



West Coast Game Harvest Survey 2024

*Results from annual survey of game bird hunter harvest. May-July 2024.
West Coast Fish & Game Region.*



Sam Speight and his bag following a successful mid-season hunt, June 2024.

Baylee Kersten, Fish & Game Field Officer, September 2024

Summary

Fish & Game has a statutory role under the Conservation Act 1987 to monitor hunter satisfaction. An annual telephone survey is performed during the regular game bird season from May to July. The data is considered an estimate of actual harvest and is intended for internal management purposes only. A combined 386 adult and junior full season West Coast licence holders harvested an estimated 5,905 game birds from within the West Coast Region for 2024. Inclusion of out of region hunters visiting the West Coast Region increases this estimated total game bird harvest to 12,650 birds.

The average West Coast Region game bird licence holder harvested 15 game birds in the 2024 season, compared with 19 game birds during the 2023 season and 20 for the 2022 season (rounded to whole bird figures). This equates to approximately; 6.3 Greylards, 6.3 Paradise Shelduck, 2.5 Pukeko and less than one bird each of Swan and Shoveler. Opening weekend accounted for 35% of the season's harvest by West Coast hunters. Hunter effort and harvest by local hunters decreased from the previous season.

Staff Recommendations are: That the council receives this report; That the current season duration and bag limits remain unchanged; That organised events and targeting young hunters aged 16-30 for recruitment continues; That staff time being allocated to improve game bird hunting opportunities continues.

Introduction

Fish & Game West Coast Region has a statutory role under the Conservation Act 1987 to monitor hunter satisfaction. An annual telephone harvest survey is performed during the regular game bird season from May to July. Fish & Game have conducted a game bird harvest survey using telephone interviews of the licence holder database since 1992. The data is considered an estimate of actual harvest. The data is intended for internal management purposes only.

Methods

Seven telephone surveys were undertaken over the length of the regular game bird season. The first survey was undertaken after opening weekend and the remainder undertaken at fortnightly intervals until the end of the season. 100 interviewees were randomly selected from the West Coast licence holder database for each telephone survey.

The data presented in this survey is be split into two sections: that obtained from opening weekend and from the whole season. Only birds actually retrieved during hunting are used in the analysis although an estimate is made of birds not retrieved. As surveys are undertaken across all Fish & Game Regions simultaneously an estimate of out of region hunting is obtained and attributed to the region where the hunting took place.

Licence holders from the West Coast Region are referred to as 'West Coast hunters' (WC hunters) in this report. Licence holders from other regions who harvested birds on the West Coast are referred to as 'Out of Region hunters' (OOR Hunters). Unlicensed hunters and those hunting under the landowner/occupier exemption are not surveyed.

Game bird licence sales fluctuate from year to year, therefore, to compare harvest between years, the data is adjusted to represent the mean or average licence holder. Unadjusted harvest is referred to as total harvest.

Hunting effort is calculated by dividing the total hours hunted by the number of hunters to give an average per hunter. For opening weekend this is calculated per active hunter while for the whole season it is calculated per licence holder.

Hunting success, or the rate of harvest is calculated by dividing the total number of birds harvested by total hunting effort giving a figure of birds harvested per hour of hunting effort (birds/hr).

Results

West Coast Game bird licence holders - 2024

A total of 450 game bird licences were sold on the West Coast during the 2024 season which is below the long-term average (Figure 1). This consisted of 348 whole season adult (GWA), 38 whole season junior (GWJ), 31 whole season child (GWC), 33 adult day (GDA), and 0 junior day (GDJ) licences. The largest drop has been in sales of GWA licences which make up on average 82% of total sales in the 2006 to 2024 period (Figure 2).

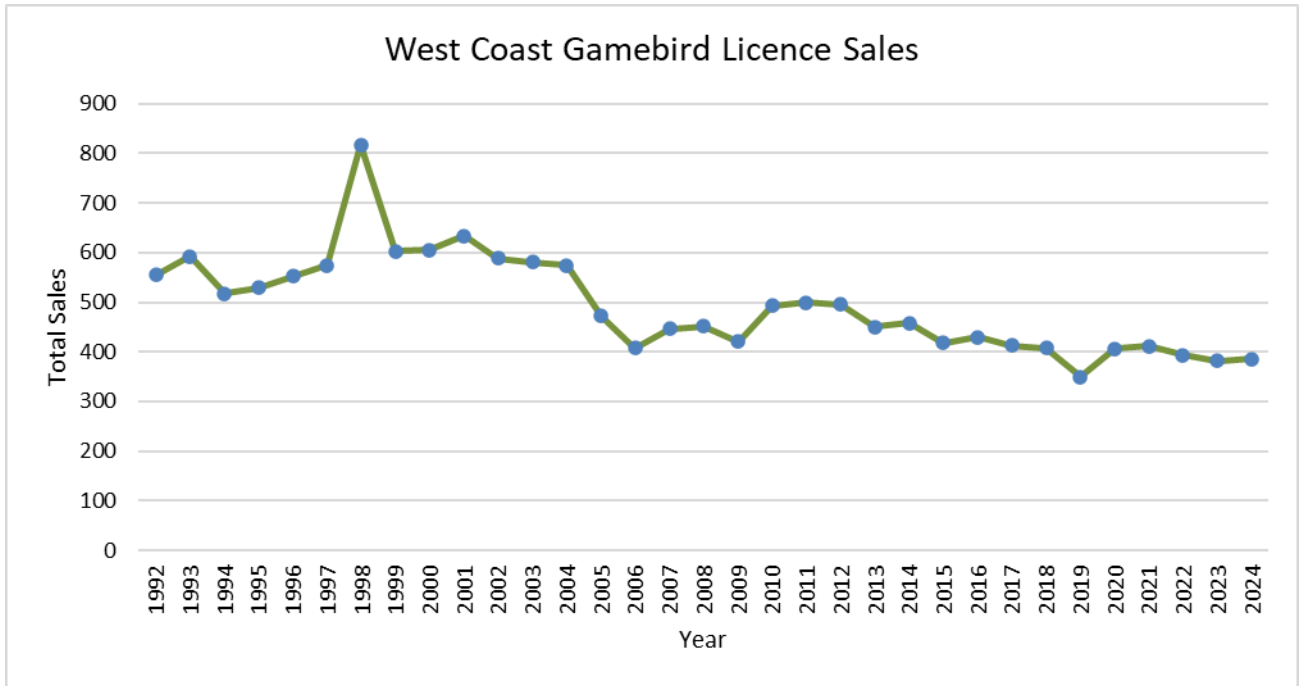


Figure 1. Annual West Coast full season adult and junior game bird licence sales, 1992-2024.

