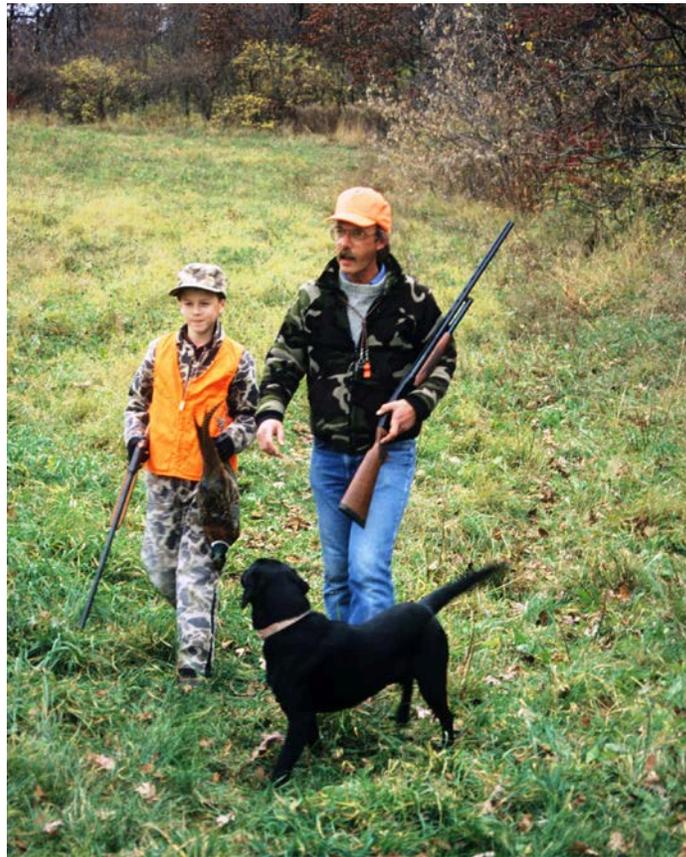


Trends in Outdoor Activity Participation by Conservation Patron License Holders, 1993-2012



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Summary: The Conservation Patron License (CPL) offers a package of licenses, application fees, and access passes for \$165 that if purchased separately would cost significantly more. Documenting the activity use by CPL holders has been important for allocating revenues to agency program areas. Understanding CPL activity use over time can provide insights into the degree to which the current package meets the needs of these customers. Documenting changes in use also may help us understand changes in recreational demand across the broader population of Wisconsin outdoor users. In this report, we compare findings from six separate CPL surveys conducted periodically between 1993 and 2012. We offer some hypotheses about the causes of the observed trends, including significantly declining sales of the CPL since 2002.

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**Trends in Outdoor Activity Participation by
Conservation Patron License Holders,
1993-2012**

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January 2014

“I think the Patron’s License is a great value and it helps support the DNR.”

“Thank you for allowing my input on the Patron’s License. It is very convenient and at present, is still a good value. But as my activities change, and if the price escalates, I may regress to purchase a Sportsman’s License which fulfills most of my outdoor needs.”

“I like having the ability to purchase an all-inclusive license... I like knowing I can hunt and fish for anything statewide. It’s nice peace of mind.”

“It’s time you offer a senior citizen discount on the Patron’s License... We cannot make use of many of the opportunities offered from the license... At \$165 it’s a bit pricey for us on Social Security.”

“I no longer use many of the privileges of the license because of my age and ability to get around... Is there another license I should purchase? ... I’m not getting out of it what I once was.”

“I am probably spending too much when I purchase the license because it includes some stuff I don’t use... but what are my alternatives?”

— CPL Holder Survey Respondents

Introduction

The Wisconsin Conservation Patron License (CPL) offers one-stop shopping for the state's avid outdoor enthusiast by packaging various licenses, application fees, and access passes into a single license. The Wisconsin Department of Natural Resources (Wisconsin DNR) first offered the CPL in 1984, but the CPL has changed slightly in its composition over the years (Table 1). The CPL currently costs \$165.00. It offers a package of items that if purchased separately would total more than \$300.00 (Table 2). The current price has been in effect since 2006, having been raised at that time from \$140.00.

Documenting the recreational activity usage by CPL holders has been important for the agency in determining allocation of revenue to Wisconsin DNR program areas over the years, but there are other important applications of the survey data. CPL holders represent a unique subset of Wisconsin's outdoorsmen (the term 'outdoorsmen' is gender directional by design—99% of CPL customers are men) in that they are likely more dedicated and committed to the outdoors than one would find with a random selection of license or permit holders of any single product. By studying their use of CPL services over time, we gain insights into the degree to which the current package is congruent with the needs of these customers. Looking at trends of CPL holders can also portend or reflect changes in recreational demand across the broader population of Wisconsin outdoor users. In this report, we compare findings from six separate surveys of CPL holders conducted periodically between 1993 and 2012. We also offer some hypotheses about the causes of the observed trends, including significantly declining sales of the CPL since 2002.



Methodology

Surveys of CPL holders originated in 1993 and were repeated again in 2004, 2005, 2007, 2010, and 2012. The six surveys were conducted with random samples of residents at least 18 years of age and older; junior CPLs were not included. Survey administration of the most recent five iterations followed a similar methodology and achieved response rates in the high 80 to low 90 percentages (exceptionally good response rates). Data from each of these surveys was presented in separate reports. Data from the 1993 survey was produced in a scant memo with less information overall, and without mention of survey methods. The 1993 survey also did not appear to be as comprehensive in the types of activities it measured. Consequently, some of the trends we report in this report use only the time period from 2004-2012, if comparable data from 1993 were not available.

Table 1. Changes in the Conservation Patron License package, 1993 to 2012.

Items included	1993	2004	2005	2007	2010	2012
Angling licenses & fees						
Annual fishing license	X	X	X	X	X	X
Great Lakes trout & salmon stamps	X	X	X	X	X	X
Inland trout Stamp	X	X	X	X	X	X
Sturgeon spearing license	X					
Sturgeon hook & line tag (WI/MI boundary)			X	X	X	X
Inland sturgeon hook & line tag			X	X	X	X
Hunting licenses & fees						
Small game license	X	X	X	X	X	X
Pheasant stamp	X	X	X	X	X	X
Gun deer license	X	X	X	X	X	X
Archery deer license	X	X	X	X	X	X
Spring turkey hunting license	X	X	X	X	X	X
Fall turkey hunting license	X	X	X	X	X	X
Turkey stamp	X	X	X	X	X	X
Spring turkey application	X	X	X	X	X	X
Fall turkey application	X	X	X	X	X	X
Waterfowl stamp	X	X	X	X	X	X
Bear hunting license	X					
Bear application	X					
Early goose permit		X	X	X	X	X
Goose application	X	X	X	X	X	X
Exterior goose permit				X	X	X
Regular season goose permit	X	X	X	X	X	X
Hunter's Choice permit application		X	X			
Trapping licenses & fees						
Trapping license	X	X	X	X	X	X
Otter application	X	X	X	X	X	X
Fisher application	X	X	X	X	X	X
Access fees & passes						
Annual state park sticker	X	X	X	X	X	X
Wisconsin Natural Resource magazine subscription	X	X	X	X	X	X
Annual bike trail pass privilege	X	X	X	X	X	X
Heritage Hill State Park admission	X	X	X	X	X	X
Total value (rounded to nearest dollar)	\$217	\$233	\$250	\$298	\$298	\$302
Cost of CPL	\$100	\$140	\$165	\$165	\$165	\$165

Table 2. Current Conservation Patron License package and individual pricing.

Items included	Price if purchased separately
Angling licenses & fees	
Annual fishing license	\$20.00
Great Lakes trout & salmon stamp	\$10.00
Inland trout stamp	\$10.00
Inland sturgeon hook & line tag	\$20.00
Sturgeon hook and line tag (WI/MI boundary)	\$20.00
Hunting licenses & fees	
Small game license	\$18.00
Pheasant stamp	\$10.00
Gun deer license	\$24.00
Archery license	\$24.00
Spring turkey application	\$3.00
Spring turkey license	\$15.00
Turkey stamp	\$5.25
Fall turkey application	\$3.00
Fall turkey hunting license	\$15.00
Early goose permit	\$3.00
Exterior goose permit	\$3.00
Regular season goose application	\$3.00
Waterfowl stamp	\$7.00
Trapping licenses & fees	
Trapping license	\$20.00
Otter application	\$3.00
Fisher application	\$3.00
Access fees & passes	
Annual state park sticker	\$25.00
Annual state trails pass	\$20.00
Admission to Heritage Hill State Park	\$9.00
<i>Wisconsin Natural Resource</i> magazine subscription	\$9.00
Total value	\$302.25

Past CPL surveys generated reports of the frequencies of participation or use for most of the fishing, hunting, and trapping license types, and for other non-consumptive amenities offered through the CPL. Using the data from each survey, we plotted frequencies for individual activities in a series of line graphs to visually depict changes over time. In some cases, we added linear regression trend lines with R-squared values to illustrate the degree to which apparent changes deviate from a flat line (stable trend), with higher R-squared values being associated with greater changes over time. We chose to analyze trends for activities that were repeatedly measured in at least three consecutive survey years.

