

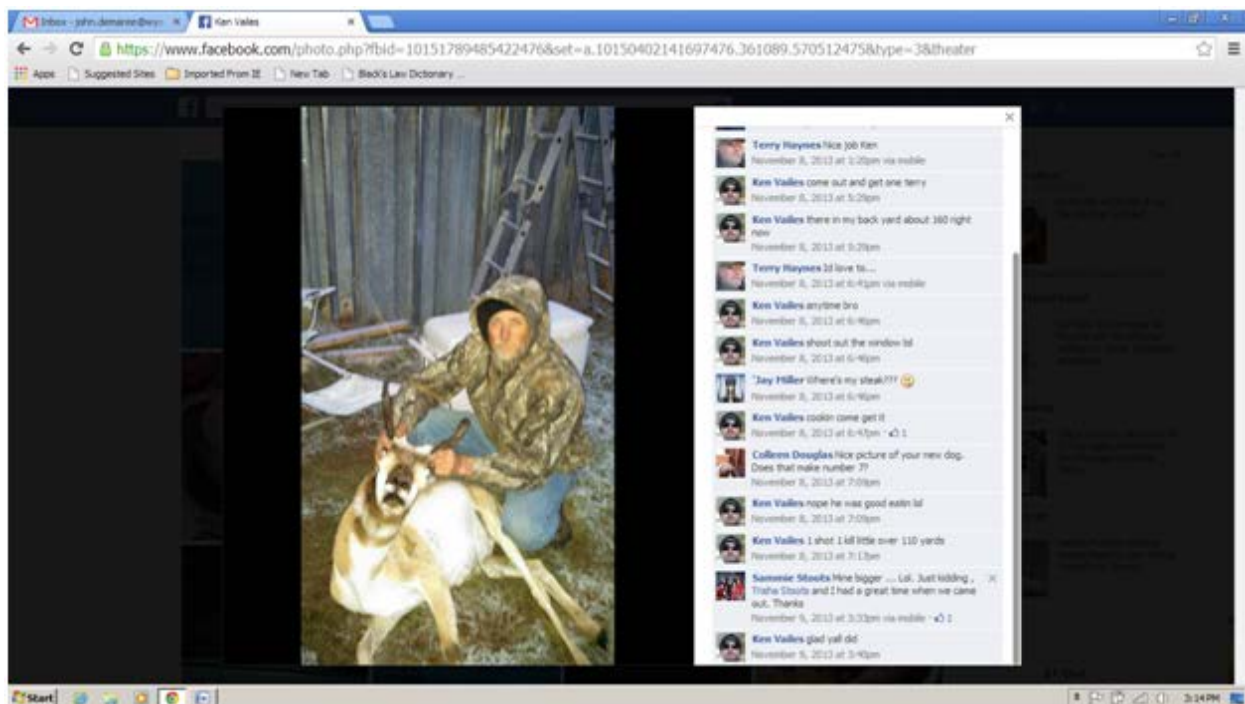
From our forensic files: Facebook leads Game and Fish to bust big game poachers

By Margaret James, Wyoming Game and Fish Department's Service Division

The Wyoming Game and Fish Department's nationally recognized Wildlife Forensics and Fish Health Laboratory supports wildlife law enforcement in Wyoming and several other states by providing excellent forensics analysis taken from wildlife crime scenes or other collected evidence. Through the years the forensic scientists at the lab in Laramie have worked on hundreds of cases resulting in game wardens solving wildlife poaching mysteries. For some of the scientists, certain cases stick out in memory more than others. One such poaching case took place in 2013-2014 and starts in an unlikely place--social media.

