



# Camp Pendleton Deer Report

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I'm Mike Tucker, a wildlife biologist and game warden on Camp Pendleton. This brief summarizes the 2018 deer hunting season aboard Camp Pendleton.



## Agenda



- Camp Pendleton Deer Hunting
- Historic Management Practices
- Research Methods
- Recent Hunting Statistics
- Highlights/Lowlights
- Summary and Recommendations

Here's what we'll talk about.



## Pendleton Deer Hunting



- Utilizes the G10 or California AO Tag
- 250 G10 tags issued annually
- “Military Only” hunt
- Effort controlled by Game Warden’s office
- Ranked as 7 out of 107 zones in California in hunter satisfaction in CDFW 2014 poll
- Hunters “Very Satisfied” in poll, but feel deer population is “declining”

Pendleton is different than the San Diego County hunt as we have our own zone, the G10. Since 9/11, hunters must have a military status to hunt on Camp Pendleton. Because we require our hunters to check in and out of our office when they hunt, we are able to track and manage their effort by area. Hunters like hunting on Camp Pendleton, and it's seen as a privilege. It's the best deer hunting in the area. We likely over-hunted our deer previously, so deer hunting became more difficult. We know control and spread out the hunter effort to avoid over or under hunting the deer.



## Historic Practices



- Deer hunting started in 1955 on base
- 2013 Biologist recommends limited effort to 600 hunter days
- 2014 Hunter effort limited to ~ 675 hunter days
- 2015 G10 tags reduced from 400 to 250
- 2016 Focus on spreading effort throughout base
- 2017 Season moved to November to allow for more hunting areas on holiday weekends

Pendleton has a great tradition for deer hunting. We have been adjusting our practices lately to prevent over-hunting of our herd. We slowed down the overall effort on base to about 600 firearm hunter days starting in 2014. To accomplish this effectively we lowered the number of tags. This allows our hunters to have about 3-4 quality days of hunting if they don't tag out early on. A couple of years ago we started managing effort by area, even closing some areas down to hunting once they reached certain levels and encouraging hunters to hunt new areas. This ensured that local populations were not over carrying capacity or wiped out. To do this better, we moved our season back a couple of weeks to hunt in November. This allows us to hunt almost all of the training areas due to a lack of military training on Veteran's Day and Thanksgiving weekends.

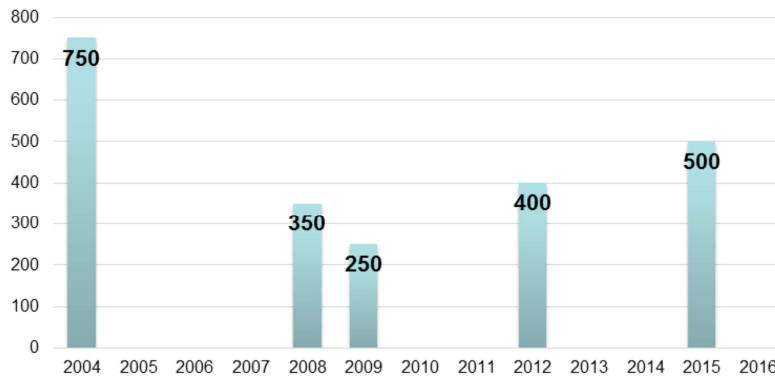


## Helicopter Survey



- Low elevation helicopter surveys indicate a fluctuating herd
- Average size around 500 animals

**Base deer population by year**



Our previous low elevation helicopter surveys recorded a fluctuating herd averaging about 500 animals. Some of these animals live in the impact area, which is not open for hunting.



## Future Survey Techniques



- Helicopter survey hazardous, discontinued in 2016
- Base personnel struck a powerline in the helicopter in 2016 during survey (no injuries)
- Military drone survey scheduled for Dec '18
  - 🌀 Reaper @10,000'; Blackjack @3000'; Puma @1000'
  - 🌀 Proof of concept to use drones for wildlife surveys
  - 🌀 2017 use of drone with infrared unsuccessful in finding deer
- Deer pellet DNA analysis Aug '17
  - 🌀 Showed 35 individual deer moving through India Training Area
  - 🌀 Bucks range about 1 sq km, does range about 2 sq km
- Trail camera survey Jan/Feb '19
  - 🌀 Uses information from deer pellet analysis
  - 🌀 Estimates deer population based on number of deer photographed