Notes



Results

To anticipate the results that follow, we wish to first put the activity trends into the broader context of the declining popularity of the CPL among state residents. Sales of CPL reached their “high-water” mark in 2002 with a total of 81,896 (Figure 1). The sale of CPLs has declined by 50% since then. In 2013, the Wisconsin DNR sold 41,891 resident CPLs. This sales trend becomes part of the story linked with trends in participation rates within activity types that we observe in the survey results.

Survey results indicate two prominent features about current CPL customers. The good news is they are very loyal. Since 2005, we have asked respondents to our survey to indicate how many of the previous five years they had purchased a CPL. The percentage who indicated purchasing a CPL for five consecutive years has increased by 21% over seven years (Figure 2). In 2012, 81% of CPL holders we surveyed indicated that they had purchased the CPL for five consecutive years. So as overall sales have eroded, the remaining customer base appears to be very consistent in their purchasing behavior. The bad news is that this customer base is aging. In 2004, the average age of a CPL holder was 46 and in 2012 that average increased to 53.

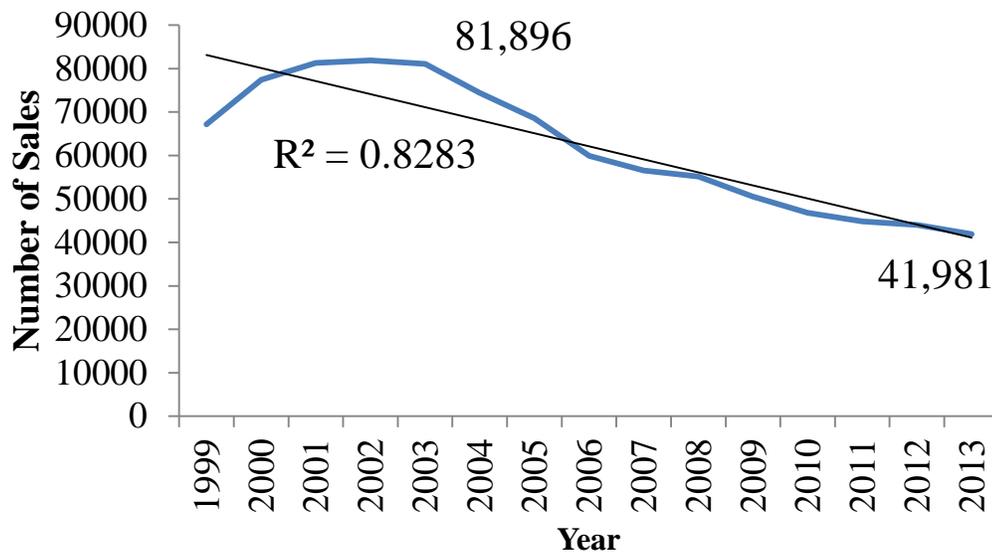


Figure 1. The number of resident Conservation Patron Licenses sold, 1999-2013.

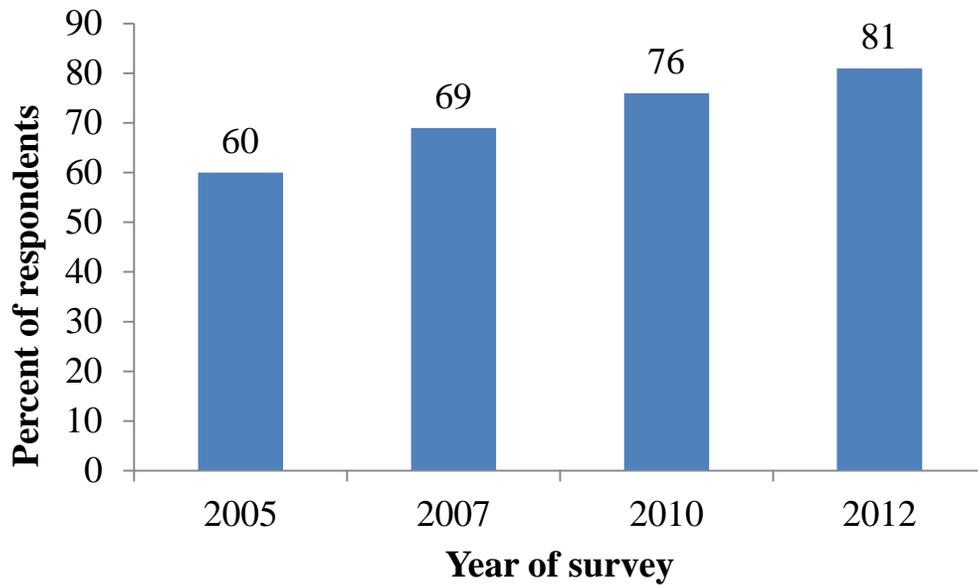


Figure 2. *The frequency of survey respondents who purchased the CPL for five consecutive years, categorized by year in which the survey was conducted.*

Hunting, Fishing, and Trapping: The 30,000 Foot View

The frequency of CPL holders who participated in some form of hunting and fishing over the time period of this study appears relatively stable (Figure 3). Nearly all CPL holders participated in at least one type of hunting and one type of fishing with their license in each year of the survey. Fishing participation tracks slightly less than hunting participation, suggesting that there is a small percentage (~5%) of customers who buy the CPL for the hunting and/or trapping benefits and do not participate in fishing. The frequency of trapping participation is much lower relative to participation in hunting and fishing among CPL holders, but actually shows a very modest increase in participation from 12% in 1993 to 20% in 2012.

Fishing Participation, 1993-2012

Fishing is one of the staple activities for CPL customers with a stable, 20-year average of 93% participation (Figure 4). While the overall frequency of CPL holders who report fishing has been consistently high, participation in inland trout fishing and Great Lakes trout and salmon fishing both experienced a significant decline between 1993 and 2004 before stabilizing over the past ten-year period. The frequency of CPL holders who fished for inland trout declined by 21% since 1993. Great Lakes trout angling decreased by 14 % between 1993 and 2012. (Note: Significant changes in participation between the 1993 and 2004 time periods will be described for several types of hunting as well.)

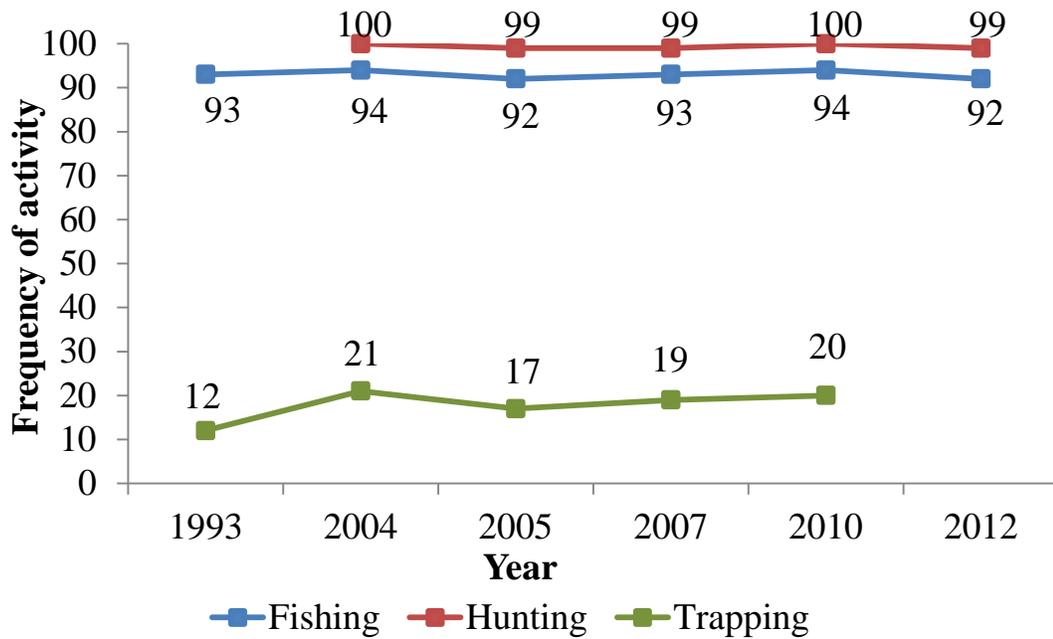


Figure 3. The frequency of respondents who did some type of hunting, fishing, and trapping with their CPL in each survey year.

