
JAMES INNES - NETGUNNING WILD SHEEP: VIDEO FOLLOWED BY OPEN DISCUSSION

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Abstract: Techniques used by Helicopter Wildlife Management (HWM) in netgunning, restraining and transporting wild sheep be presented. James Innes, the owner of HWM, operated a fleet of helicopters in New Zealand where he captured thousands of red deer, chamois, and Himalayan thar for harvest and the ranch industry. The innovative techniques learned in New Zealand were brought to North America in 1992. Since that time, HWM has captured 2,662 wild sheep for state, provincial, and tribal agencies in Canada, the western United States and Mexico. Topics covered will include netgun used, crew configuration, shooting technique, chase time, multiple captures (more than one animal/net), use of skid mounted net, hobbling technique, transport inside helicopter, slinging upside-down, and mortality rates. An open discussion will follow the presentation.

I think all of you know we had a terrible accident on Tiburon Island in December. In the years we've been in the business, which is about 24, I guess, and probably in excess of 100,000 hours of flight time, that was the first really serious accident we've had.

That can't be said for the industry as a whole. Our guys are as good as they are because they were trained differently. Where we come from, nobody pays to capture wildlife. If you come home with no meat or no animals, you can't afford the gas for tomorrow. You push it so hard, you kill yourself or you give up. It's a whole different training ground. The boys just really learn how to do it properly.

The other thing they learn is there's no point to the live capture business with animals that are stressed and going to die. We started in the business by capturing red deer in the mountains of New Zealand and flying them to game farms. We had seven helicopters and some crews would catch a lot of animals, but they would have a very high red deer death rate. There were guys who caught a lot of animals and they all stayed alive. It worked out financially that the guys where red deer died did not stay in the business. It was a very good training ground, made the guys develop all the skills that

we needed for what we do today.

The key to getting live animals is netting them, getting the boys out of the helicopters, and getting on to the animals really fast. It boils down to speed and experience. We talk about slinging animals upside down. We do it all the time. We had one red deer that weighed 5200 pounds. I don't know how they carried it. They must have had it on the side of a cliff and pulled it off the cliff.

Everyone in the U.S. was shocked to see us slinging everything upside down. To us it's faster and quicker. There isn't time to put animals in bags and screw around them, if we go long distances with elk, moose, or bison in the back of the helicopter.

The only reservation is when we know the animals are going to be put in small enclosures where they can't move around. Particularly with elk, bison, and moose, you've got to be careful you don't have a circulation problem. I mean an anticirculation, and problems with the tendons. If we put elk in tight captivity, we put them in the bags. Those are the only times we would waste the time putting them in a bag.

We developed a skid gun that I'm sure everybody

is aware of. Probably 20 to 30 percent of all our animals are caught with the skid gun. It increases your odds if you've got sheep on little ledges and they've got a net on them. If things don't look too good, you can put the net on the animals there, because the skid guns are under the pilots control. It gives us access to a lot of nets really quickly. With wolves and bison that get out of nets really easily, the pilot can put another net on them. It restrains them really fast with our netting system. It's as fast as the pilot can fire it and still fly the helicopter.

Our guys work out of the front seat of a helicopter. I don't know where the idea of working from the back seat came from, but all our guys only use the front seat and our techniques have been developed that way. I'm not the one that developed the techniques; it's the boys that have made a living by being paid for being efficient. They developed all these skills.

By working from the front seat, we have better communication with the pilot. We're closer to the animals, and it makes the whole operation faster. We put animals in the back seat. We also carry a lot of gear in the back seat.

We have different ways of packing nets, depending on the species we are after. All our nets are prepacked.

Occasionally we catch two animals in one shot. We don't mind doing that because the guys are smart enough to get away with it. There's no problem for handling even more animals. Once again, it's speed in handling animals. If you're slow, stupid, and don't get out of the helicopter in a hurry, they'll die. If you're really quick and you know what you're doing, you can get away with it without any trouble at all.