The case

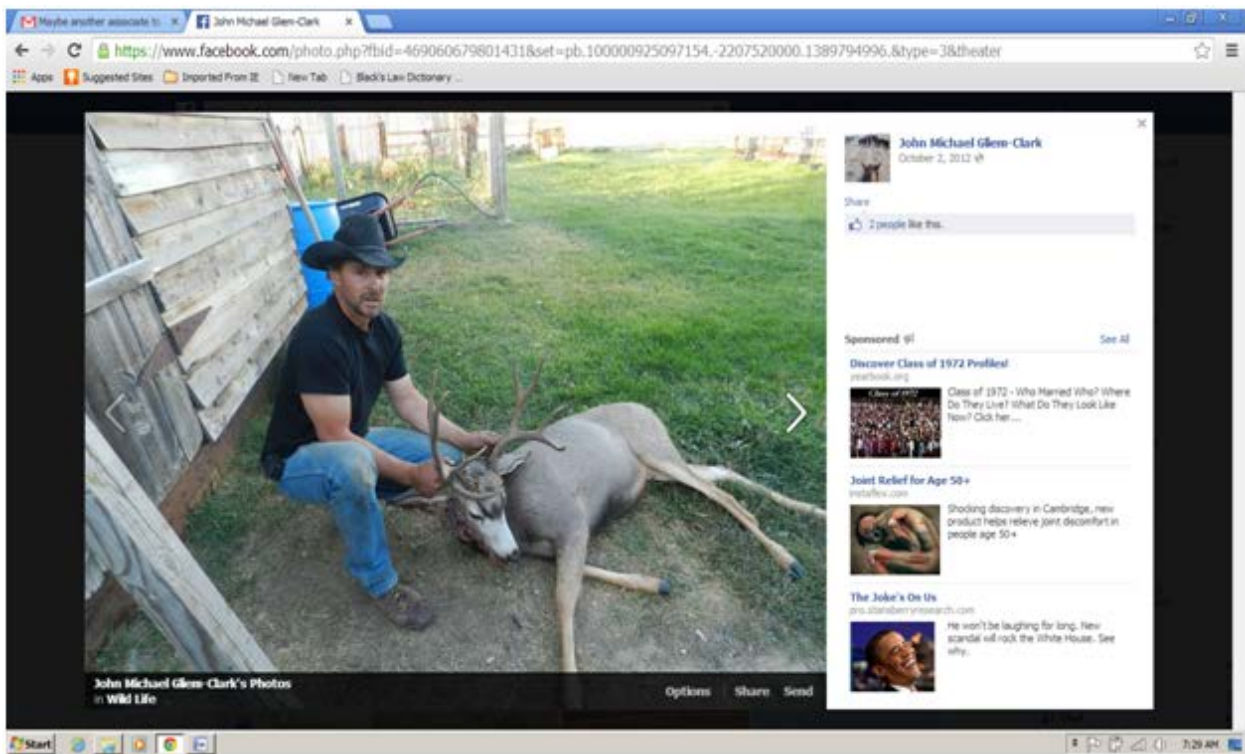
In December 2013, Game and Fish received a *Stop Poaching* tip that Kenneth W. Vailes may have poached an antelope near Rock River, Wyoming. Warden Kelly Todd took the report from some of Vailes' neighbors. The neighbors told Warden Todd they looked at Vailes' Facebook page frequently, and Vailes recently posted photos of his antelope hunt.



Poaching is a serious crime, so Game and Fish took the tip and began to dig deeper. Yes, there were photos online, but did Vailes have the proper licenses? With help from Warden David Ellsworth, Game and Fish investigated to determine if Vailes held the required hunting licenses. Through Facebook, another name surfaced, one of Vailes' friends -John M. Clark.

The neighbors who reported the tip were familiar with Vailes, and also had concerns about him poaching. The neighbors knew Vailes was not allowed to possess a firearm because of privileges being revoked due to a previous conviction for shooting and putting holes in his neighbor's (the reporting party's) house. Warden Ellsworth was able to corroborate this statement by verifying a civil protection order in Albany County for Mr. Vailes which specified the firearm restriction.

Game and Fish looked at the evidence at hand. On Facebook the men had posted photos, shared big game meat recipes and partook in conversations about their hunts. It was clear Vailes and Clark did not hold enough or the correct licenses for the amount of meat and the number of animals they referenced. Based on the social media posts, a judge decided there was enough evidence to issue a search warrant.





Game and Fish law enforcement personnel conducted in-person interviews and collected evidence. The forensics lab sampled the seized evidence from the search warrants in April, which resulted in 84 testable items between the two households, that would be used to build a case against Vailes and Clark..

The evidence

“This case was interesting,” said Forensic Analyst Tasha Bauman, “The evidentiary items we received were many and diverse in sample type. The submission form included several different species for which to test, and the evidence listed was interesting. It was apparent from the beginning that this was going to be a challenging case to work on.”

“There was a fanny pack, bloody towels, buckets of dehydrated meat (jerky like substance) in zip lock bags, jars of homemade chili/stews and lots of mule deer antlers. In fact, there was enough to indicate that there were at least seven separate mule deer.”

Bauman explained the majority of the evidence seized was found in less than optimal conditions. The meat had been processed and placed in ziplock bags or jars that were not sealed well. Each was labeled with either “deer,” “antelope,” or “elk” and with different dates. Evidence found at the Vailes’ property included an antelope carcass found in a crawlspace as well as meat from various freezers.

Hair, tissue and blood samples taken from camo clothing, bloody towels, and the fanny pack were tested for species identification, gender identification, and microsatellite matching for the purpose of determining how many animals were present. The lab was also able to get antler drillings, where lab personnel drill into the antler to get little shavings to gather DNA from the bones.

The analysis

Processing all the evidence was a lengthy and involved process. It took just under two months to process the 84 items of evidence and to determine the results. Because there were so many pieces of evidence in this case, and so many meat samples, the forensics lab was too small to manage it all. Lab personnel had to sub-sample some of the evidence at the Laramie Regional Office.

The sub-sampling alone took two full days. This is where Forensic Specialist/Program Manager Kim Frazier and Tasha Bauman, from the lab, looked at every item, evaluated each piece of evidence, and took small sections of each item that they determined were best for testing.