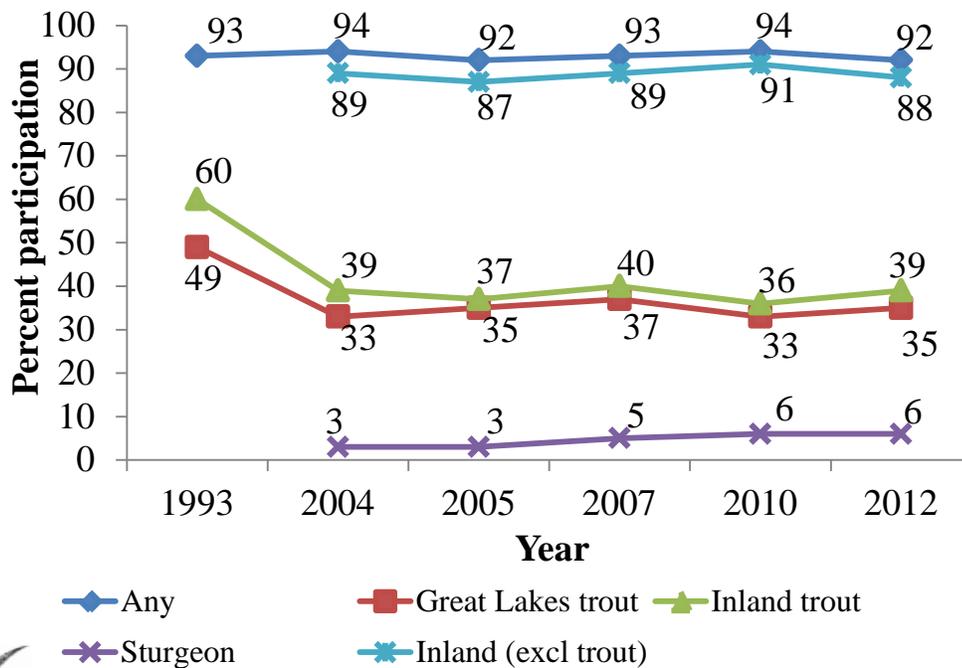


Figure 4. The frequency of CPL respondents who participated in select types of fishing in each survey year.

Open-water hook and line lake sturgeon tags (not to be confused with winter lake sturgeon spearing tags) for inland waters and Wisconsin-Michigan boundary waters are used by a very small amount of CPL license holders. About 3% reported lake sturgeon fishing in 2004, and 6% did so in 2012. The apparent “doubling,” however, is within the +/-3% margin of error for the survey findings.

Hunting Participation, 1993-2012

Over the course of the six studies, both gun deer hunting and archery participation by CPL buyers has been robust and stable (Figure 5). In fact, gun deer hunting was the most used CPL component, averaging 97% among licensees throughout the study period. Archery utilization was also high, ranging from 79% to 85% over the study period. Muzzleloader deer hunting has been tracked by the CPL survey since 2005. Over the course of four surveys, there has been a modest 6% increase in CPL holders who report muzzleloader hunting.

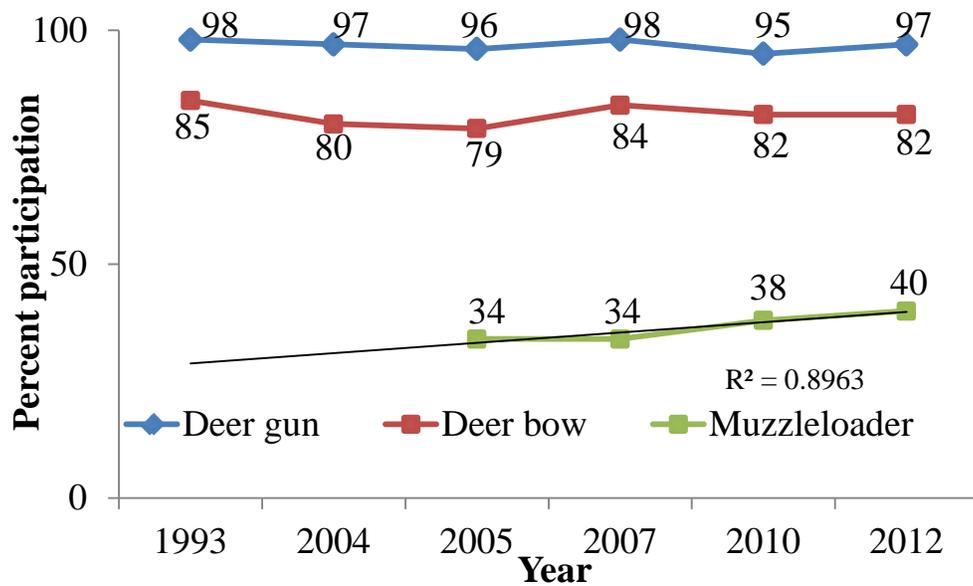


Figure 5. Trends in white-tailed deer hunting participation by CPL respondents, 1993-2012.

Beyond white-tailed deer hunting, other types of hunting opportunities available through the CPL showed mixed results in their participation trends. Trend analysis indicates increases in the percentage of spring and fall turkey hunters throughout the study period (Figure 6), but declines for small game, upland bird, and migratory bird hunters (Figures 7, 8, & 9). Similar to the pattern reported for trout fishing, the biggest rate of changes in these hunting trends (whether increasing or decreasing) occurred between the 1993 and 2004 surveys. For example, participation in spring turkey hunting rose 22% between 1993 and 2004 while climbing an additional 5% between 2004 and 2012 (Figure 6).

Participation in both rabbit and squirrel hunting fell by nearly one-third between 1993 and 2004 (Figure 7). Almost two-thirds of all CPL buyers hunted these two types of small game in 1993, but less than half did so by 2004. The declining rate of squirrel hunting has slowed somewhat from the initial drop; participation declined only 4% from 2004 to 2012. On the other hand, rabbit hunting has declined faster, falling an additional 10% between 2004 and 2012. As of 2012, only one in three CPL holders said they pursued rabbits.

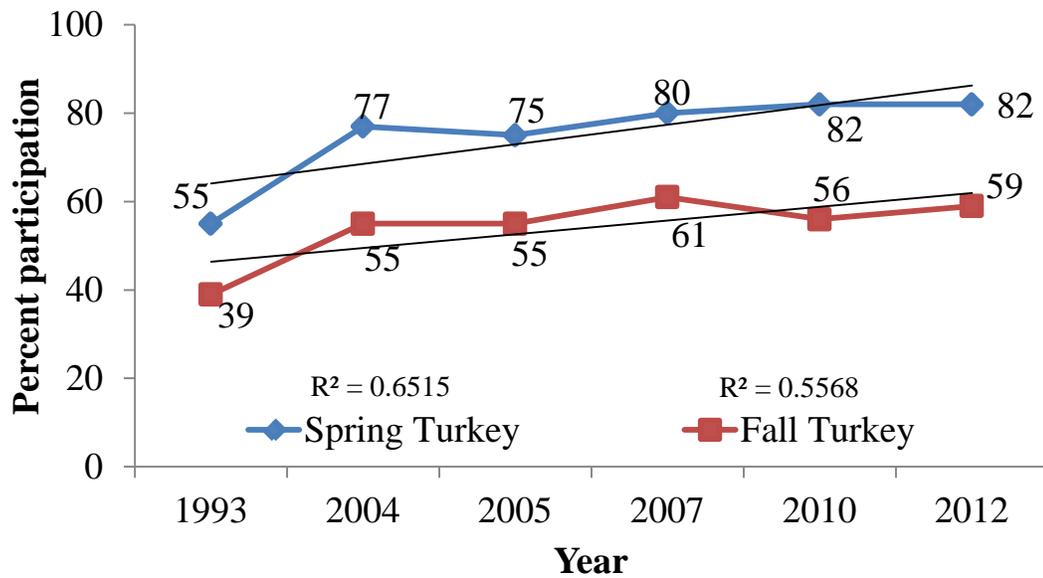


Figure 6. Trends in wild turkey hunting participation by CPL respondents, 1993-2012.

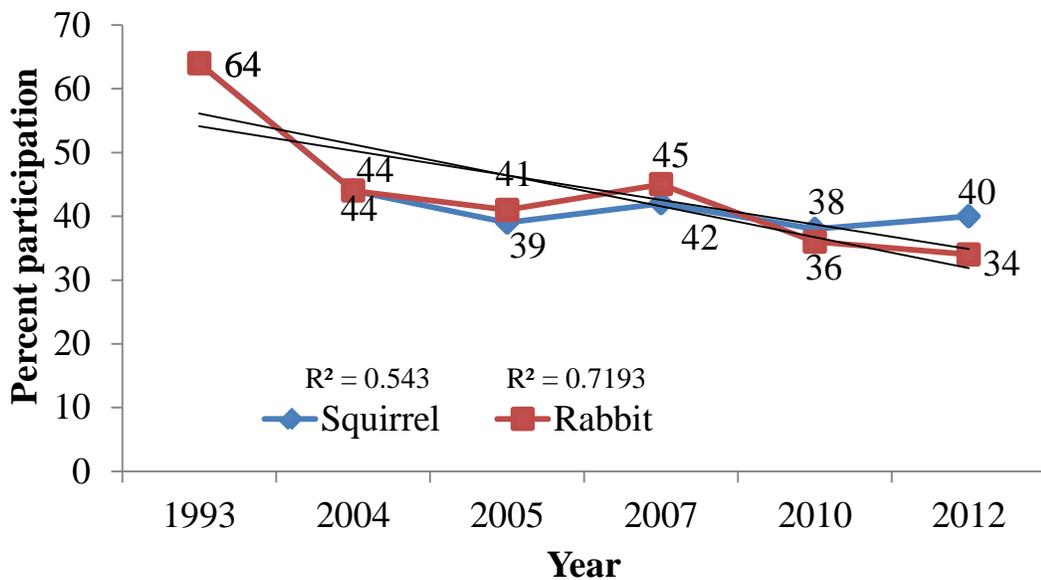


Figure 7. Trends in small game hunting participation by CPL respondents, 1993-2012.

