

# THE PRINCE OF WALES ISLAND DEER HUNTER PROJECT

## *PRELIMINARY SUMMARY OF HUNTER RESPONSES TO INTERVIEW QUESTIONS*



### *COMMUNITY REPORT*

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**February, 2006**

## EXECUTIVE SUMMARY

In recent years, subsistence hunters on Prince of Wales Island (POW) have expressed concern that they are experiencing difficulty harvesting enough deer to meet their needs. The objectives of the *Prince of Wales Island Deer Hunter Project* were to better understand the extent of this problem and determine why hunters are experiencing difficulty. During spring and summer 2005, I conducted 88 face-to-face interviews with Alaska residents with in-depth knowledge of deer hunting on POW. Through these interviews, I collected hunter perceptions on 3 main topical areas: i) deer hunting patterns, ii) deer population trends, and iii) deer habitat and hunting access. In this report, I present a basic summary of hunter responses to interview questions. I will provide more detailed explanations of key factors that may be causing subsistence hunters to experience difficulty in future papers.

According to interviews, forty-nine percent of hunters perceived that time and effort needed to harvest a deer have remained the same over the last 5 years; whereas, 36% perceived more time and effort, and 14% perceived that less time and effort were needed to harvest a deer. Those who felt more time and effort were needed attributed this change to more hunting competition and pressure, followed by less desirable deer population characteristics (low supply, age structure with low percentage of mature animals, and sex structure with low percentage of bucks). Those who perceived less time and effort were needed attributed this change to milder winters and better access to deer, followed by an abundant supply of deer available for harvest.

Hunters reported harvesting a median of 4 deer each year, which was equal to the number of deer required to meet the typical hunter's own household needs. However, this was less than the number required to meet both the average hunter's own household needs and other households he or she provided deer for. Seventy-three percent of hunters reported that they shared deer meat, and 51% of those provided deer for 3 or more other households.

Muskegs were identified as the most popular habitat type to hunt followed by clearcut forest. The quality of hunting in clearcuts depended on the age of the clearcut. Hunters reported that the best hunting in clearcuts began on average 2 years after an area has been logged, and hunt quality began to decline on average when a clearcut reached 9 years of age.

Vehicles were used the most to access hunting areas. Most hunters reported that roads increased their hunting success and decreased hunting effort. In contrast, hunters generally reported that road closures had no effect on their hunting success and effort. Hunting was reported to be better on new roads because of increased access to previously remote hunting areas and new roads are usually located next to new clearcut forest. However, hunters often perceived a decline in hunt quality along roads over time due to increased hunting pressure and increased forest growth next to roads. Many hunters reported that they seek out and select areas with closed roads to avoid hunter competition and because there were more deer.

Over the last 5 years, 44% of hunters perceived that the deer population on POW has remained stable. Hunters who perceived an increase (30%) in deer population size mainly attributed this change to mild winters. Hunters who perceived a decline (26%) mainly attributed this to over harvest.

On average, hunters predicted that the deer population on POW will slightly decline over the next 25 years. That decline was mainly attributed to hunting pressure and harvest followed by habitat change (i.e., clearcuts converting to second-growth forest) and weather.

## INTRODUCTION

In recent years, subsistence hunters on Prince of Wales Island (POW) have expressed concern that they are experiencing difficulty harvesting enough deer to meet their needs. The objectives of the *Prince of Wales Island Deer Hunter Project* were to better understand the extent of this problem and determine why some hunters are experiencing difficulty.

During spring and summer 2005, I conducted face-to-face interviews with residents of POW, Ketchikan, and Saxman to collect hunter perceptions on 3 main topical areas: i) deer hunting patterns, ii) deer population trends, and iii) deer habitat and hunting access. I used informal interviews conducted in communities during summer 2004, Alaska Department of Fish and Game records on deer hunters, and notes and reports from the Unit 2 Deer Planning Subcommittee of the Southeast Regional Advisory Council to identify key informants in each community. Key informants along with representatives from Tribal Associations suggested and helped me locate interview candidates. I interviewed adult Alaska residents who have in-depth knowledge of deer hunting seasons, methods, and areas; traditional and contemporary patterns of deer hunting; and changes in hunting practices over time.