I'm not very impressed with the way I see sheep tied up in other situations. We use a dog collar strap and we tie back to front, front to back on either side. It completely eliminates any struggling. The idea of tying one leg at a time, in my view,

gives them far too much movement. We tie every species, except donkeys, this way. We don't tie them that way because they bite too much when you do that. Everything else, we tie up. We'll sling the rope between the two legs.

When we sling the captured animals we use the net. The net is put around their legs so that when the rope is tightened, it's the only rope here. You loop the sling rope through their legs, but we always put the net as a cushion under the legs so the rope doesn't hurt their legs.

We can bring back three, four, or five animals at a time. Generally it's one or two or three. If it takes more than three or four minutes to catch another animal, we bring them all back to base. If it's a long way, we don't carry them with slings. We do put them in the back seat.

We don't have seats in the back of our helicopters. They're all completely lined with padding and plywood. It's like putting the animals in a cage and is very efficient.

Because we work in every state in the nation in doing this kind of work, we get to know the ground crews that are really speedy and know what they're doing. If a ground crew works fast, we can bring in four animals at a time.

Target animals are often found in really steep places. We use a variety of nets depending on the terrain. We try to use 18 square foot nets. We try to net some rocks or trees, to try and stop the animals from rolling down the hills. We work in really steep terrain this way. It's not a problem with pilots that can put you in a place and shooters that know what they're doing. There are no prizes for having animals rolling down the mountain and killing themselves.

We use the same technique whether we're tying up bison, horses, sheep, goats or whatever. You hold them down and come in from behind. You get the back legs and pull the top back leg up, put it in your groin, and one guy can hold a big elk cow or

even a horse that way as long as you need to.

When we take them out of the net, we still sit in that position, none of this grabbing the head. When you grab the head, you only hurt the neck, and there's problems. On big elk, if you start at the head, by the time you get to the back end, they'll get away from you.

We had our vests specially made up. They're orange, for obvious reasons. With orange, you can find the guys on the ground. In Utah, they have nice green clothes. You fly away and you can never find them again. Vests are made with lots of pockets so you can carry ropes. We do collaring and sampling and it helps to have your ropes in the great big pockets.

What I was really trying to explain is it's all a matter of speed and having the right gear, the right equipment, and guys that are really well-skilled. We don't encourage people just to get in and out of helicopters and work with us.

For someone to use a net gun on our crews, they have to be around us for a couple of years. We work at a high speed and things can go wrong; when they go wrong, it's usually not very good for the helicopter business.

Safety is a really big issue. I'm sure some people think that with the speed we go that it's not, but it is. When you work the way we do, if safety isn't important, you'll get in trouble.

We use ordinary dog collars with straps. We run them around legs of sheep, deer, and wolves. When we do horses and bison, we use a heavier strap. We don't use straps on bigger animals. We have leather straps made in Wyoming. We get the animal's legs together, bind them back and front, and we put a loop around their legs. When you've got all your gear on, you put the straps around you twice, and hook them together.

There's no point having them when you've got a great big knot. These fit around your waist.

Regardless of what you're doing, everybody carries two or three of these.

When you catch moose or elk and something goes wrong, you can use the ropes to tie them to tree or help tie them up. We do it for sling-tying up animals. We attach and carry them using a big long chain. When they're in the steep country and 99 percent of our work is done with ropes like this.

MARCUS NURSE: We use the Simon gun to shoot the net over the animals. It's an Alpine gun which was designed in New Zealand. It's got these interchangeable canisters with pre-loaded nets, which we can change in a matter of seconds. We carry about seven or eight canisters in the helicopter, depending on the numbers and kinds of animals we are after. We can catch animals just as fast as we like.

We use different sorts of nets depending on the animals. We use an 18 square foot net on the larger animals (moose, elk, and buffalo) and we use the smaller, lighter nets, about 15-foot square, on the smaller animals (sheep, mule deer, and white-tailed deer).

INNES: As Marcus said, you can change cannisters really quickly. We don't use normal net-guns at all, because the recoil breaks too many arms in the helicopters and it could hit the jaw. These are like a bomb. When they go, you don't want to get hit. If you're clear when you have this action, you don't get hammered. Guys that get really good like Marcus get tricky, shooting out of the helicopters underneath the skids.