Both upland game bird hunting and waterfowl hunting showed similar participation declines as small game hunting between the time of the first and second CPL surveys (Figure 8 & 9).

Ring-necked pheasant and grouse hunting experienced a 29% and 31% drop respectively in eleven years. Data from the 2005 and 2007 surveys revealed a slight rally in frequency of ring-necked pheasant hunting before falling back again in 2010 and 2012. Participation in grouse hunting remained stable to slightly declining during the period of 2004 to 2012. Both activities recorded their lowest participation rates among CPL holders in 2012 with fewer than four in ten participating.

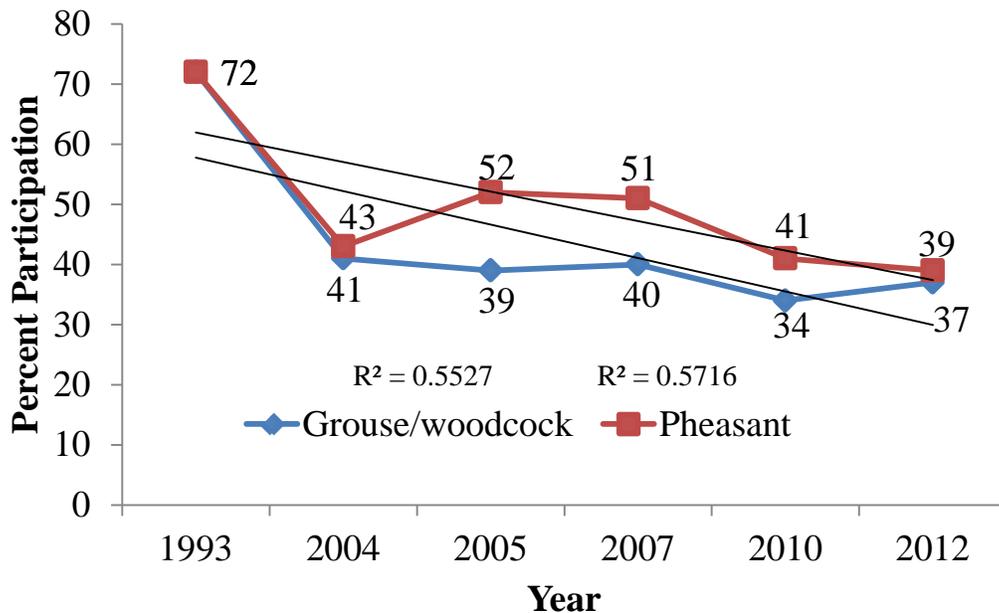


Figure 8. Trends in upland bird hunting participation by CPL respondents, 1993-2012.

Over the course of the six CPL surveys, duck and goose hunting participation have tracked within a point or two of each other in reported frequencies within each survey year (Figure 9). A large drop in waterfowl hunting occurred between the 1993 and 2004 surveys, where participation decreased from about seven in ten CPL hunters to about five in ten. The 2010 survey represented the lowest percentage of waterfowl participation at 39%. Two years later, goose hunting was up by 8% and duck hunting increased by 6%.

Doves did not become a game bird in Wisconsin until 2004. Compared with other types of hunting, relatively few CPL holders participated in dove hunting between 2005 and 2012, but the percentage (~13%) has remained consistent over time.

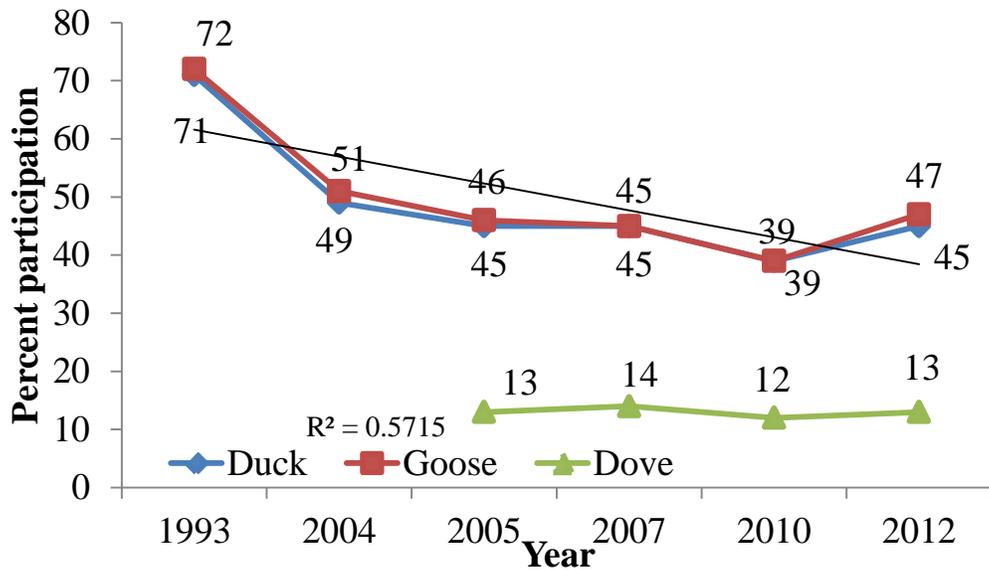


Figure 9. Trends in migratory bird hunting participation by CPL respondents, 1993-2012. (*same R-squared trend for both duck and geese hunting)

Trapping Participation, 1993-2012

In 2012, one out of every five CPL holders said they partook in some form of trapping, a rate increase of 8% from the first survey in 1993 (Figure 10). Raccoon and muskrat were the most frequently pursued furbearers by CPL customers (Figure 10), just as they are among all licensed trappers in the state (Dhuey and Olson 2012). Unlike hunting and fishing, trapping shows more variability in species-specific trends (Figure 11), which could partially be a function of fluctuating market prices for fur (Siemer et al. 1994, Daigle et al. 1998).

Among CPL holders who trap, pursuit of raccoons experienced a 17% increase between 2004 and 2012 (Figure 11). Muskrat trapping experienced a 9% decline in participation between the 2004 and 2012 surveys, before rebounding in 2012 when 59% of CPL trappers indicated trapping for muskrat. In this case, the rebound in 2012 may have been the result of good prices for muskrat fur coupled with favorable conditions in many state wetlands. For potentially similar reasons, beaver and mink trapping also show higher participation rates between the 2010 and 2012 surveys. Fox and coyote trapping showed a rise in participation from 2004 through 2007, followed by a decline in 2010 and another rebound in 2012.



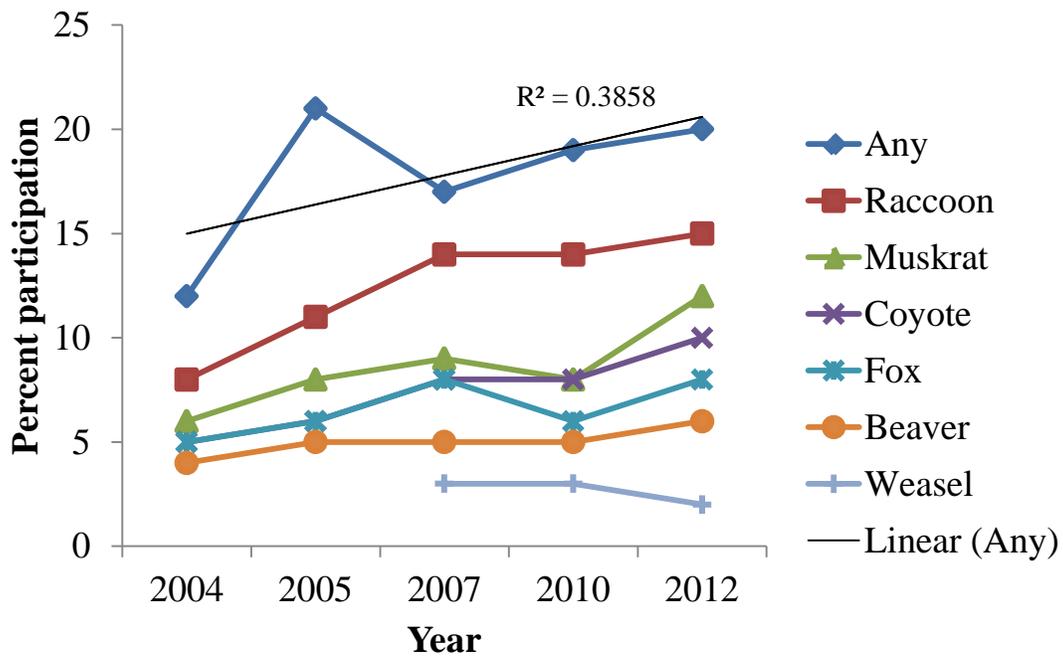


Figure 10. Trends in trapping participation by CPL respondents, 2004-2012.