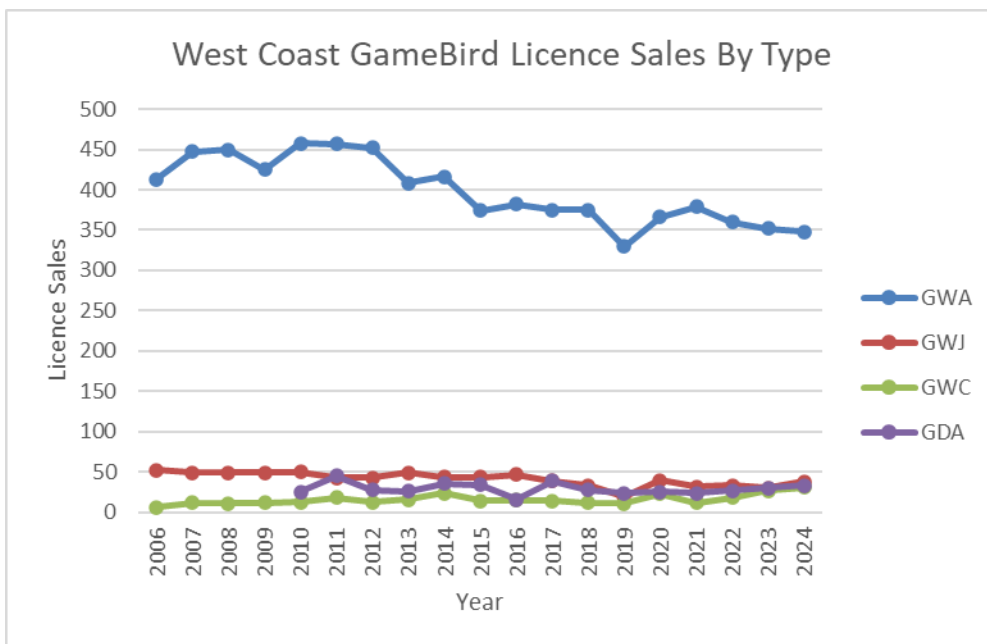


Figure 2. Annual West Coast game bird licence sales by type 2006-2024. Note day licences were only introduced in 2010. GWA=adult full season, GWJ=junior full season, GWC=child full season and GDA=adult day licence.

Opening Weekend 2024 Hunting Effort, Success, and Harvest

During opening weekend, an estimated 499 active licence holders spent 4,206 hours hunting and harvested 4,720 game birds. Of these 259 (52% of total) were WC hunters who spent 1,633 hours hunting (39% of total) and harvested 2,068 game birds (44% of total). While there were less OOR hunters they still spent 2,572 hours hunting and harvested 56% of the total game

birds (Table 2). OOR hunter spent on average an extra 4 hours and 23 minutes hunting over opening weekend (10.7 hours OOR vs 6.3 hours WC). Average hunting effort by WC hunters over opening weekend was up on the last three seasons (Figure 3).

Table 2: Summary of ‘Out of Region Hunters’ influence on estimated total effort and species harvest in the West Coast Region during opening weekend 2024.

Hunter/Effort/Species	West Coast Hunter Harvest	Out of Region Hunter Harvest	Total Estimate	Out of Region Hunters Contribution to harvest
Active hunters	259	240	499	48%
Hours	1633	2572	4206	61%
Greyland	1151	1339	2489	54%
Paradise Shelduck	798	1046	1844	78%
Pukeko	98	212	311	68%
Shoveler	7	26	33	78%
Swan	14	28	43	66%
Total Birds	2068	2652	4720	56%

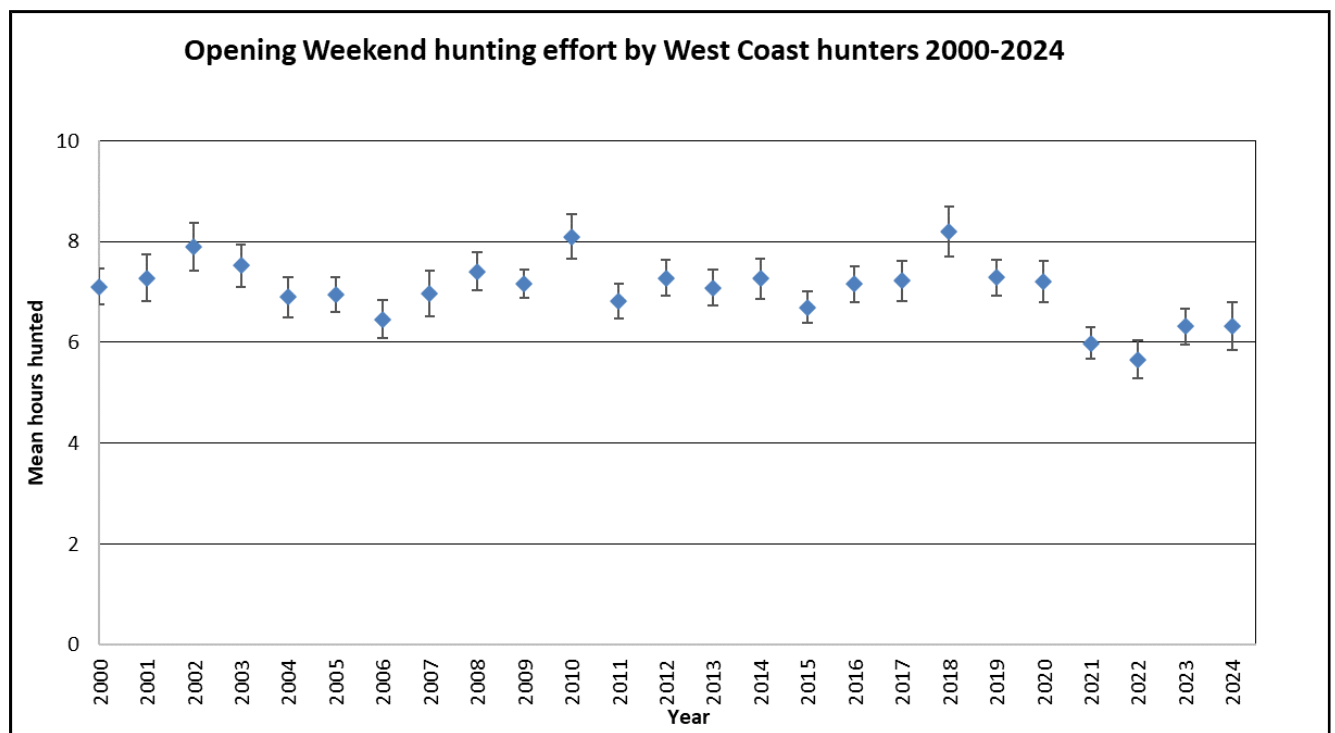


Figure 3. Average time spent hunting during opening weekend ± standard deviation by West Coast hunters 2000-2024.