The Simon gun can't hurt you. These are fast and efficient. With seven cannisters in the helicopter, depending on the altitude, if you have got a weight problem, you load down. All you have to change is the bullet and away you go.

We use many different types of shells, depending on a little net or big net. The bigger the shell, the more recoil.

The key is to avoid injury to the shooter's arms and shoulders. If you get 40 to 50 animals a day, these become really sore, so you try to use as light a weight as you can to be efficient.

If you use big weights all day, you end up like my son Dan. We had a pilot who flew too high. He was real good and had 78,000 hours of flight time. He goes through about one shooter a year. He flies too high; when I say too high, he's was 10, 15, 20 feet above the animals all the time. The boys were having to use a heavier load all the time and Dan ended up having two broken arms. Many of you have been around Dan when he would tape up his wrists. He spent too much time with this pilot that wouldn't get lower. When we select pilots, they have to get real close. Otherwise, they can really ruin your arms.

Concerning blindfolds, we like these stretchy ones, because they mold to the species you are capturing. We go through hundreds and hundreds of blindfolds. The easiest ones we find, and probably the cheapest and the quickest, are the neck warmers. We buy those by the hundreds.

Another thing that is important with sheep, is not to use the same colors of blindfolds from one place to another. You may have disease problems that you could be transporting.

Another thing we did for our guys is develop a standard operating procedures manual for capturing animals. It explains in very minute detail everything we do and everything we expect our guys to do. Anybody else that wants to be around have pretty much got to meet these standards.

This reference covers right down to how we bleed animals to how to get standard proper procedures in trying to take anatomical measurements, transportation, etc. The details are all spelled out in here.

We're continuing to modify our procedures as we try new ideas. This reference is not for publication; it's our own internal manual. I know it helps agencies particularly with the scrutiny by animal

rights groups and animal welfare. If you've got copies in your possession, you'll solve a lot of problems.

QUESTIONS, ANSWERS AND COMMENTS - JAMES INNES PRESENTATION

VERN BLEICH, CALIFORNIA: What's the operational limit of that aircraft in terms of elevation used?

JAMES INNES: We've done 50 collars on mountain cliffs in Colorado at 14,000 feet. I don't think it gets any higher than that, and it can be done at that altitude. We know that's pretty extreme and we used three different pilots to do that job and they're our very, very best pilots. One pilot used me as a net gunner. I'm a big, fat guy, and the pilot was a fat guy and between us we weighed 400 pounds. He also had 200 pounds of gas and three nets. He hovered with an altimeter and I put a collar on a goat at 14,000 feet. Other guys who are really, really good pilots were still struggling at that altitude. It's all the skill of pilots, but that's really extreme.

BLEICH: 12,000 feet would be well within your limitations, then, depending on ambient conditions?

INNES: I think anything up to 10,000 feet is okay. When you get over 10,000 feet, you have to make sure all systems are a go. Marcus had an experience in Colorado last year where they were working putting collars on elk at 12,000 feet. They got caught in a thunderbolt and the helicopter fell about three or four thousand feet.

BLEICH: You have to be careful working at high altitudes.

AMY FISHER, NEW MEXICO: James, one of the big problems which arose when you first came was the upside down slinging. Do you think that concern arose because the regurgitation reflexes are pretty bad when the sheep are chemically immobilized? I suspect we don't have problems with regurgitation because they're not immobilized chemically. What is the mortality that you've derived on bighorn, or in general?

INNES: That's true. In the early day when we were capturing red deer in New Zealand using drugs, we had to put them in the bags and pick them up. You had regurgitation. You could not sling them upside down if they were drugged. We really developed the technique once we got away from drugging, and it was all done really quick. Our death rate in New Zealand went down to about five percent when we went from drugging and putting them in the bags, to putting them in the helicopter or hanging them upside down. I'm talking five percent after the deer had been in farms about six months.

Lynn Carpenter evaluated our whole program and I think it was about two percent in sheep. Generally speaking, that ranges from where we don't get any losses at all, to where you get two percent in a disastrous day where everything goes wrong no matter what you do. You can't keep them alive and you may lose a handful of sheep. It pushes the statistics. The worst day to catch sheep is when it's windy. If it's windy, you can't handle the helicopters as well as you want to and everything gets screwed up.