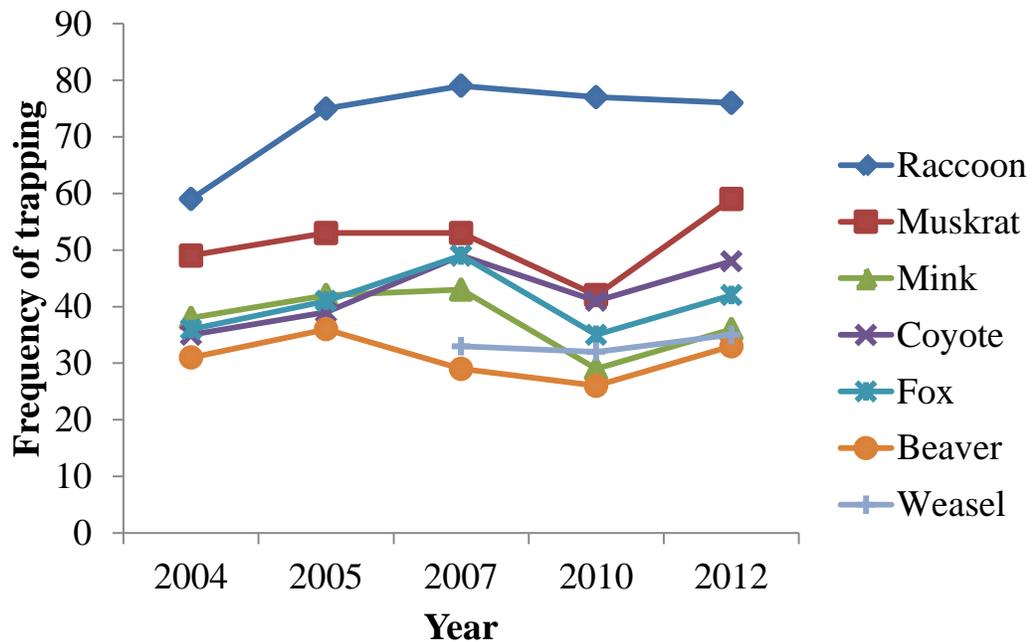


Figure 11. Trends in frequency of trapping of selected furbearers among CPL holders who are trappers, 2004-2012.

It should be noted that surveys since 2004 have also tracked CPL holders' pursuit of otter, fisher, and bobcats. Bobcat applications used to be part of the CPL package, but are no longer included, whereas otter and fisher applications are still included in the CPL (Table 1). The data for those species are not used in this analysis because their participation rates are inherently very low due to the limited number of tags that are issued. As a consequence of this feature, changes in participation rates reflect changes in tag allocation rates, not changes in interest levels.

Non-consumptive Activity Trends, 2004-2012

Due to significant changes in the way the survey questions were asked starting in 2004, we do not report data from the 1993 survey in our trend analysis of state property visitation rates. Roughly two out of three CPL holders visited state properties during the surveys conducted between 2004 and 2012 (Figure 12). The frequency of visitation has been stable over this time period.

In 2005, we began asking a separate question about use of state trails. Four in ten CPL buyers used state trails in 2012, representing an 8% increase over the past seven years. Meanwhile, consistently low numbers of CPL holders took advantage of the free admission to Heritage Hill State Park in Green Bay between 2005 and 2012.

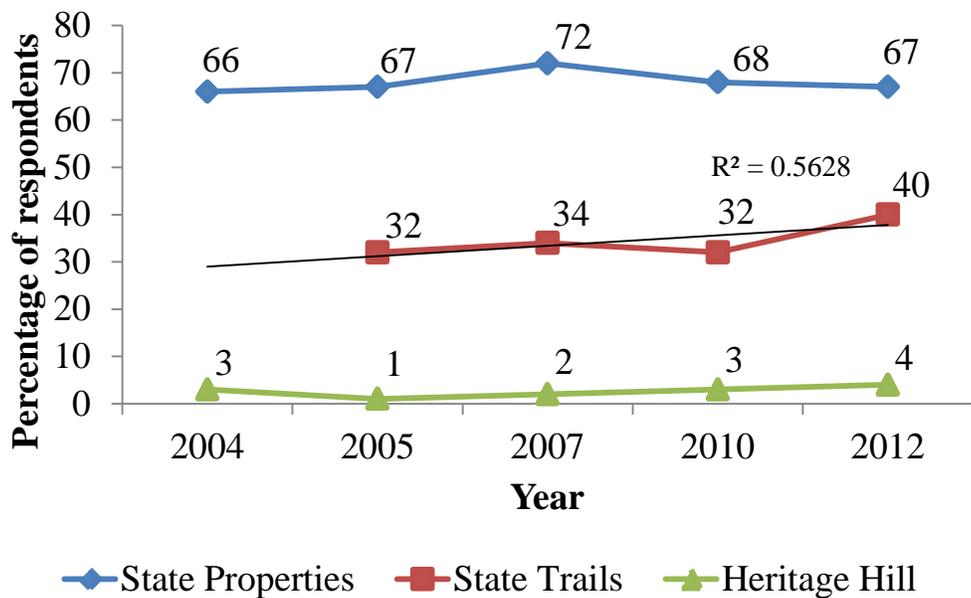


Figure 12. Trends in use of state properties by CPL respondents, 2004-2012.



CPL holders do make significant use of their subscription to the *Wisconsin Natural Resources* magazine (Figure 13). Most CPL holders have reported that they read “most” of the magazine when it arrives. Over time there has been a slight decrease in those who read most of it and a corresponding increase in the percent who read it “cover to cover”. This suggests an overall increase in use of the magazine through time.

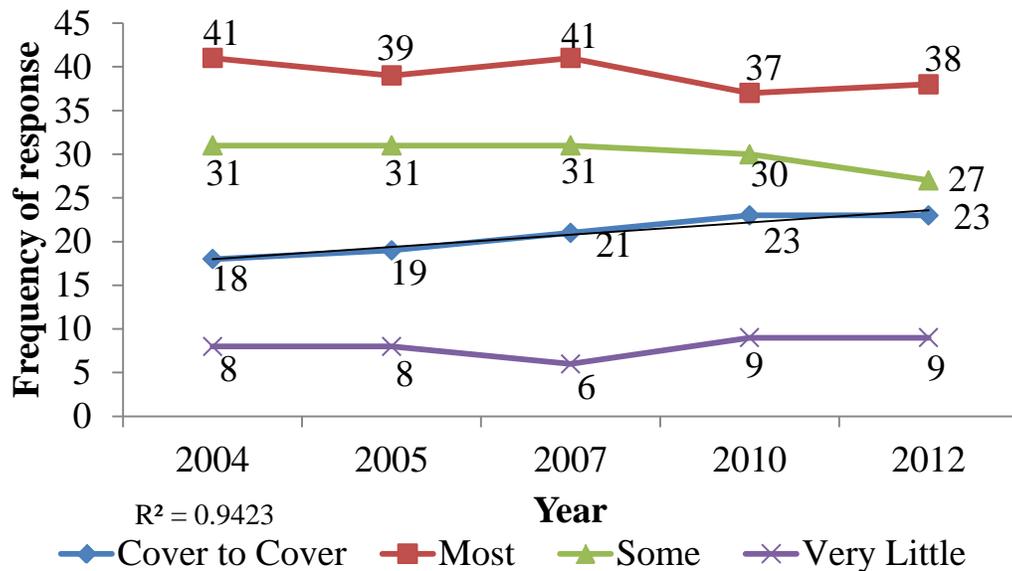


Figure 13. Frequencies of categorical responses to the question, “How much do you read your WNR magazine?”, 2004-2012.

Reasons to Buy a Conservation Patron License

The four most recent surveys asked customers to indicate the reasons they choose to buy the CPL. Results on this item have been stable over time (Figure 14). Convenience has been the biggest factor for the majority of CPL buyers in each year, drawing nearly three times the responses of any of the other categories. Fifty-five percent of CPL customers in 2012 said that convenience was the primary reason for purchasing a CPL.

Cost-Value Usage

For each of the last five surveys we calculated the combined cost of the products patrons used had they each been purchased separately, and compared this value to the overall cost of the CPL (Figure 15). In three survey years (2004, 2005, and 2010), a slightly higher percentage of CPL holders used less than the value of the cost and in two survey years (2007 and 2012), a slightly higher percentage used more than the face value of the license.