Success in terms of game birds harvested per hour favoured WC hunters with WC hunters harvesting 1.27 birds/hour and OOR hunters 1.03 birds/hour. The success of WC hunters on opening weekend was below the to the 33-year average of 1.38 birds/hour (Figure 4). West Coast hunters spent 47% of their total hunting effort over the hunting season on opening weekend whereas OOR hunters spent 51% of their total hunting effort over the hunting season on opening weekend.

WC hunters mean bag for opening weekend was 8.0 birds: 4.5 greylards, 3.1 paradise shelduck, and less than one of pukeko, swan and shoveler. OOR hunters mean bag for opening weekend was 11.0 birds: 5.6 greylards, 4.4 paradise shelduck, and less than one of pukeko, swan and shoveler. A further 72 birds were estimated as not retrieved.

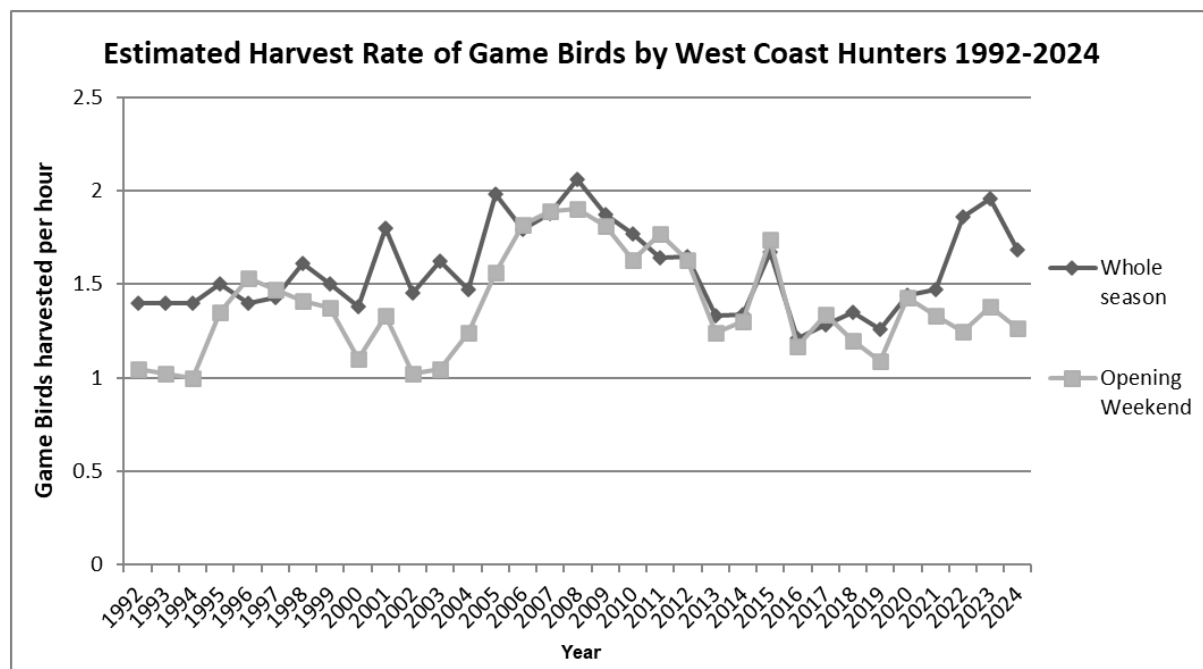


Figure 4: Game bird harvest rate by West Coast licence holders, opening weekend compared with whole season harvest rate 1992-2024.

2024 Full Season Hunting Effort, Success, and Harvest by species

Over the full 2024 game bird season all hunters combined spent 8,546 hours hunting and harvested 12,650 game birds. WC hunters spent an estimated 3,509 hours hunting (41% of total) and harvested 5,905 game birds (47% of total). OOR hunters spent 5,037 hours hunting and harvested 6,745 game birds (Table 3). WC hunters spent an average 9.09 hours hunting over the season. This is the lowest effort per hunter observed since the survey begun (Figure 5). There continues to be a noticeable decline in both total hours hunted, and total game birds harvested by WC licence holders when compared to earlier years of the game harvest survey (Figure 6).

Table 3: Summary of ‘Out of Region Hunters’ influence on estimated total effort and species harvest in the West Coast Region during the 2024 gamebird season.

Effort/Species	West Coast Hunter Harvest	Out of Region Hunter Harvest	Total Estimates	Out of Region Hunters Contribution to harvest
Hours	3509	5037	8546	59%
Greylard	2446	3097	5543	56%
Paradise Shelduck	2424	2511	4935	51%
Pukeko	976	815	1791	45%
Shoveler	21	26	47	56%
Swan	37	296	334	89%
Total Birds	5905	6745	12650	53%