I had two or three days in the U.S. with sheep where there were disasters. We lost some sheep in Oregon. It was terrible. It was a windy, snowy day. Everybody was under pressure and they had 30 guys that wanted to get it done. It was the worst thing they could have done.

In general, what we expect to get now, and we would like to think we get, is no deaths. It's not a matter of going and saying we're going to catch 50 sheep, and we'll lose ten percent or two percent. Usually we lose none. Sometimes we lose ten percent.

FISHER: James, could you tell us about working closely with the ground crew and what the total handling time is with regard to the sheep? You try to get the sheep to us within a few minutes, but then what happens?

INNES: We're really sensitive about bringing in groups of volunteers and school kids to get the job done in a fast manner. It frustrates me where we see inexperienced crews. I can understand what's going on. Everybody wants hands on. They want to be poking and shoving and pushing, but that's the worst thing that can happen. It's probably good I don't go out on those jobs. The crews are more mild mannered than I am.

It doesn't matter what species it is, the quicker you get the animals on their feet, the quicker you get them in the field the better they survive. We've had situations where, if the crews were too slow, I would say we're not going to process and we put the animals in the trailers. We did that a lot. We would hold them in the trailers and take the blood and swabs in the there, because the important thing was to get them up on their feet.

If you've had a really tricky capture situation where the animals are in rough country and have been hard to get, even though you might have a good crew, it's better to use trailers. It's more to get the animals standing on their feet. It's less stress to not have them not lying down with people poking, pushing and taking blood from them. If you get them on their feet, you're okay.

ESTER RUBIN, CALIFORNIA: Getting back to the theory of slinging the sheep upside down, did you evaluate the survival or the percent of losses over a long term? Not just during the day of the capture, but over a period of weeks afterwards? Was there any evaluation of that?

INNES: Yes, the answer to that is most of the animals that we capture are radio collared. If we were going to have a problem, people would know.

There is scrutiny in New Zealand. You're putting red deer on the farm and they are worth thousands of dollars. People care what happens. We would know quickly if we had a disaster. We find out pretty quickly here in the United States. They've got radio collars on them and any problem would be seen. It hasn't been.

FISHER: I might add that Ray Lee will give a paper on some of the results that Len Carpenter compiled from the captures that Helicopter Wildlife Management did where mortality rate is calculated two weeks post release. If Ray doesn't say this, I will. Slinging upside down isn't critical.

INNES: We can state that we caught about a thousand elk in one location and we did them by the day. One day we would sling them all and the next day we would put them in bags just to see if we had any post capture problems. We didn't have any problems at all. There was no difference. What we were really looking for were leg problems, and because our haul time was only a matter of a minute or less, it didn't make any difference. We know when we put them in bags, it slows the operation down by at least twice.

GARY BRENNAN, WYOMING: I've been involved in netting since about 1985. Jim was right on the speed factor. There's an alternative to slinging upside down. We have a bag that Washington has seen recently and I think Nevada can also testify to. It's probably just as fast as the sling method when you sling them by the feet. This new bag keeps them upright, so if there is a controversy with the animals being upside down, the bag supports their legs. That's one quick way. You want to support their weight, so get the new bag system. I didn't bring one, but it works quite well and it's very speedy.

One other concern I have is if you have a short flight, that's fine. You get the weight off their legs pretty quickly. If you have a longer flight, you have a slow sail on a helicopter that puts a low sling load through the

air. You stick your head out the window of the car, you notice the faster you go, the more resistance. If you have 500 pounds on the load and you go 80 miles an hour, that weight on the load is 500 pounds to 700 pounds of resistance on their bodies being drug through the air.

FISHER: Gary, are there any differences or any other comments that you would add to this discussion in the way that you capture or handle wildlife?