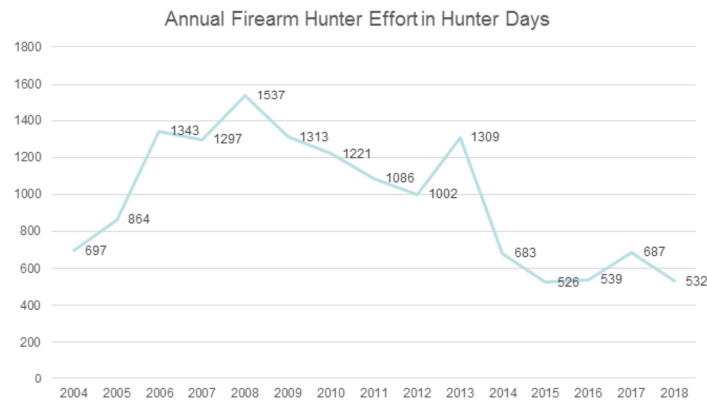
We had a mishap during our helicopter survey in 2016 when we struck a high-tension power line. We all walked away okay, but we no longer fly helicopters at low elevation to count deer. This is still the preferred method throughout the Western US, though. It is also the leading cause of death for wildlife biologists. Inspired by our mishap, we started working with the military to survey deer using drones. After an unsuccessful attempt at locating deer in 2017, we have tripled our efforts. In December, we plan to have three drones looking for deer in the India training area. If it works, we will develop a method to replace the helicopter surveys using drone technology. This would be a historic first that could really help the wildlife management community. Last year, hunters volunteered to help Game Warden staff collect deer pellets in the India training area to better understand the range of the mule deer on base. The result indicated a larger population in the training area than we expected, 35 individuals. And, roughly speaking, the bucks had a range of 1 square kilometer and the does had a range of 2 square kilometers. With this range information, we will be able to estimate the deer population using trail cameras. By placing the cameras on deer trails throughout the base, we can estimate the density of deer and the overall size of Pendleton's herd. Deer tag money paid for the DNA analysis of the deer pellets, and hunters provided a lot of the blood, sweat, and tears that went into the physically demanding deer pellet collection effort. Thank you!



## Deer Hunter Effort



- Effort fluctuated annually
- 2013 and prior hunters limited only by fires and area availability
- Effort intentionally reduced in 2014



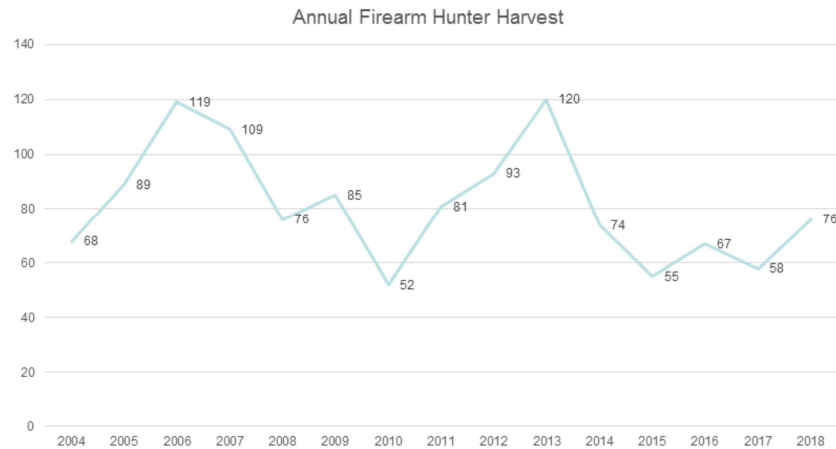
About 10 years ago we were very likely over-hunting our herd. With 400 tags, we gave hunters as many opportunities to hunt on base as possible. We never closed down areas, unless it was due to fire or military training. In 2014, we started curtailing the overall hunter effort by limiting the number of hunters we would send to the field. Over the last 5 years, that effort averages about 600 hunter days.



## Firearm Deer Harvest



- Harvest fluctuates each year
- Deer population fluctuations, hunting effort, and hunting area availability likely contribute to the peaks and valleys of this graph



The harvest jumps up and down, especially during the years of over-hunting. The last five years have shown a more stable harvest and perhaps a modest trend upwards.

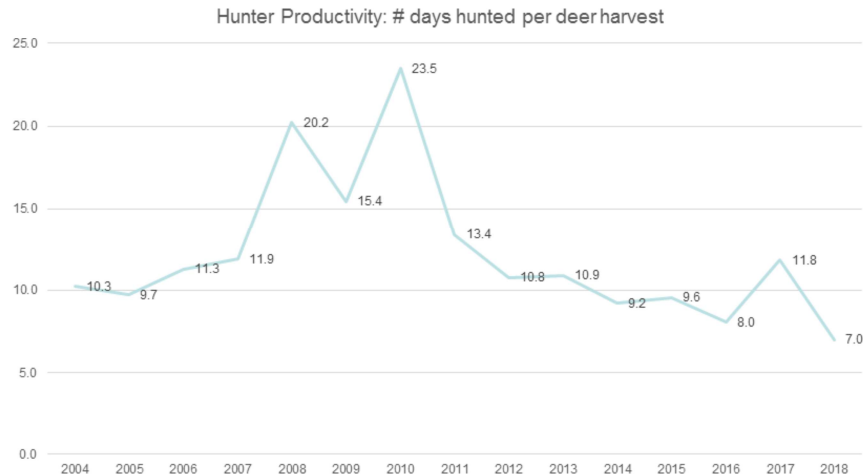




## Hunter Productivity



- The rate of deer harvest varies annually, LOWER IS BETTER
- Average is 12.6 hunter days per deer