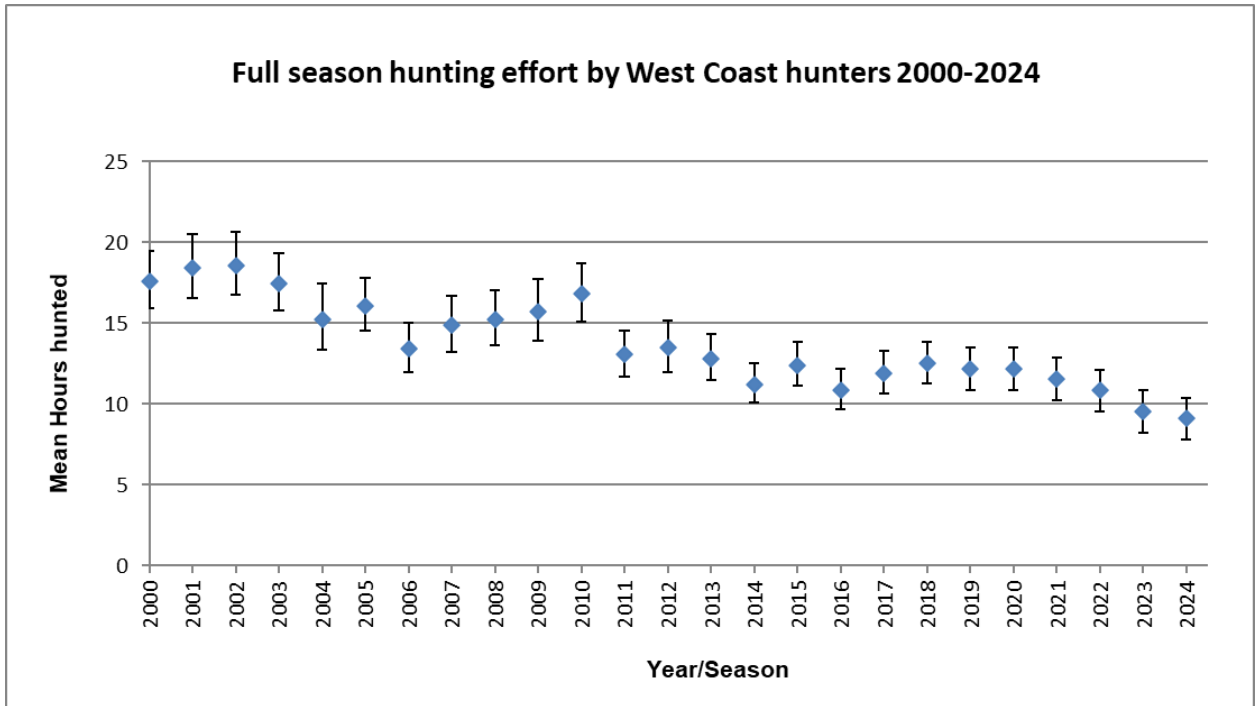


Figure 5. Average time spent hunting during the regular game bird season \pm standard deviation by West Coast hunters 2000-2024.

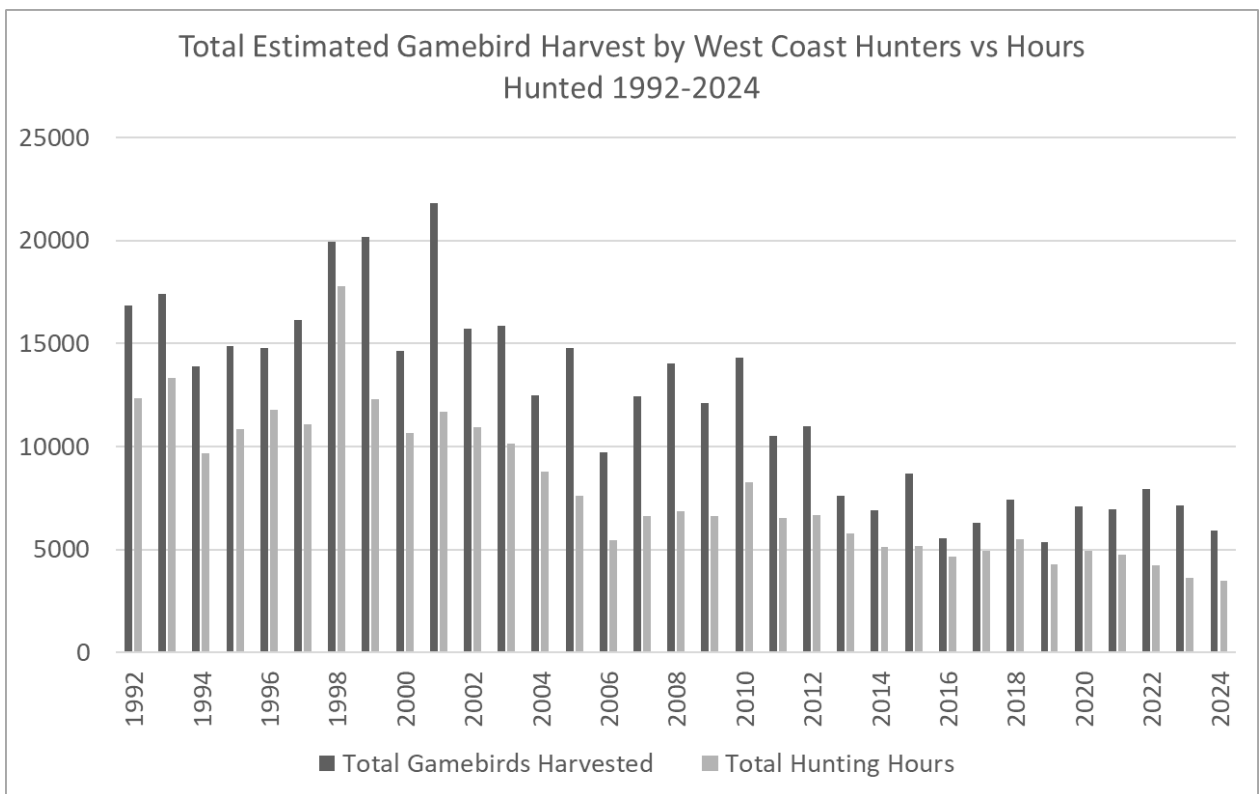


Figure 6: Estimates of game birds harvested by West Coast licence holder's vs hours spent hunting.

Success in terms of game birds harvested per hour favoured WC hunters with WC hunters harvesting 1.68 birds/hour and OOR hunters 1.34 birds/hour. The success of WC hunters over

the 2024 hunting season was slightly above average, with the long term average being 1.57 birds/hour. (Figure 4).

WC hunters mean bag for the 2024 season was 15.3 birds: 6.3 Greylards, 6.3 Paradise Shelduck, 2.5 Pukeko and less than one bird each of Swan and Shoveler. There has been an increase in the portion of the bag made up of species other than greylards in the last six seasons relative to previous years as hunters diversify their bags (Figure 7). A further 408 birds were estimated as not retrieved.

