear spray incidents in the evening (38%; 1800–2400 hr) was largely due to bear management activities.

Wind can influence bear spray's accuracy and distance; however, our data show that wind rarely affected the outcome of bear-human interactions involving bear spray, which is likely because many close encounters do not occur in open areas, but rather in dense brush or forests where wind is greatly attenuated (T. Smith, Brigham Young University, unpublished data; S. Herrero, University of Calgary, unpublished data). High exit velocities of spray from cans likely compensates for cross-wind effects and may account for the low incidence of wind-related effects reported in Alaska. Of the 72 incidents we studied, 4 (6%) involved persons that had to leave the area to alleviate burning eyes and coughing. No one reported being incapacitated by spray, although one user said he had to move or he would have been overwhelmed. Importantly, latent bear spray residues have been found to attract brown bears rather than repel them (Smith 1998), which was evident in 7 instances in Alaska where persons applied bear spray to objects with the intention of repelling bears. Unfortunately, bears were attracted to, and subsequently destroyed, the property that had been coated with bear spray, similar to observations reported by Smith (1998). These observations underscore a need to carefully manage spray residues by not indiscriminately dispersing spray.

Because some persons had to spray bears multiple times to drive bears off in 24% (17 of 72) of instances we studied, spray conservation, and total canister volume, may be concerns. We suggest discarding bear spray when contents fall below 90% of the original amount (as determined by weighing), or when the canister is past its expiration date, generally 3–4 years from date of purchase.

### **Management Implications**

Our research shows that bear deterrent spray is an effective tool for defusing bear-human conflict in a nonlethal manner. In Alaska, bear spray was highly effective in dealing with all 3 species of North American bears, although more data on polar bear responses is needed. Persons working and recreating in bear habitat should feel confident that they are safe if carrying bear spray. Although bear spray was 92% effective by our definition of success, it is important to note that 98% of persons carrying it were uninjured after a close encounter with bears.

In portions of North America where bears are in decline managers may reduce the number of bears killed in defense-of-life by arming employees with bear deterrent sprays in addition to firearms. No bear spray has ever been reported to kill a bear. It is our belief that widespread use of bear spray will promote human safety and bear conservation.



### **Gate Keys for 2018**

The 2018 keys will have a black key spotter on them. They are available at meetings, at Watson's Tackle House, at the Maher Centre and from me. The cost is \$5.00 and I will



### **Bluebird Nesting Box Assistance**

Bob Hunt, who co-ordinates our extensive nesting box programme, is looking for more help in checking our boxes.

**Please give him a call at the Maher Centre 519-371-8560 to offer your assistance.**

### **Changed your email address or location address?**

A number of times, I have heard members indicate that they are not receiving information from the club. Dave Skelton often sends out email blasts about a number of topics. If you have moved locations and have not informed us, we have no way of knowing. As well, we need to let the OFAH know so that your magazine can reach you.

In today's age of many internet providers, some frequently change providers. If you decide to do that, please let us know so that we can update your profile.

My email address is **johnrichardford5@gmail.com**. Don't forget the 5 and my telephone number is **226 664 0960**.



### **New Membership Cards**

A number of members have asked me about getting a new membership card. This is entirely possible, however there are a couple of wrinkles. First, I only print new cards when new members are accepted into the club i.e. After executive meetings. Secondly, you will have a new membership number and finally the cost is \$5.00. If you need a new card and your membership is paid, contact me.

Use this link below to renew your membership! **Pay Pal or a Credit Card can be used**

<http://www.sydenhamsportsmen.com/>