In this report, I present a basic summary of hunter responses to interview questions. For interview questions that resulted in a quantifiable response by hunters, I mainly provide averages, but also provide medians when the average is not a good overall representation of the responses provided by hunters.

## GENERAL INFORMATION FROM INTERVIEWS

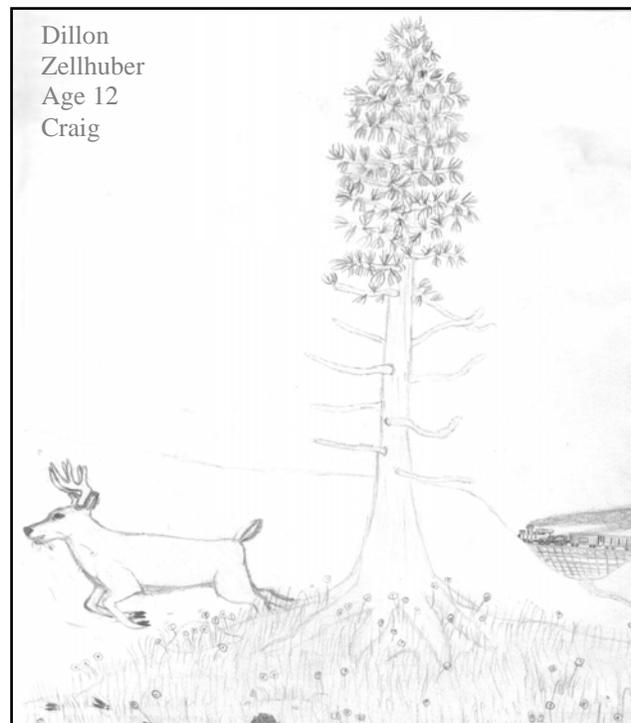
I interviewed 88 deer hunters from 11 communities on POW and 2 off-island communities (Table 1). A total of 5 females and 83 males were interviewed, and median interview length was 42 minutes (Table 2).

Table 1. Number of hunters interviewed in each community

Coffman Cove	7
Craig	9
Hollis	6
Hydaburg	11
Kassan	3
Ketchikan & Saxman	20
Klawock	7
Naukati	7
Point Baker	2
Port Protection	4
Thorne Bay	6
Whale Pass	6

Table 2. General information about interviewed hunters

	Minimum	Maximum	Average
Age	18	94	47
Members in household	1	8	3
Years hunting deer on POW	3	71	22



## HUNTING PATTERNS

### Hunting effort

Hunters actively hunted deer a median of 17.5 days each year (Table 3), but the definition of an active day of hunting varied among individuals. Many hunters (64%) reported that an active day of hunting was devoting an entire day to a hunt; whereas, some hunters (9%) consider opportunistic hunting (harvesting a deer when the opportunity presents itself but never devoting part of the day to just hunting) to be actively hunting. The remainder considered an active day of hunting to be when a hunter devoted part of the day to the hunt.

### Timing of hunt

The beginning of the season (i.e., July & Aug.) and rut (deer breeding season) were the most popular times to hunt deer, and hunting pressure was lowest during September and early October. Hunters were most active during the morning hours (57%), but many reported that they hunt all day (31%). According to interviews, hunting pressure was the lowest during the middle of the day.

### Mode of hunting

Vehicles were used most (67%) to access hunting areas, followed by use of boats (23%). Some hunters used a combination of boat, vehicle, and ATV (7%). After reaching the hunting area, hunters often traveled away from vehicle or boat to hunt on foot (Table 3). Although not specifically asked during interviews, many hunters mentioned that they often hunt roads on foot, particularly closed roads.

Table 3. Hunting patterns reported by hunters during interviews

Hunting pattern	Minimum	Maximum	Average	Median
Typical number of days hunting deer on POW each year	3	100	22.5	17.5
Average distance traveled (miles) away from vehicle or boat when hunting on foot	0	6	1.7	1.5
Average distance traveled (miles) away from home to hunt <sup>1</sup>	2	110	34.2	20.0

<sup>1</sup>Distance traveled by off-island residents who used ferry access was measured from Hollis terminal to hunting area.