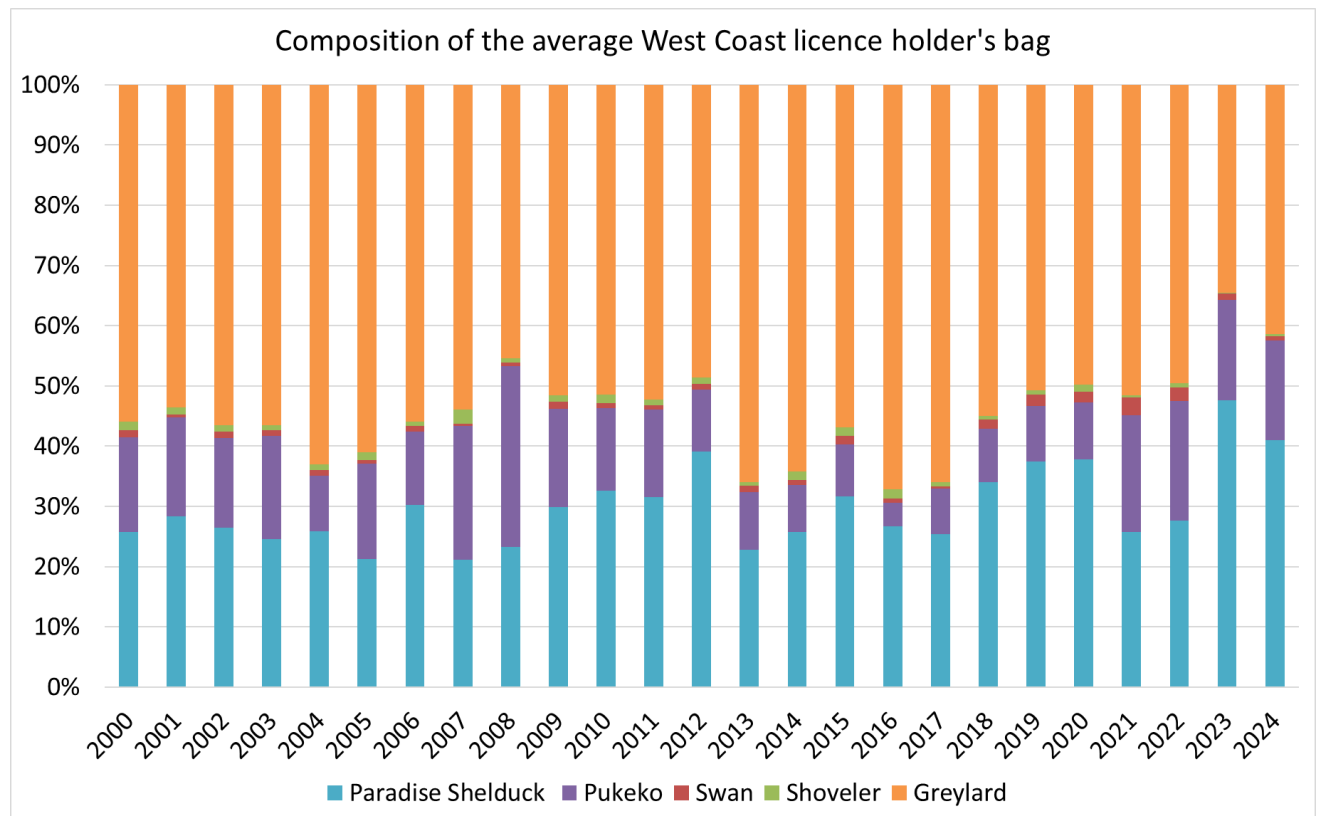


Figure 7: Estimated game bird bag composition of West Coast licence holders from 1992-2024.

Harvest by Game Bird Species

Of the West Coast licence holders surveyed, ‘Greylard’ or combined Grey and Mallard ducks made up 33.9% of the annual harvest. Paradise Shelduck were the second most harvested bird at 33.6%, followed by Pukeko 13.5%, Swan 0.5% and Shoveler 0.3% (Figure 8).

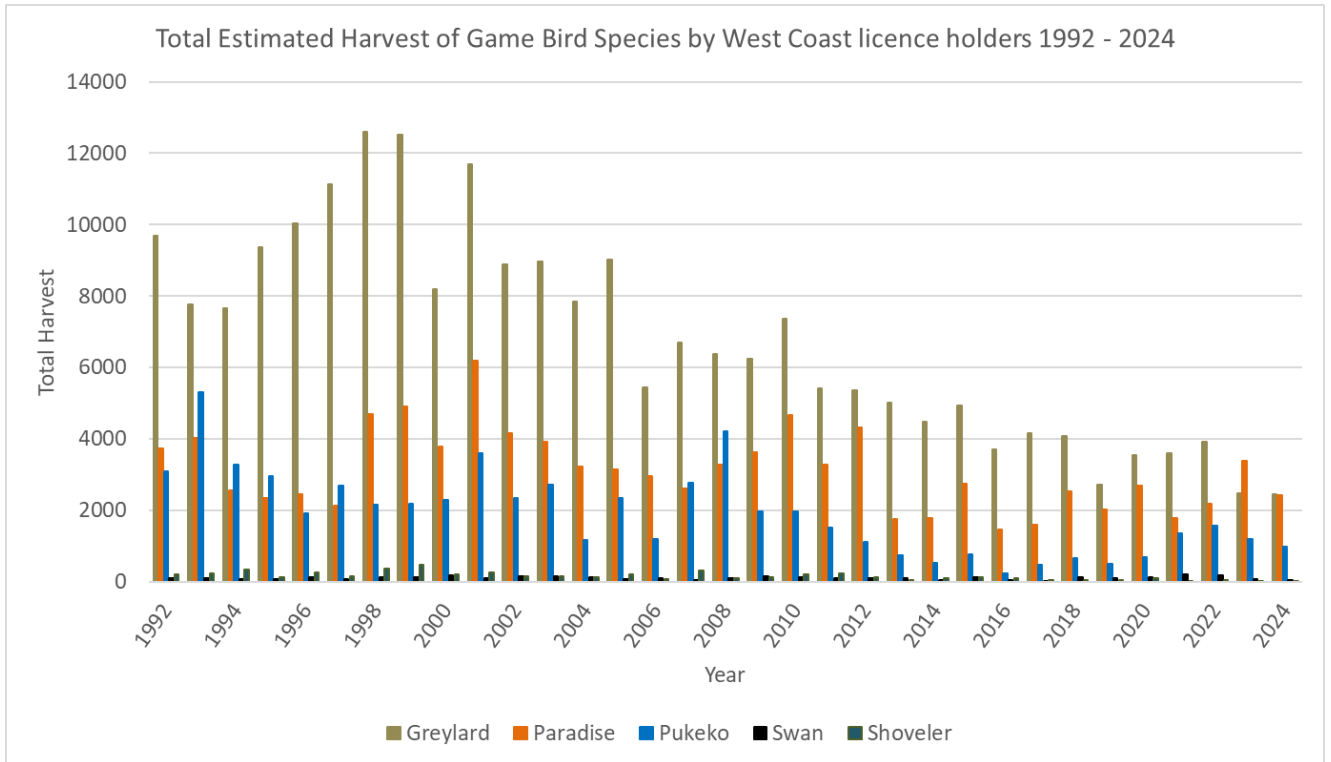


Figure 8: Estimated game bird harvest within the West Coast Region by West Coast licence holders from 1992-2024.

Greylard

In the 2024 game bird season, West Coast licence holders harvested 2,446 Greylards in total. Inclusion of OOR hunter harvest brought the total estimated Greylard harvest for 2024 to 5,543 (Figure 9). There is ten years of data available to correlate annual trend counts with total harvest (Figure 10).