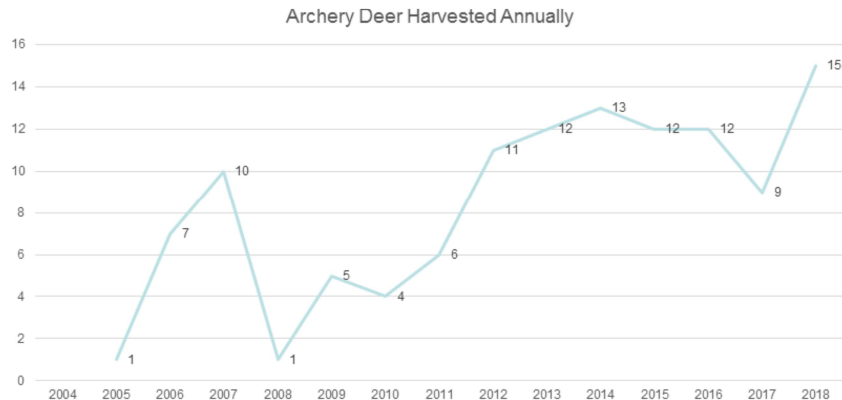
Instead of focusing on how many deer we harvest, we look at hunter productivity. When it took an average of 23.5 days to harvest a deer in 2010, it was because we did not manage the hunt very well. In the last five years we have higher hunter productivity. In fact, 2018 is the best year yet since we have started to track these numbers. It took an average of 7 hunting days to harvest a deer in 2018. Good work hunters!



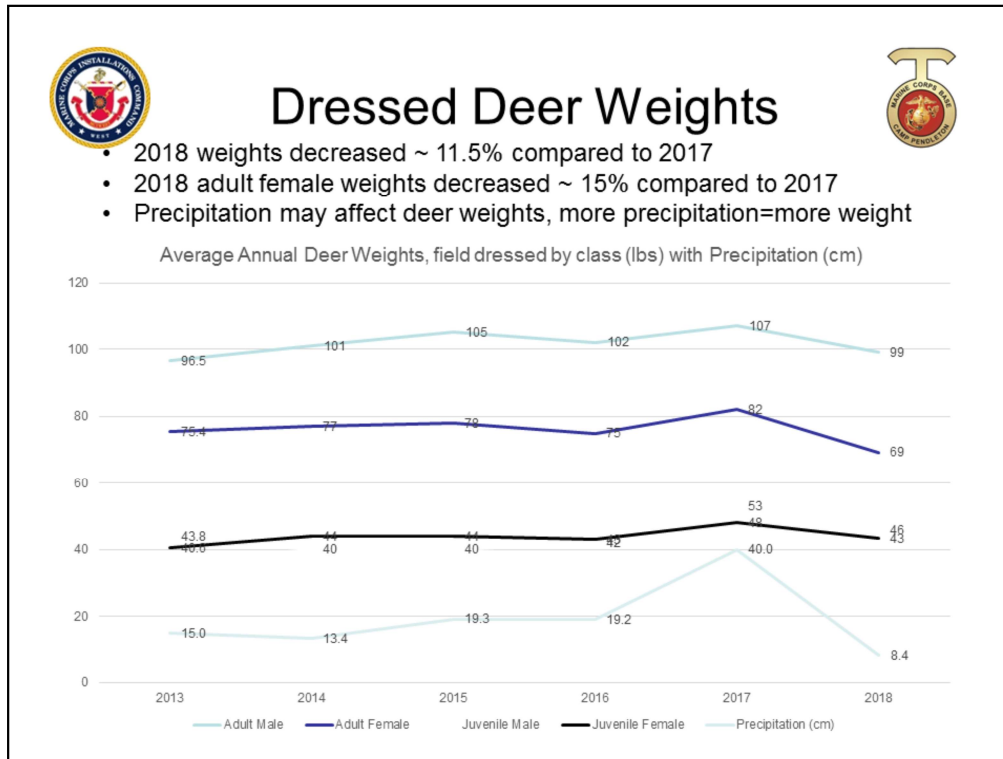
## Archery Harvest



- Record 2018 harvest of 15 deer
- Average harvest about 8 deer
- Archery effort not managed due to relatively low harvest numbers



The archery season coincides with the rut (mid-Sep and mid-Oct). So, it is an exciting, but challenging hunt. Archers typically take the trophy animals for the year as the bucks drop about 10 lbs per month during the season. We do not manage the archers very closely as it takes a lot of effort to harvest a deer with archery equipment. This year we had a record harvest of 15 animals, with an average effort of 50 hunting days/deer harvested! Our archery population is growing each year, and it represents a great way to spend a lot of time hunting without over utilizing the resource.