### Hunter competition

According to POW residents, slightly more than half (54%) perceived that off-island hunters have affected their hunting experience and their households' deer hunting success, but less than half reported that off-island hunters competed with them for deer (43%), interfered with their hunt (19%), or forced them to change where (41%) or how (38%) they hunt. According to off-island residents, 45% said they have competed with other hunters while on POW, none reported that their hunt had been interfered with, 30% have changed how they hunt because of competition, and 70% have changed where they hunt because of other hunters. Eighty percent of off-island residents reported they hunt the northern half of POW, and few reported that they hunt the outer islands or the southern portion of POW.

## HARVEST PATTERNS

### Harvest numbers and needs

Typically, hunter households harvested a median of 4 deer each year, which was equal to the number of deer required to meet their own household needs, but less than the number required to meet both their needs and other households for which they provide deer (Table 4). Most hunters (73%) reported that they share deer meat, and 51% of those sharing provided deer to 3 or more other households. Sixty-four percent of hunters reported that their household needs did not change from year to year. For those hunters whose household needs changed (36%), change (increase and decrease) was attributed to a shift in the age and number of members in the household (50%) followed by needs of others (21%) and amount of other types of harvest (21%) such as fish, moose, or caribou. On average, deer were reported to be the main source of red meat in hunter households according to both POW and off-island residents (Table 4).

Dependence on deer as a meat resource was not predicted to change over the next 20 years according to 43% of hunters interviewed. Those who predicted an increase (26%) in dependence on deer mainly attributed this change to a future decline in the desire for beef followed by decline in the economy and a rise in the human population on POW in the future. Those hunters that predicted a decline (31%) in dependence on deer mainly attributed this to a shift in human values where more humans will perceive deer as a non-consumptive resource rather than a harvestable resource. Other reasons given for a predicted decline in dependence include: an increased difficulty to harvest a deer, a younger generation of people that hunt less, and groceries becoming more accessible.

### Harvest effort

According to interviews, 49% of hunters perceived that time and effort needed to harvest a deer have remained the same over the last 5 years; whereas, 36% perceived more time and effort and 14% perceived that less time and effort were needed to harvest a deer. Those who felt more time and effort were needed attributed this change to more hunting competition and pressure, followed by less desirable deer population characteristics (low supply, age structure with low percentage of mature animals, and sex structure with low percentage of bucks). Those who perceived less time and effort were needed attributed this change to milder winters and better access to deer, followed by an abundant supply of deer available for harvest.

Table 4. Harvest patterns reported by hunters during interviews

Harvest pattern	Minimum	Maximum	Average	Median
Number of deer harvested during a typical year	1	30	6.1	4.0
Number of deer required to meet the hunter's household needs for a year	1	20	5.4	4.0
Number of deer required to meet needs of both hunter's household and others households that hunter provides deer for	1	25	7.6	6.0
Portion of red meat (fish not included) that hunter's household consumes that comes from deer	5%	100%	64.4%	68.5%

## DEER POPULATION TRENDS

### Deer population abundance & supply

Forty-four percent of hunters perceived that the deer population on POW has remained stable over the last 5 years in the areas where they hunt. Hunters who perceived an increase (30%) in deer population size mainly attributed it to mild winters (Table 5). Hunters who perceived a decline (26%; Table 6) mainly attributed this to over harvest. Hunters (66%) reported that they mainly used the number of deer they see along roads and while hunting to estimate deer population. Other popular indicators used by hunters to estimate deer numbers were sign (38%; pellets, rubs, tracks) followed by deer harvest efficiency (5%). Less than 3% of hunters reported that they use biological data, word-of-mouth, or other indicators to form an opinion on deer population size on POW.

Table 5. Ranking of potential causes of an increase in deer population size over the last 5 years

Cause of increase in deer population	Overall rank 1 = main cause 4 = least cause
Mild winters	1
Less predation	2
Less hunting pressure	3 (tie)
Better habitat	3 (tie)
Other	4

Table 6. Ranking of potential causes of a decline in deer population size over the last 5 years

Cause of decline in deer population	Overall rank 1 = main cause, 7 = least cause
Over harvest	1
Legal doe harvest	2
Illegal harvest	3
Wolf predation	3
Habitat loss	4
Bear predation	5
Harsh winters	6
Other	7

Forty-three percent of hunters perceived that there were enough deer on POW to meet human demand; however, 30% reported that there was a surplus and 28% of hunters reported a shortage of deer. Hunters mainly used their harvest efficiency and number of deer observed to determine whether there was a shortage, surplus, or enough to meet demand.