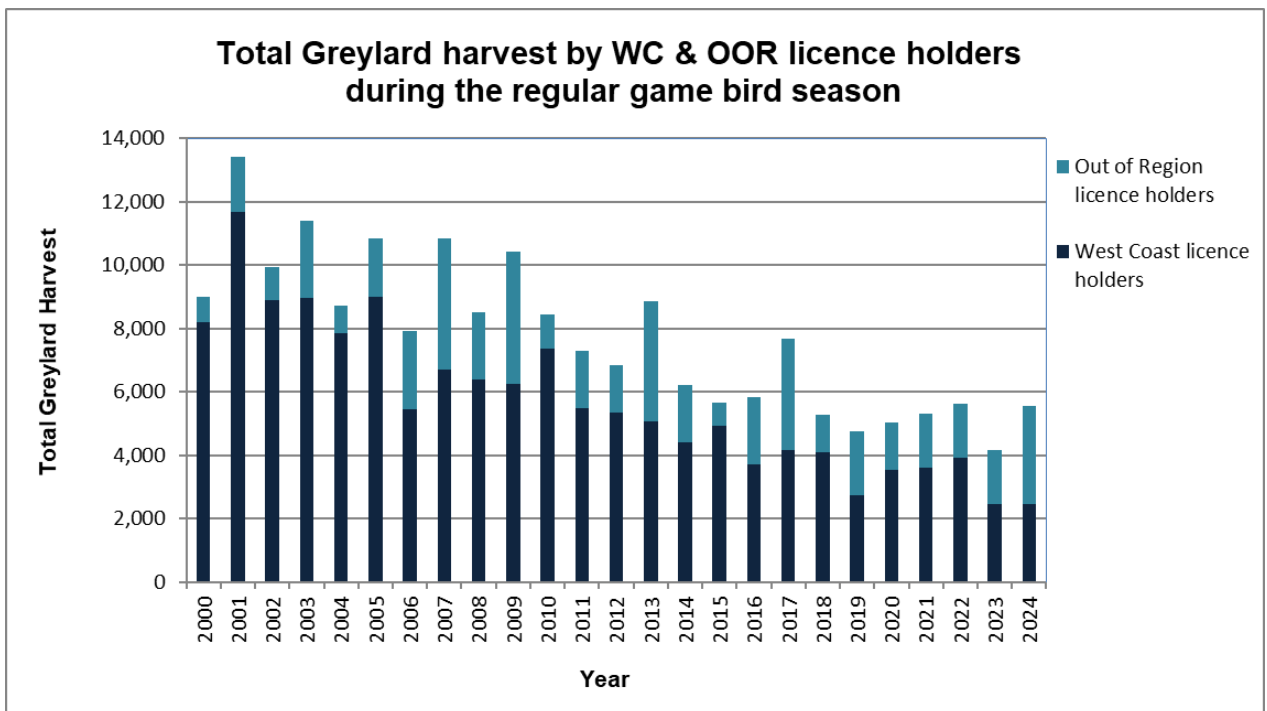


Figure 9: Estimated Total Greylard harvest for the West Coast Region, 2000-2024.

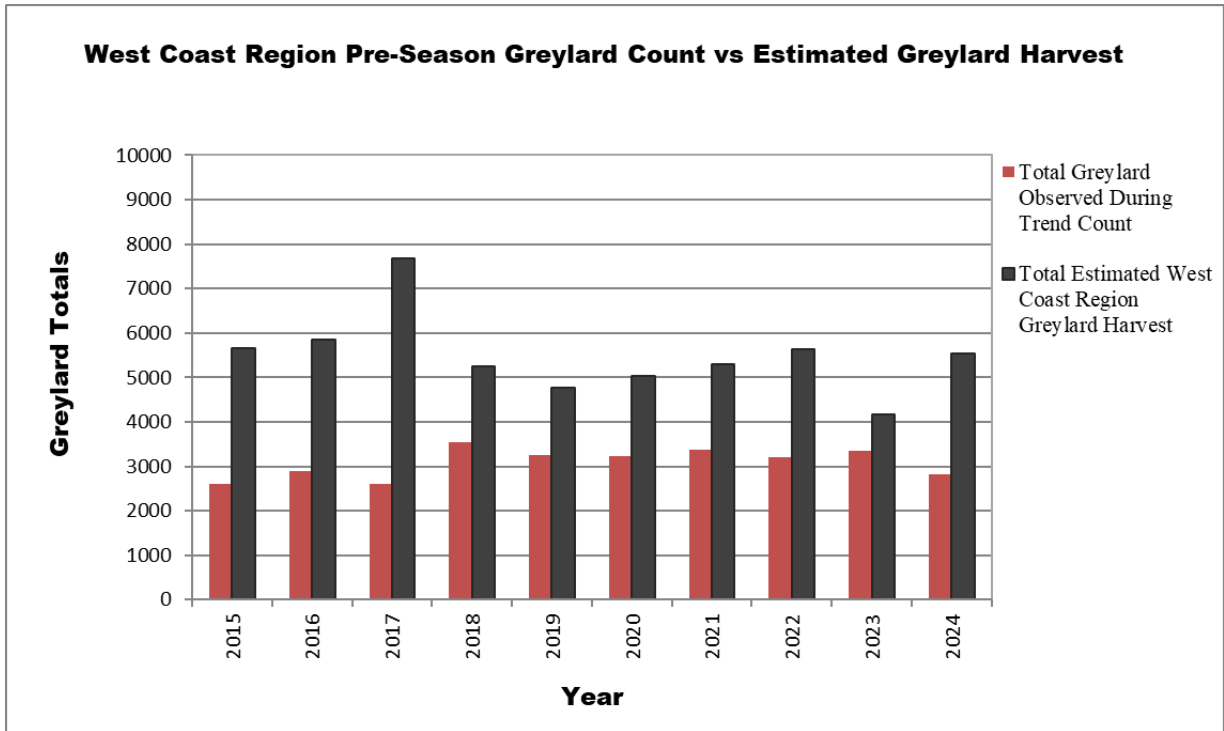


Figure 10: Total Greyland harvest vs trend count results for the West Coast Region.

Paradise Shelduck

In the 2024 game bird season West Coast licence holders harvested an estimated total of 2,424 Paradise Shelduck. Inclusion of out of region hunters brought the estimated total to 4,935 Paradise Shelducks (Figure 11). There is limited correlation between total harvest and annual moult trend counts (Figure 12).