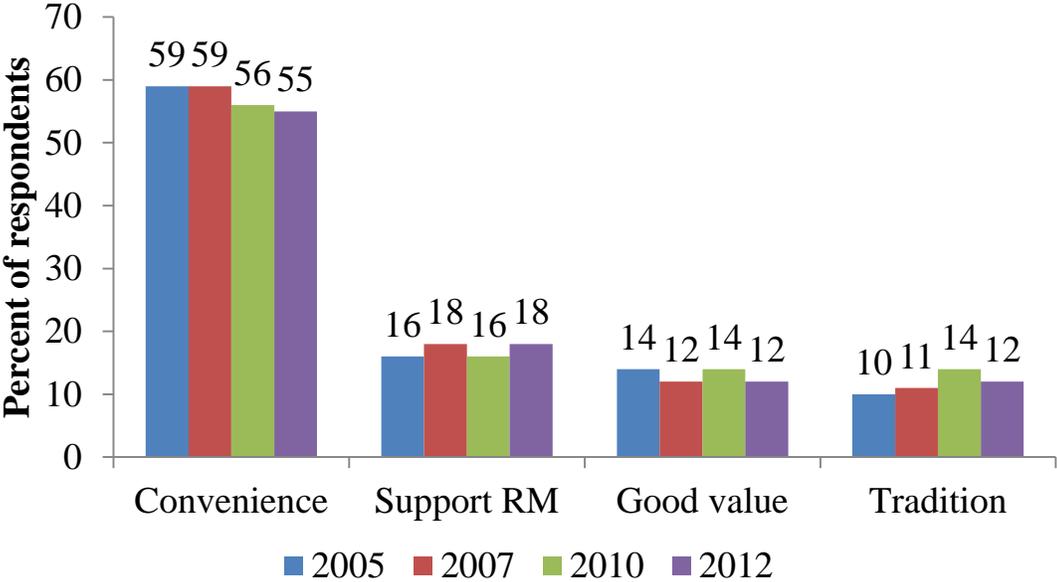


Figure 14. Frequency of reasons for purchasing a CPL between 2005 and 2012.

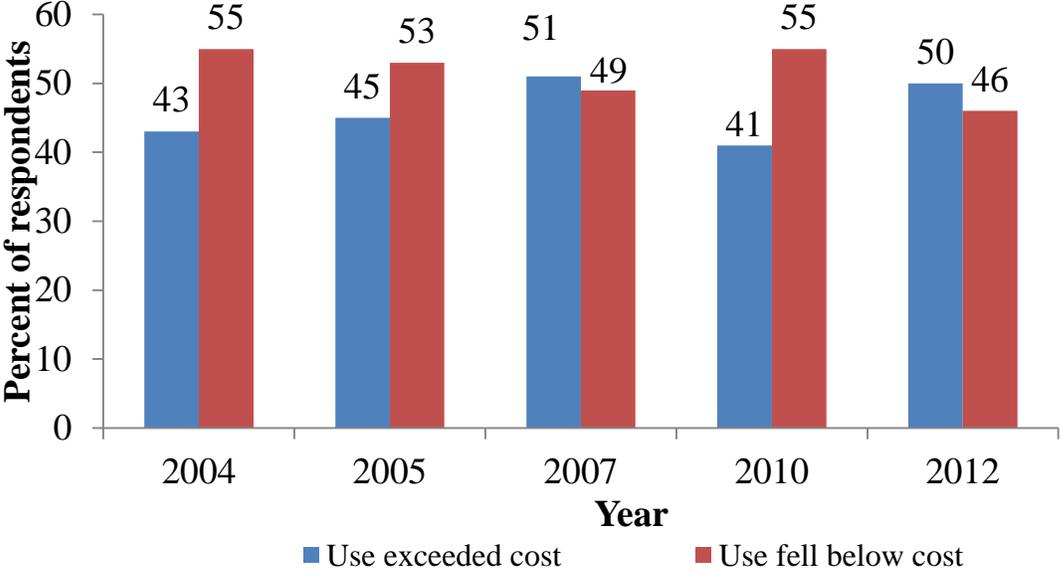


Figure 15. The frequency of CPL holders whose total product use exceeded or fell below the actual license cost between 2004 and 2012.

Notes



Discussion

These analyses highlights three important findings regarding resident customers of the CPL. First, our current CPL holders are aging and with that we can anticipate decreases in their activity rates, and consequently a reduced likelihood of continued purchases (barring a shift in motivations). Second, we have already witnessed a sharp drop in the sales of CPLs since 2003. Third, the most notable findings from the trend analyses are the significant and dramatic changes that occurred in trout fishing and numerous types of hunting between 1993 and 2004. During this period of time, participation rates for inland trout fishing, as well as hunting for rabbits, squirrels, upland birds, and waterfowl declined by one-third among CPL holders. During the same time period, spring and fall turkey hunting increased rapidly. We offer some speculation for the causes behind changing participation rates of CPL holders below before returning to the issue of declining sales.

What Happened between 1993 and 2004?

We can think of three possible causes for the observed differences in activity participation rates that occurred between 1993 and 2004. One could argue that the changes between the 1993 and 2004 survey results are due to methodological changes in survey procedures. While this may account for some of the differences, there is little evidence to indicate that such an effect could be responsible for all of these observed differences, especially given their magnitude. A second and more plausible explanation is that the composition of the study population changed during this time period by virtue of a seven-fold increase in CPL sales. In 1993, there were only about 12,000 CPL purchasers compared to over 81,000 in 2004. Early adopters of the CPL were a smaller group of “do-it-all” sportsmen. As marketing of the license began to penetrate the broader sportsmen community, purchasers began to reflect a continuum of avidity, including some portion whose intentions were to participate in many things, even if they ultimately did not. The third possible explanation is that the trends reflect real changes within the population through time. In essence, the observed trends through 2004 (and in later surveys) may reflect broader shifts in preferences occurring in society and impacting individual license sales as well. The next section reviews the root causes of shifting activity patterns through this lens.

Shifting Recreational Preferences?

The activity trends described in this study may be influenced by both endogenous and exogenous factors. Throughout the time period of this study, there have been changes in habitat for some species and a decline in land access resulting from land fragmentation, posting of private land, and the sell-off of paper company land. There has also been an overall decline in participation in hunting and a proliferation of digital entertainment. All of these factors can have direct impacts on CPL holders' behaviors by introducing barriers to participation, as well as indirect impacts by influencing preferences. Recent studies in the state have found that participation

depends on individual assessment of the perceived *quality* of the opportunity for certain activity experiences compared to the costs (financial, time spent, and competing options) (Holsman 2012, Petchenik 2014). Perceived opportunity is likely a function of the size of game populations, as well as factors like access, perceived crowding, and availability of companions. To some extent, changing frequency in the participation of some CPL activities could be related to broader statewide or national trends affecting those activities. We consider this hypothesis by reviewing survey data collected by the National Fish and Wildlife Service and by looking at the sale of individual licenses during the same time period as the CPL trend analyses.

Fishing Participation

Trout angling by CPL customers—both Great Lakes and inland—saw a large drop in participation between 1993 and 2004. Since 2004, participation rates have remained stable at about one in three CPL holders. This drop in trout fishing participation occurred as overall fishing for CPL holders remained stable. From 2000 to 2010, sales of Wisconsin’s inland trout stamp have remained relatively stable as well (unpubl. data). In theory, CPL customers are thought to be more committed to allocating time to outdoor activities, as they are signing up for a wide array of activities when buying the license. With that, it is possible that when CPL holders choose to allocate time to fishing, they are drawn to less technically specialized and more accessible types than trout fishing. Those that already have the gear and know-how to pursue trout fishing may consistently participate each year they buy a CPL, but the majority of CPL holders choose to allocate their time and efforts to less specialized types of fishing activities.

Hunting Participation

The trends in hunting participation could reflect shifts in motivations for hunting among CPL holders, such as hunting for food, for sport, to spend time with family and friends, or to be close to nature. A nationwide Responsive Management study conducted in 2006 (Duda et al. 2010) found that hunting to obtain meat decreased significantly from 43% of hunters in 1980 to 16% in 2006. Over that same time period, hunting to spend time with friends and family increased from 9% to 20% (Duda et al. 2010). It is possible that CPL hunters are spending less effort on hunting small game and upland birds because meat is not as much of a motivation as it once was. Hunters could instead be pursuing greater challenges or the extrinsic rewards of a trophy, such as white-tailed deer antlers or wild turkey fans.

Another potential explanation for the shifts in hunting trends among CPL holders could lie in the idea that recreationists go through different stages over time from activities of low specialization to high specialization (Bryan 1979, Duda et al. 1995). For example, in early stages of hunting, any game, such as squirrel or rabbit, may suffice. As the hunter gets older and more experienced, they may move on to a bigger challenge such as wild turkey or white-tailed deer, or begin hunting with more specialized equipment like a bow and arrow.

Shifts in motivations and the idea of specialization could play a role in the increased participation in spring and fall turkey hunting that we observe in CPL holders since 1993. Wild turkeys were successfully reintroduced to Wisconsin in the late 1970s, and since then populations have been spreading across the state (Kubisiak et al. 2001, Lobner and Mezera 2004). Increases in the size and distribution of the state's wild turkey population could be directly related to concomitant increases in CPL holders who decided to turkey hunt. As the wild turkey populations increased across the state, CPL holders may have perceived increased opportunities for hunting success, consequently influencing the booming participation rates between 1993 and 2004. Sales of individual turkey stamps show a similar pattern of growth (conveniently accessible records only go back to 1999), also suggesting that demand was responding to increases in supply (Figure 16). During this period, the state chapter of the National Wild Turkey Federation also actively promoted wild turkey hunting through clinics and various outreach efforts. The fact that the growth in wild turkey hunting participation has plateaued in the past couple of CPL surveys suggests that available wild turkey hunting opportunity for CPL customers with an interest in wild turkey hunting has reached equilibrium.