**Physical condition of the deer population**

Nearly all hunters (90%) reported that the deer they harvested or observed on POW over the past 5 years were in good physical condition. Eight hunters (9%) reported that deer were in average condition, and 1 (1%) hunter stated that deer were in poor physical condition. Fat content and appearance were the primary indicators used by hunters to determine condition of a deer. Many hunters (38%) reported that there seemed to be more or healthier deer in certain areas, particularly in alpine habitats but also in clearcut forest and remote areas. Some hunters reported that less healthy deer were located in second-growth forest habitat.

**Research to improve management of the deer population**

Although deer management and hunting regulations were not the focus of interviews in this study, hunters were asked for their thoughts concerning deer research needs. Hunters reported that research on estimation of illegal deer harvest followed by research on the effects of wolf predation would be the most valuable types of research to improve deer management on POW (Table 7). Research on population estimation of deer was reported as the top research priority by many hunters; however, an equal number of hunters reported that population estimation of deer was the least needed type of research. Because of the overall lack of consensus on the value of this type of research, population estimation received a middle ranking.

Table 7. Ranking of types of research needed to improve management of the deer population on POW

Type of Research	Overall rank 1 = most needed 7 = least needed
Estimate illegal harvest	1
Effects of wolf predation	2
Fawn survival & recruitment	3
Effects of bear predation	4
Population estimation	5
Deer habitat decline	6
Deer reproduction	7
Other	8



## HABITAT & HUNTING ACCESS

### Hunting areas

Muskegs were identified as the most popular habitat type to hunt followed by clearcuts (Table 8). Areas that were recently pre-commercially thinned were the least popular. Many hunters (64%) said thinned habitat decreased the quality of the hunt and that they avoided those areas. The remaining hunters (36%) reported that thinning had increased the quality of hunting in those areas, or they perceived that thinning will improve the quality of their hunt in the future.

### Habitat change

The reported quality of hunting in clearcut forest depended on the age of the clearcut. Hunters reported that the best hunting in clearcuts began on average 2 years (ranged from 0 to 5 years) after an area has been logged, and hunt quality began to decline on average when a clearcut reached 9 years of age (ranged from 2 to 20 years). Eighty-six percent of hunters reported that clearcuts eventually can no longer be hunted and this occurred on average at year 14 (ranged from 3 to 45 years) and a median of 12 years. After a clearcut forest converts to second-growth forest, 49% of hunters don't feel it can be hunted again; whereas, 7% feel it can be hunted again with proper management such as thinning. Forty-four percent of hunters believed that a second-growth forest can be hunted again after reaching an average age of 50 years (ranged from 25 to 100 years) and a median age of 40 years, but the quality of the hunt in those areas is still inferior to most other habitat types.

Table 8. Ranking of preferred hunting areas by habitat type

Habitat type	Overall rank 1 = most popular 8 = least popular
Muskeg	1
Clearcut forest	2
Alpine	3
Old-growth forest	4
Beach/shoreline	5
Second-growth forest (stem exclusion stage)	6
Recently pre-commercially thinned forest	7
Other	8

### Road construction and closure

Hunters had mixed opinions on the effects of roads on deer hunting and the deer population, and some responses were contradictory. For instance, most hunters reported that road construction and the extensive road network on POW had increased their hunting success and decreased effort. However, most hunters also reported that road closures had no effect on their hunting success and effort (Table 9). Contradictions like these are complicated and will be further explored and explained in future papers.

Hunters generally perceived that road construction and the extensive road network have had a negative effect on deer populations and that road closures have had a positive effect. Many added that hunting is better on new roads because of increased access to previously remote deer habitat, and new roads are usually located next to young clearcut forest (Table 8). Nonetheless, hunters perceived a decline in hunt quality along roads over time due to increased hunting pressure and increased forest growth next to roads. Road closures have made 47% of the hunters interviewed change their hunting strategy. Further, many hunters reported that they seek out and select areas with closed roads to avoid competition with other hunters, and because they believe there are more deer in those areas.