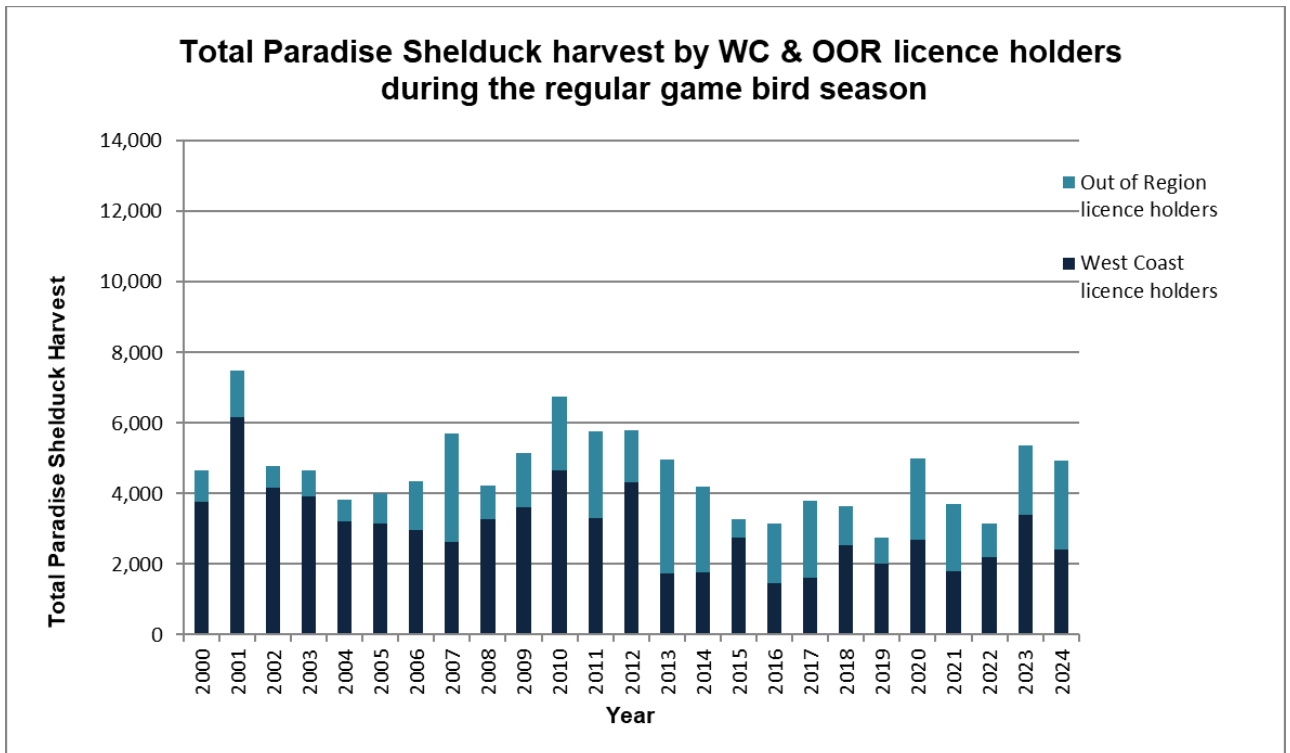


Figure 11: Estimated Total Paradise Shelduck harvest in the West Coast Region 2000-2024.

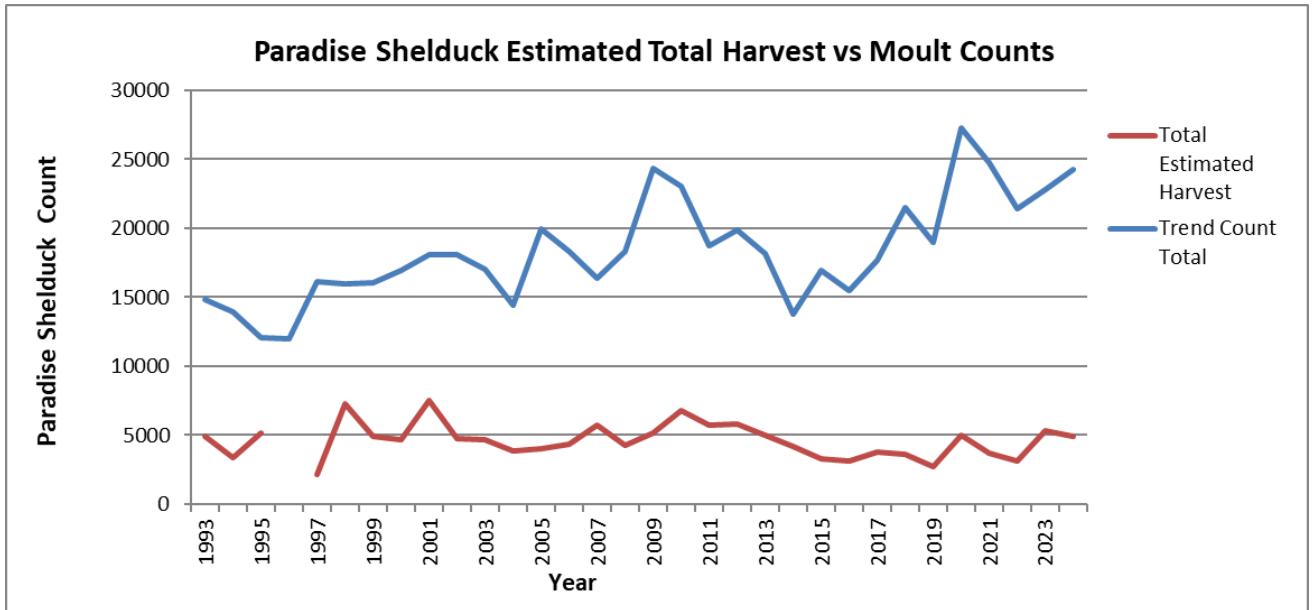


Figure 12: Total Paradise Shelduck harvest vs moult count results for the West Coast Region. (Note: no out of region data available for 1996).

Pukeko

In the 2024 game bird season, West Coast licence holders harvested an estimated 976 pukeko. Inclusion of out of region hunters brought the estimated total to 1,791 pukeko. (Figure 13). There is limited correlation between total harvest and annual trend counts (Figure 14).