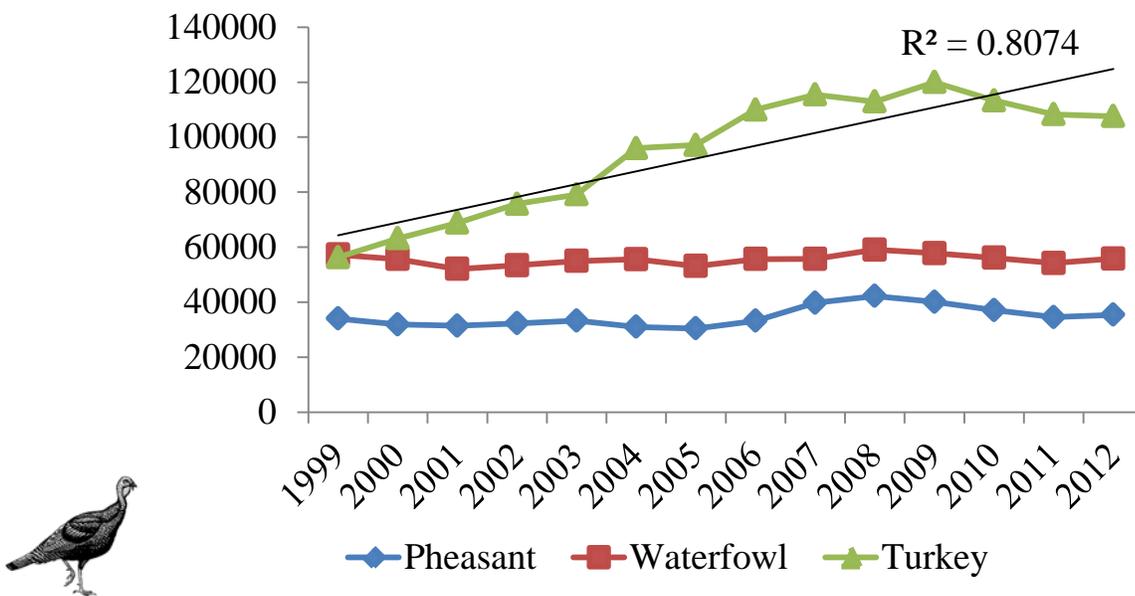


Figure 16. Trends in sale of hunting stamps to Wisconsin residents, 1999-2012.

Hunting for squirrel and rabbits also dropped significantly between 1993 and 2004, and rabbit hunting has seen a secondary, though less pronounced, decline through the most recent survey. A 1996 National Survey of Fishing, Hunting, and Wildlife-associated Recreation found that of resident and nonresident hunters who came to hunt in Wisconsin, 25% pursued rabbits, 22% pursued squirrels, and 20% pursued ring-necked pheasants that year (U.S. Department of Interior and U.S. Bureau of the Census 1996). Data from a repeated survey in 2001 shows a decrease in those who decided to hunt small game, as only 10% pursued rabbits, 9% pursued

squirrel, and 18% pursued ring-necked pheasants (U.S. Department of Interior and U.S. Bureau of the Census 2001). Sales of licenses reflect these declining participation rates, as we can also observe negative trends in sales of both sportsmen licenses and small game licenses through the period of 1999-2012 (Figure 17; Dhuey 2012b). These trends call into question why CPL holders (and hunters in general) are hunting less frequently for rabbits and squirrels.

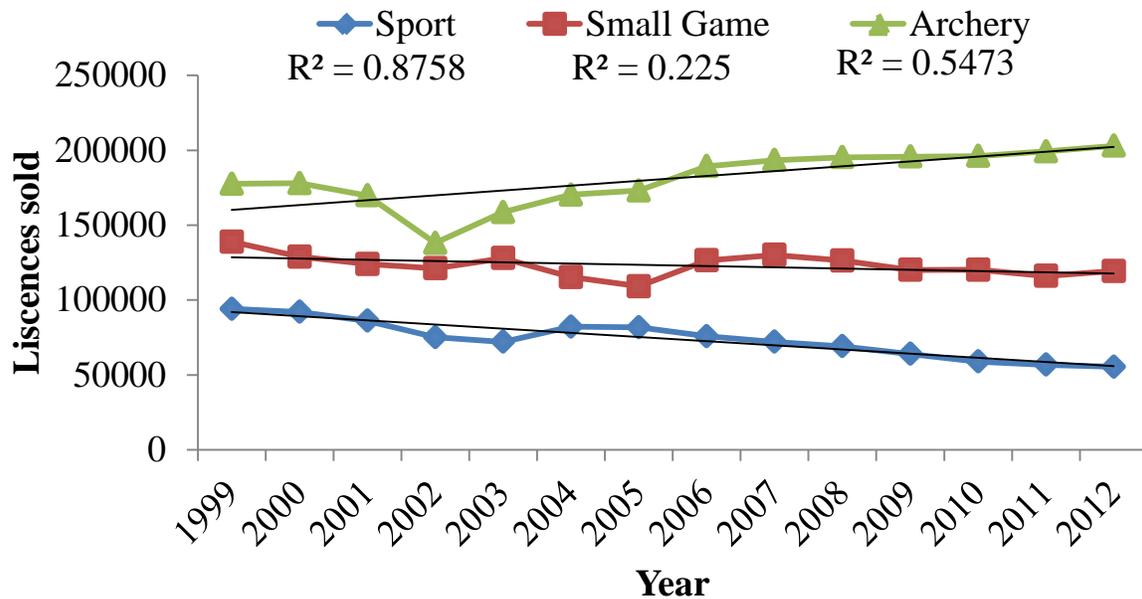


Figure 17. Trend in the sale of select hunting licenses to state residents, 1999-2012.

Declining hare abundance may play some role in reduced demand for small game hunting. Snowshoe hare populations in the northern forest appear to be in long-term decline as a result of early successional forest habitat diminishing and climate change (Ims et al. 2008, Mills et al. 2013). On the other hand, there is little evidence to suggest that we have fewer squirrels and cottontail rabbits than in previous decades (Dhuey 2011). In the case of these species, reduced hunting participation may reflect loss of access to private woodlots or shifting preferences among hunters away from small game toward big game (white-tailed deer, wild turkeys). The demographics of the CPL population also may help explain declining small game hunting participation (Mehmood et al. 2003). Due to the extent to which rabbit and squirrel hunting is associated with entry-level or beginning activities, it may be that CPL holders have less of an interest in small game with increasing age. Bilgic et al. (2008) found that on a national level, age had a significant negative impact on the number of hunting trips taken. They also found that hunting expenditures decreased with the respondent’s age (Bilgic et al. 2008). It is clear that the average CPL customer is getting older. Considering this, it is possible that attitudes are shifting, and time and energy spent hunting is being allocated to

bigger, trophy species like white-tailed deer and wild turkey as opposed to smaller game and bird species like rabbits, squirrels, and ring-necked pheasants.

Upland bird hunting also requires small game authorization, including a stamp for those who seek ring-necked pheasants. The substantial decrease in CPL holder participation in upland bird hunting between 1993 and 2004, and continuing declines since then, may reflect changes in habitat that are reducing hunting opportunities. Aging forests in the northern part of the state are making conditions less favorable for grouse production, especially on National Forests where logging was sharply curtailed beginning in 1994 (Wildlife Management Institute 2010; Shifley 2006). In addition, grouse were at or near the bottom of their population cycle during the 2010 and 2012 surveys, a fact that may also suppress CPL participation (Dhuey 2012a).

Ring-necked pheasant hunting declines may also reflect negative changes in habitat quality, as well as decreased access to private lands. Fence row to fence row farming practices limit the amount of viable ring-necked pheasant habitat and may create travel lanes for predators, impacting survival rates of pheasant chicks (Camp and Best, 1994). The Conservation Reserve Program (CRP), established in 1985, was expected to positively affect wildlife, particularly ring-necked pheasants, by adding large quantities of undisturbed grassland to areas dominated by agriculture. In the early years of the program, wildlife professionals perceived positive impacts in the great plains, and enrollment peaked in Wisconsin in the mid-1990s with over 700,000 acres enrolled (Hull 2012). However, enrollment as of 2012 was at less than 400,000 acres, which likely has a large impact on ring-necked pheasant populations (Hull 2012). Additionally, without active management of these fields, they can become dense, monotypic grass stands (Matthews et al. 2012), and a lack of vegetative and structural diversity can negatively impact ring-necked pheasant populations (Rodgers 1999).

In addition to changes in ring-necked pheasant habitat and population levels, CPL holders may be responding to changes in availability of public land or decreased access to private lands. It is possible that CPL holders perceive fewer opportunities for a successful hunt on public lands as more and more people hunt on them. CRP fields that are privately owned may have higher populations of upland birds and small game, but it may be more difficult to gain hunting permission on private lands than it was in the past. Duda et al. (1995) found that on a national level, limited access and not enough places to hunt were two of the main issues that took away from hunting satisfaction among most active hunters.