This really surprised me. I wondered why the weights dropped so drastically in one year. I really thought our management techniques created better forage conditions for the deer, which is why we were previously trending upwards. But, I was wrong as their weights decreased quite a bit. However, when I added the precipitation levels (the bottom line), it paints a pretty good picture as to why deer weights fluctuate. More precipitation means more food, which means higher weights. We'll keep an eye on this to see if it tracks accurately over time.



## Deer Teeth Aging Information



- This is a place holder until results come back from Matson's Lab

The timing of funding, and the delays at the lab, mean that we do not get this information back for some time. For 2018, I will keep track of each hunter's name along with their tooth data. When I get the tooth data back, I will post how old each deer was for each hunter. Deer harvested on base average about 4-5 years old, with some being as old as 11 years. The age composition of the harvested deer help us identify any abnormalities in the population dynamics.



## 2018 Deer Hunting Lowlights



- Due to high winds, only 1 deer was harvested during the X-ray youth hunt instead of the usual 6-8
- P1 and P3 were closed due to UXO
- 3 citations written (spike \$230, trespass while hunting \$230, out-of-zone tag \$430)
- 3 hunters lost their base hunting privileges for life due to unethical behavior, violating multiple rules and attempting to deceive Game Wardens when confronted

The youth hunt is something relatively new. We give the 12-18 year old hunters a chance to hunt in the X-ray impact area, which has great terrain and habitat for hunting. The youth usually tag out during this event, but high winds prevented that this year. A hunter called our office to report an artillery round landing in the P1 training area. It didn't seem likely, but in fact, two rounds landed in the P1 training area. No one was hurt, and we were thankful a hunter pointed out the issue. This meant that P1 and P3 were not hunted during the season due to the UXO in the area. We don't like writing citations, but it's a tool to enforce our laws which keep our program safe and sustainable. One spike came in, which is a violation of California Fish and Wildlife laws. One party shot a deer off base and drug the body back onto base underneath a fence. When confronted, they party lied. After a field investigation mapping deer tracks, blood trails, and drag marks, plus an eye-witness statement, it became clear that the hunters were unethical. The hunting party all lost their base hunting privileges indefinitely.



## 2018 Deer Hunting Highlights



- Highest archery harvest on record (15)
- Best rate of harvest on record (7.0 days/deer)
- Over 1300 trips to the field for archery and firearm deer hunters
- A very safe season, no reported mishaps or injuries
- No interference with military training reported
- Two 4x4 bucks were taken (Echo and Oscar 1)
- Largest buck 142lbs field dressed (Delta)
- 25 Guzzlers provided water throughout the dry season, receiving 80 deer visits/day

On a positive note, we had a lot of great things happen this season. Archers broke the harvest record this year! Firearm hunters broke the record for productivity, only 7 days of hunting per deer harvested. Deer hunters went to the field more than 1300 times, and did it SAFELY and without interfering with military training. I hope every season is just like that, and we'll be hunting on Pendleton forever! A couple of big racks and a very large deer came in. Our guzzler program (artificial water holes) pre-dates the base as the Santa Margarita ranch developed springs to water livestock. The Game Warden office, along with lots of help from the Sportsmans' club, kept water in all 25 of our guzzlers all year. It takes a lot of effort to keep up with the thirsty wildlife affected by drought and record high temperatures. We had to do emergency maintenance on 3 old springs and deliver thousands of gallons of water to remote locations. Based on our trail cameras, we had about 1500 animals visiting our guzzlers each day (about 80 of them deer). This access to water allows the deer to conserve calories and stay more fit. Based on a three year study from 2006-2009, guzzlers do not open new habitat to deer, they just enhance the habitat.



## Summary



- Camp Pendleton Deer Hunting appears
  - 🌐 SUSTAINABLE
  - 🌐 HIGH QUALITY
- The 2019 Hunt Will:
  - 🌐 Hunt 600 hunter days for firearm season
  - 🌐 Spread effort throughout base
- Monitor body weights for herd health

I wish every season was as good as this one. We really appreciate the hunters following the rules and staying safe. We'll keep up our management efforts for 2019. Let's hope for some good rain to keep the deer in good shape.

Thank you!