Table 9. Responses by hunters to questions addressing roads and road closures

Question	Increased	Decreased	No effect
How have road construction and the road network affected hunting success?	59%	10%	31%
How have road construction and the road network affected hunting effort?	9%	47%	44%
How have road closures affected hunting success?	33%	25%	41%
How have road closures affected hunting effort?	43%	9%	48%
How have road construction and the road network affected deer populations?	16%	49%	35%
How have road closures affected deer populations?	68%	0%	32%

**HISTORIC ESTIMATES & FUTURE PREDICTIONS OF THE DEER POPULATION**

Over the next 25 years, hunters predicted that the largest effect on the deer population on POW will be hunting pressure and harvest, followed by habitat change (i.e., clearcuts converting to second-growth forest) and weather (Table 10). In contrast to responses by hunters on the question about deer research needs (Table 7), illegal harvest was not a common response by hunters when asked about large effects on the deer population over the next 25 years. This may be because hunters perceive illegal harvest as a problem that can be fixed with proper management in the near future. Further investigation on this issue is needed.

Table 10. Categorized factors predicted to have the largest effect on deer populations over the next 25 years

Factor <sup>1</sup>	% of hunters
Hunting pressure and harvest	36.4
Habitat decline	23.9
Weather	23.9
Predation	15.9
Deer management/regulations	14.8
Human development and population growth	12.5
Forest management (particularly second-growth)	10.2
Decline in logging activity	9.1
Illegal harvest	5.7
Shift in human attitude (deer looked at as a non-consumptive resource instead of sport or subsistence resource)	2.3

<sup>1</sup>Hunters often stated more than 1 factor



Hunters were given a graph and asked to draw a line that illustrated their historic estimate and future prediction of deer abundance on POW (Fig. 1). Estimates and predictions of deer abundance from 1975 to 2045 varied considerably among hunters, and the average of the estimates fluctuated around 40,000 deer with a slight increase in deer numbers during the 1980s followed by a slight but steady decline into the future. Hunters estimating an increase over the last 30 years mainly attributed this to mild winters and intensive logging activity creating better habitat for deer. Hunters estimating a decrease over the last 30 years mainly attributed this change to hunting pressure. Hunters predicting an increase in deer numbers in the future attributed this to less hunting pressure, improved management, and continued mild winters. Hunters predicting a decrease in deer numbers in the future attributed this to over harvest and a decline in deer habitat because of a less logging activity and clearcuts converting to second-growth forest. Many hunters reported a best-case and worst-case scenario for deer abundance in the future. Often, the worse-case scenarios reported by hunters were the result of poor deer and forest management, particularly management of second-growth forest.