Changes in CPL waterfowl hunting present another story. Following a steep drop in participation between 1993 and 2004, the current trend appears relatively stable. The state waterfowl harvest is strongly tied to duck species that breed in the state, such as mallards, green- and blue-winged teal, and wood ducks (Van Horn 2013). There was a general upward trend in total duck numbers from the 1980s into the 1990s, and throughout the 1990s Wisconsin showed good habitat conditions for waterfowl (Van Horn and Benton 2007). Although CPL waterfowl hunters greatly decreased from 1993 to the early 2000s, on a statewide level waterfowl hunter

numbers remained relatively stable, despite some annual ups and downs (Van Horn and Benton 2007). The current levels of participation by CPL holders in waterfowl hunting appears stable as well, despite some annual changes such as the dip in participation in the 2010 survey and subsequent rebound in 2012. Although a broader trend analysis is a more useful indicator of participation rates, on a year-to-year basis hunter effort may be influenced by perception of wetland conditions (Van Horn et al. 2013).

Trapping Participation

For some trappers, market prices for fur strongly influence their decision to participate in a given year (Daigle et al. 1998). For others, trapping participation may be more influenced by sociocultural, socioeconomic, psychological, and emotional factors (Daigle et al. 1998). If market prices are affecting CPL holders, it could be useful to consider current and past markets changes. For example, trends indicate that the highest percentage of CPL trappers pursue raccoons. According to the Wisconsin Fur Buyers Report from the 2011-12 trapping season, the average price for a raccoon pelt that year was \$12.50, and the total pelt value of raccoon fur sold within and outside of Wisconsin ranked second highest of all furbearers, exceeded only by muskrat fur sales (Dhuey 2012c). Unfortunately, we do not have adequate information on past fur prices or fur buyer reports in Wisconsin, so making a true comparison of prices over time proves to be very difficult.

Another factor that could influence the pursuit of raccoons by CPL holders is the development of trigger enclosed traps that became available in the early 2000s. Austin et al. (2004) compared the performances and efficiency of EGG traps (a brand of trigger enclosed traps) to wire cage traps for capturing raccoons. They found that EGG traps performed better than wire cage traps for capturing raccoons, and concluded that EGG traps are more cost-effective given their initial cost, efficiency, and species selectiveness (Austin et al. 2004). Trigger enclosed traps, such as EGG brand traps, provided an alternative to body gripping traps and may have increased opportunity for raccoon trappers on dry land (John Olson, Wisconsin DNR, pers. comm.). This increase in opportunities for trapping raccoons successfully could influence CPL holder participation.



Muskrat trapping experienced a 9% decline in participation between 2007 and 2010, before rebounding in 2012 when 59% of CPL trappers indicated trapping for muskrat. The Wisconsin Fur Buyers Report from 2011-12 shows that muskrat total pelt value was the highest of all the furbearers that year, with individual pelts selling at \$7.29 on average (Dhuey 2012c). Also of note, beaver pelts sold for \$21.15 on average and had the fifth highest total pelt value, whereas mink pelts sold for \$15.82 on average, and had the third highest total pelt value that same year (Dhuey 2012c).

The fact that CPL holder participation in trapping many furbearing species—both aquatic and terrestrial—showed a slight dip in 2010 may reflect annual fluctuations

in fur prices or changes in perceived opportunities for trapping success given broader environmental and economic conditions.

What about CPL Drop-outs?

Our surveys of CPL customers have focused on those who have previously purchased the license, but we have not been testing causes of attrition among those who have discontinued their purchase of the product. Declining sales may be the result of cohort differences in preferences, activity diversification, and/or differences in commitment among Baby Boomers compared with younger cohorts that participate in outdoor recreation (Poudyal et al. 2007). This pattern of aging may not be unique to the CPL; the average age for resident gun deer hunters continues to increase. The increasing age of CPL customers through time provides some evidence to support that a cohort effect is present—that the CPL license is less attractive to younger customers than it was for the generation now in their 50s and 60s. The aging of CPL holders suggests that future, continued declines in sales can be expected unless demand for the CPL increases among younger adults.

Are younger customers becoming less generalist in their activities?

One hypothesis is that older sportsmen were more generalized in their activity participation than younger sportsmen are today. It may be the case that while participation in fishing and white-tailed deer hunting have remained stable, fewer younger sportsmen are participating in more specialized hunting types (like waterfowl hunting) and trout fishing than the previous generation, making the CPL less attractive. This raises additional questions. Does the seeming restriction in the range of hunting/fishing types occur because customers perceive less overall time to do everything, or because they are choosing to allocate their leisure time to fewer activities that they enjoy more? For example, the rise in the popularity and effort devoted to bow hunting (Figure 17) over the past couple of decades may have come at the expense of broader participation across hunting types. Perhaps we are seeing more men devoting themselves to bow hunting in their free time rather than engaging in multiple types of hunting throughout the fall.

Another possibility is that consistent buyers of the CPL are more elastic in their expectations about hunting, fishing, and outdoor activities than others—in other words, they derive multiple satisfactions from a single trip. Duda et al. (1995) found that hunters whose satisfactions stemmed primarily from one value tended to become ex-hunters more often than did hunters who derived satisfactions from multiple values. It is possible that younger customers have a few major motivations for outdoor activities, whereas CPL holders have multiple varied motivations.

Is convenience becoming less important?

CPL customers cited convenience as the leading reason for their decision to purchase a CPL. That trend has been stable over the course of surveys where motivation was measured. But does the decline in sales overall suggest that the

appeal or need for convenience is becoming less of a selling point with advent of web-based license sales? With the digital generation coming of age and the increase in online resources, it may be easier to individually select licenses and apply for permits than was in the past. In other words, one of leading reasons to buy a CPL may be less relevant than it was in the past.

People are becoming more value oriented.

Our survey results have shown that over time about half of the CPL customers exceeded the face value of the license, and about half fell short. Those that wind up paying more for the CPL than they would have spent buying individual items fall into two broad categories: those who purchase the CPL for some other reason (e.g., to support resource management) and those who likely intended to do more with their CPL but did not. Our customers today may be more price-conscious or value-oriented than in the past. In times of recession, where job security and wealth are uncertain, personal, disposable income declines for many and price typically become more of a concern (Hampson and McGoldrick 2013). "Recessions also have a social dimension, so even some consumers suffering no direct effects become more price-conscious" (Hampson and McGoldrick 2013). This could be a factor as to why the CPL is losing customers each year. It is worth noting that although the CPL increased by \$25.00 in 2006 to its current price of \$165.00, sales had already peaked in 2003. This means that the erosion of customers began prior to the last fee increase and suggests that the price may be a factor influencing current trends in sales, but it is not the only factor.

Regardless, current and past CPL buyers may not see enough value in what is included in the current constellation of CPL offerings to justify the cost. If this is the case, the Wisconsin DNR might consider not only trend analyses for activities that CPL customers have valued in the past, but also consider discussing future needs with CPL customers or regional representatives in an attempt to facilitate a valuable exchange of services and maintain an ongoing relationship with current customers (Flint et al. 2011).

Recommendations

Results from the combined CPL holder surveys conducted to date, the trend analyses presented above, and our review of relevant literature lead us to make the three broad recommendations outlined below.

Establish a Time Interval for Survey Administration

The survey of CPL customers has been done sporadically since 1993. The 11-year gap between the first and second survey proved to be too long. As discussed above, significant changes occurred in activity patterns during this time. Identifying these trends closer to their onset would help the agency respond more quickly. On the other hand, repeating this analysis in back to back years as was done in 2004 and 2005, or even every other year, is probably unnecessary. The department's Fish and Wildlife Management Team should decide on the most appropriate interval for gathering this data. Wisconsin's time interval could be modeled after the National Survey of Fishing, Hunting, and Wildlife-associated Recreation conducted by the U.S. Department of Interior, which has found that a five-year interval is sufficient for understanding participation trends. With a more regular survey protocol, questions could be added to assess customer opinions on what aspects of the CPL package could be improved to maintain and fulfill customer interests, needs, and perceptions of value.

Expand Research to Former CPL Holders

The Wisconsin DNR lost half of its CPL customers in the past decade. This report has offered some hypotheses for why this may have occurred. These hypotheses could be tested to understand the dynamics behind the loss of customers. Potential courses of action include developing a survey for past CPL customers, as well as using license records to identify and characterize ways in which former CPL holders are distributing themselves to other license types. Such data mining could provide insights into what types of licenses former CPL customers purchase following their departure.

Review Existing License Packages for Possible Repackaging

Declines of CPL sales, the aging population of remaining CPL customers, and declining participation within several hunting and fishing activities by current CPL customers all suggest that there is a need to reconsider the available packaging of activities to better match the current recreational demands. There may be a benefit to offering additional license types that bundle products with highly correlated participation rates (e.g., archery deer and wild turkey hunting). While Wisconsin's current Sportsmen's License offers an intermediate bundle, its sales are similarly declining as a consequence of the apparent decline in the demand for small game hunting (unpubl. data). A study group involving staff from each of the agency's

bureaus and representatives from the public could be formed to consider possible changes. Such a review should include an economic analysis of the potential changes in revenue that might be expected by adding to or amending the current bundles offered by the CPL and Sportsman license.

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