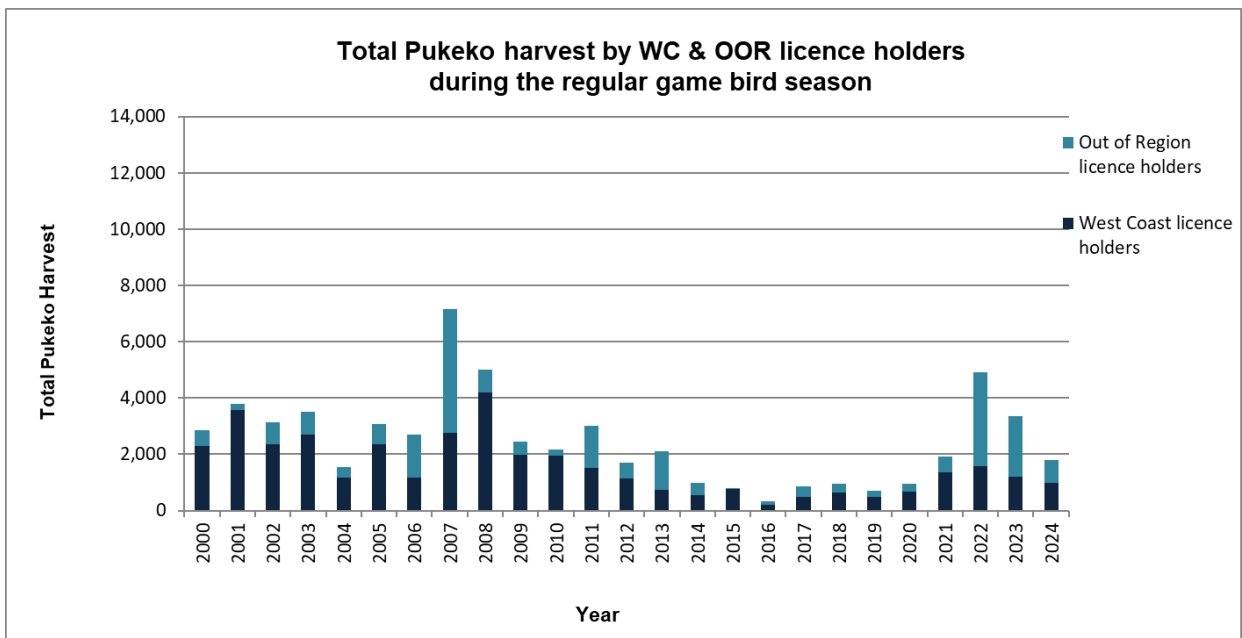


Figure 13: Estimated Total Pukeko harvest in the West Coast Region 2000-2024.

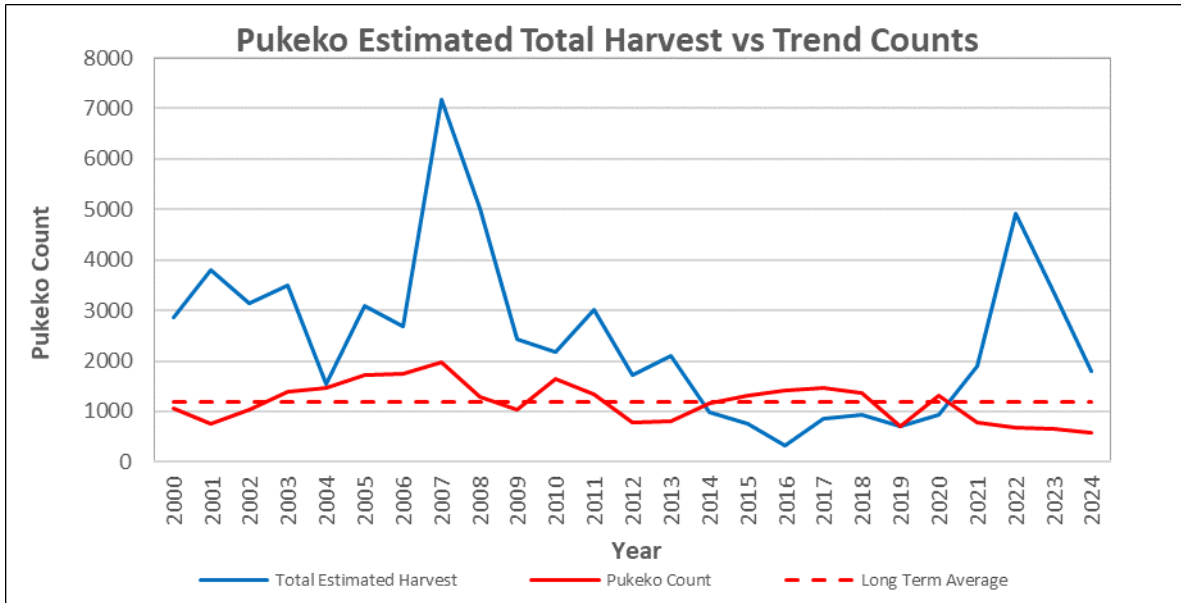


Figure 14: Total Pukeko harvest vs trend count results for the West Coast Region.

Shoveler Duck

In 2024 West Coast licence holders harvested an estimated 21 Shoveler. This equates to less than one bird for each licence holder or 0.05 for the whole season. This seasons 0.05 shoveler per licence holder is up on the last season’s 0.02 shoveler per licence holder but is well below the 25-year average of 0.23 shoveler per licence holder. Inclusion of out of region hunter brought the estimated total to 47.

Black Swan

In 2024 West Coast licence holders harvested an estimated 37 swan. This equates to 0.10 swans per licence holder, which is below the 25-year average for swan harvest per WC licence holder (0.23). Out of region hunters brought the total harvest to 334 swans.

Discussion

The analysis of the game harvest survey results reveals a continuing decline in hunter effort, despite recent years showing above-average success rates. Hunters diversifying their bag by targeting paradise shelduck and pukeko with immense success has masked the survey detecting a decline in success when targeting greylards.

Between 2018 and 2022, West Coast licence holders averaged nine greylard per season. In contrast, this figure dropped to six during both the 2023 and 2024 seasons. Given that greylard are the most sought-after game bird, the reduce success has likely affected hunter satisfaction and participation levels. Management practices aimed at boosting greylard numbers would provide more opportunities for hunters and improving hunting success rates.

Management initiatives that focus on improving survival of ducklings and females will have the greatest potential to increase duck population (Sheppard, 2018). Research indicates that two significant factors influencing duckling survival are the availability of ephemeral water and risk to predation (Garrick et al. 2017). Therefore, staff where possible should encourage

landowners and hunters to enhance ephemeral water availability and support local predator control efforts.

Another pressing issue is the decline in local licence holders. This season, there was only 386 whole season adult and junior licence holders, significantly below the long-term average of 494. To reverse this trend, active recruitment of young hunters and the encouragement of current hunters to assist in recruitment efforts are vital. However simply providing increased opportunities for local hunters wherever possible is an important consideration in reversing the decline in hunting effort and ensuring the retention of current licence holders. Continual easy access to hunting areas and maintaining habitat that carries the mixed game bird species in the region, are all important factors in keeping interest in the sport. Furthermore, organised hunts and other social events play a crucial role in the transfer of skills and knowledge, which can aid in the retention of new hunters and builds a stronger game bird hunting community.

Out-of-region hunters also play a significant role in the West Coast hunting landscape. In the 2024 season, they accounted for 53% of the game birds harvested and made a substantial impact on the harvest of swans, contributing 89% of the estimated total. It is important to continue considering the contributions of out-of-region hunters when analysing overall harvest data and trends.

Staff Recommendations

- That the council receives this report.
- That the current season duration and bag limits remain unchanged.
- That organised events and targeting young hunters aged 16-30 for recruitment continues.
- That staff time being allocated to improve game bird hunting opportunities continues.

References

Garrick, E., C. L. Amundson, and P. J. Seddon (2017). Duckling survival of mallards in Southland, New Zealand. *Journal of Wildlife Management* 81:858-867.

Sheppard, J (2018). Breeding Ecology and Productivity of Mallards and Mallard-grey Duck Hybrids in New Zealand. 10.13140/RG.2.2.10591.36001.