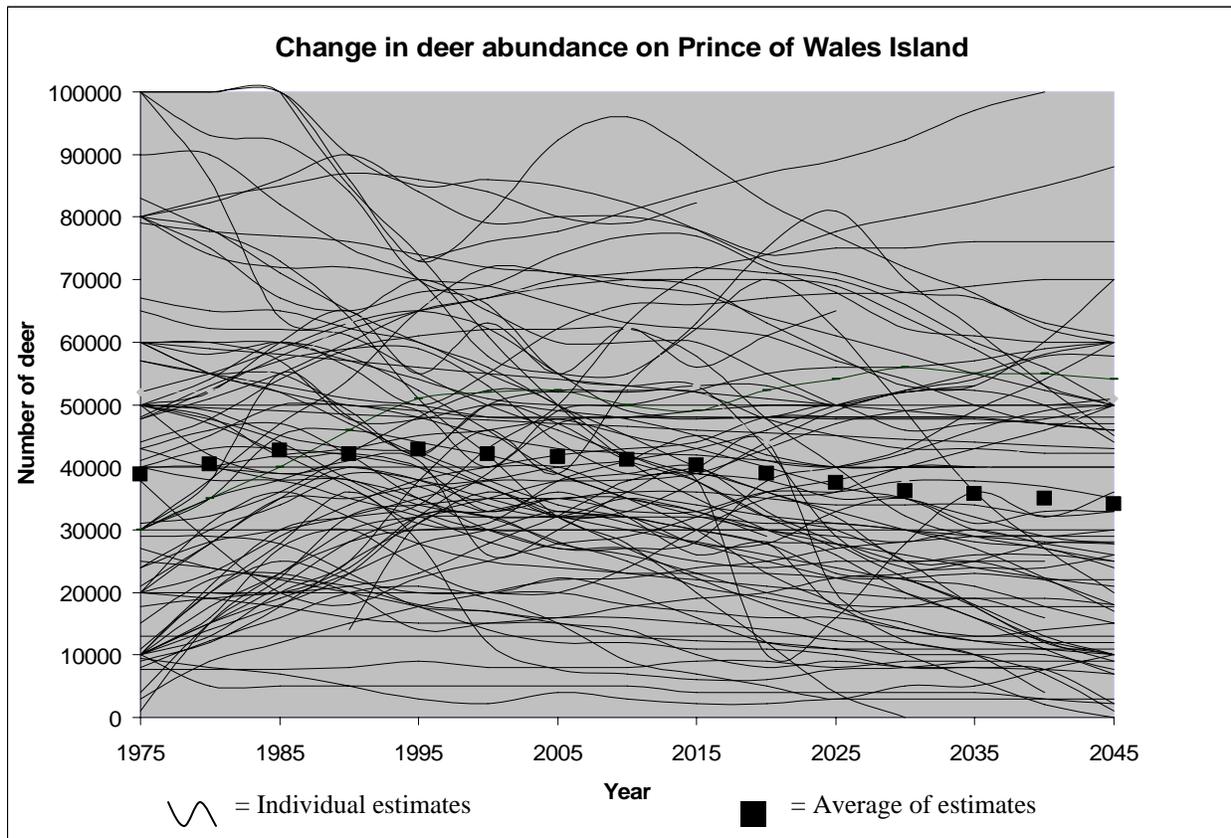


Figure 1. Hunters' historic estimates and future predictions of deer abundance on POW

### ADDITIONAL COMMENTS BY HUNTERS

Additional comments mainly addressed hunting regulations (52%) and forest management (34%). Many hunters with additional comments expressed concern about the negative effects of the doe season and illegal harvest. Some felt that length and timing of the deer hunting season should be changed and regulations with antler size restrictions (e.g., "forked horn" or better) should be initiated. Regarding forest management, hunters expressed concern about the indirect effects (e.g., less access due to road closures) that a future decline in logging activity will have on hunting. In addition, management of second-growth forest was mentioned by many hunters as a critical step to sustaining high-quality deer hunting on POW.

**ACKNOWLEDGEMENTS**

I sincerely thank all the hunters who participated in this study for kindly sharing their time, knowledge, and hunting experiences. Many hunters and their families, who will remain anonymous, went well beyond normal hospitality to assist me with my research and make me feel welcome. Craig Community Association, Hydaburg Cooperative Association, Klawock Cooperative Association, and the Organized Village of Kassan assisted with interview participation and scheduling. Alaska Department of Fish and Game Division of Wildlife and USDA Forest Service provided logistical support. Thank you T. Chapin, A. Christianson, G. Killinger, G. Kofinas, S. McCurdy, D. Person, K. Peterson, B. Porter, L. Trimmer, W. Smith, B. Wright, and A. Wyatt. Funding for this study was provided by Alaska Trappers Association; National Science Foundation's IGERT and LTER Programs; University of Alaska Fairbanks' (UAF) Biology and Wildlife Department, Institute of Arctic Biology, and Resilience and Adaptation Program. Winning drawings from the *Prince of Wales Island Wildlife Art Competition* were used to illustrate this report. The theme of the art competition was "Prince of Wales Island deer hunting". I thank all the schools and teachers on POW who participated in the competition, and especially the talented students who submitted their drawings. Professor Joan Hornig and students from her UAF Art Seminar helped select winning drawings.

**ADDITIONAL INFORMATION**

Detailed information collected during interviews was not included in this summary report. A comprehensive analysis of hunter interview information is currently in progress and results will be presented in future papers. I welcome feedback on the results and encourage help from communities in interpreting findings. If you would like to request copies of future papers, have questions about this report, or have general questions about *The Prince of Wales Island Deer Hunter Project*, please don't hesitate to contact me.

Sincerely,

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