“This was a tedious process because many of the evidence items were in poor condition before they were seized. We had to be careful with our sub-sampling selection to ensure we were collecting the best biological samples for testing,” said Bauman. “But I love the challenge.” Through a variety of tests, the lab determined there were a minimum of 18 animals present, not counting the species that were tested elsewhere, which included various big game animals eagles, foxes, and owls. Species identification was done through a protein testing, which can be utilized to determine family and/or species level identification of each sample. This is variable, though, depending on the species being tested.

The forensic process

This is where the forensic science begins to get complex. With species identification based on protein analysis, multiple assays (testings) may be needed to resolve the question down to the species level. A single protein or “species level” test would not be sufficient on its own. Some species have proteins that will appear the same spot on the same test (showing that it could be either elk, or beef, for example). A second test is used to separate out samples by family level identification, then it can be determined that the sample being tested is part of the deer (cervidae) family, for example. And further, a third test would be needed to determine if it is a white-tailed deer or a mule deer.

Once the species is determined, the laboratory utilized the Polymerase Chain Reaction (PCR) to make hundreds of thousands of copies of a small portion of the “X” chromosome and “Y” chromosome, if it is present. The presence of the “Y” chromosome will indicate the sample originated from a male.

Last, microsatellite matching uses the same process as gender PCR, but they use specific markers (primers) to isolate specific sections of chromosome. Instead of utilizing the “X” and “Y” chromosomes in the gender test, microsatellite matching uses "primers" to look at 12 different small portions of the animal’s DNA to generate a genotype for each piece of evidence. That way a forensic expert can compare different pieces of evidence to determine if the genotype is the same or different. The laboratory can then use these genotypes to determine how many individual animals are represented by the samples.

Wyoming’s lab uses this process to determine if two or more unknown samples originated from the same animal. Once all of the laboratory testing was completed, and the data analyzed, a report on the findings was written and issued to the submitting game warden, which was used in the prosecution phase against the two individuals.

“For me, I am still amazed that we can use science to link a meat sample from someone's freezer to the mount hanging on their wall,” said Bauman. “In fact I am honored to do this for living and serve the people of Wyoming. It is very rewarding to work in the field of Wildlife Forensic Science.”



The resolution

As a result of the lab's findings, Warden Ellsworth was able to file charges against Vailes and Clark. Clark was issued citations for four counts of taking mule deer bucks without licenses, two counts of take buck antelope without license, two counts of illegal possession for bull elk meat, and two counts of illegal possession of buck mule deer meat. Albany County Circuit Court proceedings took place in October 2014. Clark pleaded guilty to all charges. Four counts of illegal deer and elk possession were dropped by the prosecution. Clark was sentenced to \$30,240 in fines for 6 counts of taking antlered/horned big game without licenses, and his hunting, fishing, and trapping privileges were suspended for 36 years.

Vailes ended up leaving Wyoming and went to Tennessee. Wyoming Game and Fish worked with Tennessee Wildlife Officer, Captain Buddy Brown, to issue 14 citations in September of 2014, which included counts of illegal possession of buck mule deer, illegal possession of doe mule deer, illegal possession of pronghorn (undetermined gender), three counts of illegal possession of doe pronghorn, illegal take of buck pronghorn, illegal possession of raptor parts (eight eagle talons), and four counts of illegal take of swift fox. Vailes sought representation from a court appointed defense attorney. Several drafts of a guilty plea were filed; but, before a final guilty plea could be filed with the court, Vailes was murdered in December of 2015. The Wildlife Forensics Lab works on Game and Fish law enforcement cases, and as such, it does the forensic work as an "independent lab" versus working under the direction of or for the investigating officer and the cases submitted do not belong to the lab, but remain with the officer. Basically, the lab is its own entity. This system is designed in order to keep their findings objective and unbiased. "We offer a service for the Department's law enforcement officers and other wildlife agencies, but the case is theirs," explained Bauman. "We simply run the samples and if necessary provide expert forensic court testimony. Other than that, our involvement in the case stops there." The Forensic Lab, located in Laramie, Wyoming, provides scientific analysis on evidence collected by game wardens. A warden may send animal parts, blood samples, or meat to the lab as part of their investigation of a poaching or connect evidence to a crime scene and to the suspected poacher.

Interested in reading more case stories of wildlife crime? Read the Wyoming Game and Fish book *Wildlife Crime: Stories from Wyoming's Wildlife Officers*. The book is a collection of Wyoming poaching stories – from the very serious to the pretty humorous – over the last 15 years. Experience many of these investigations through the eyes of the wildlife officer – and in a 2003 multiple bighorn ram case through the eyes of the college students who witnessed the crime. The book is not only a tribute to wildlife officers, but also to the reporting parties, assisting law enforcement agencies, county attorneys and judges. The final chapter announces many of the unsolved poaching cases in the Cowboy State. Price: \$8. [Order a copy here.](#)