BRENNAN: What James said is exactly right. You see a lot of organizations that don't have the experience and don't know how to handle the animals quickly. That's the key thing to the whole thing. There are probably 30 alternative methods. I caught quite a bit of flak from the news media. People are not used to seeing that technique. I'm not a scientist. I don't know that part of the thing, how it affects the animal, but I know how it affects the public and there are repercussions. I wouldn't want to be slung around by my feet upside down. I'd much rather be supported. For a short distance, I don't think it hurts. Like he said, if they go longer distances, they do different things.

As far as transport systems, I think there are only two ways, upside down by the feet or the bag system. Any other systems you have out there are way too slow and you don't gain anything from them.

INNES: We put the majority of our sheep and goats and anything that will fit in the helicopters. If you put them in right, you can put four or five sheep. We've done work in Utah where they were moving sheep from one location to another. It's just as quick to get four or five, stick them in the bag, whatever the distance (40, 50, 100 miles) and drop them off. We've done quite a bit of that.

REX SOHN, UTAH: I don't know about Gary's bag system. I have a concern about the body bag system especially in antelope where you experience hyperthermia problems. It's like you running a hundred yard dash and then somebody wrapping a safety blanket around you and you can't get rid of that excess body heat. I think we should investigate looking into a bag system that has a fine mesh to it that allows the actual flight through the air being a cooling down of the animals.

INNES: We made bags like that for that very reason. We used them so little, we gave them away. You can count the days we use bags in one hand.

FISHER: Our bags are made out of a mesh. They're in the back and take a look at them. As they're being slung through the air, if you have to do it that way, it has a cooling effect on the animal.

DAVE SMITH, ARIZONA: I was wondering, maybe for everybody, is this methodology been accepted by the animal rights groups or has any group threatened to shut down a capture because of the concern?

INNES: We had that problem when we first came here and I think the worst example was when we were in Oregon. Some of those guys probably remember when we got shut down and the animal rights guys had a bit of a field day.

After that happened, I spent quite a lot of time traveling back to Washington and wherever those guys were and I got to know the people and PETA and the Humane Society. I personally got to know all those guys for that very reason. Since I got to know them we developed this standard operating procedures manual together, and that was a large part of our reasoning for putting together this manual. I regularly, for no other better reason, keep in touch with those guys and we haven't had any trouble since that Oregon deal. We potentially got into trouble three or four more times.

I used to ring one of the big honchos in Washington and tell them to you get off my back, you know we did a good job. Everything went away, and there haven't been any problems since.

I think what happened when we came here was that we probably put the catcher business in a higher profile that it may have been before, with TV crews following us everywhere. We've got the media following us around. We had to nip it in the bud, because there were too many people. I would suggest two, three, four times a year. I ring this one individual who is a powerful guy and if I smell any problems, he shuts them down really fast.

CRAIG FOSTER, OREGON: We cannot measure a difference between slinging them upside down as opposed to the bags. I looked through our capture records on probably a thousand California bighorns in Oregon. We don't, as a state, accept sheep slung under the helicopter by their legs. One reason is PETA showed up at one of the captures and turned it into a significant wreck. I'm like Gary, I don't like to be slung upside down. The only animals I see slung upside down for a period of time are dead.

As a state, if they're going to be come in slung by their hobbles, we won't accept those animals. They have to come into us some other way. We don't see a significant increase in the time of handling if you've got a good crew that knows what they're doing. Putting them in a bag and hanging them under the ship versus wrapping the net under their feet and wrapping them in the hobbles, is a bone of contention and I know there are people on each side. That's how Oregon does it and that's how it works.

INNES: Particularly in our deal when we were using bags, and I've seen it here in the United States too, you can have just as many problems with animals throttling themselves. What Rick said before is a very real case. We've been doing sheep in hot climates putting them in bags. They are not better in the bags, but if you don't put them in the bags in the helicopters, they tend to piss all over the helicopter. But we try to get away from it.

I think when you say it doesn't slow the operation down, just like anything, it depends on what your standards are. What your expectations are. If you're used to the time it takes to do it, that's okay. We just flat out don't want to take the time delay. I've caught too many animals and I've monitored too many animals. What I'm worrying about is the body temperature. I know how to keep it down and when we screw with bags, I know it will come back up.

FOSTER: I have a question for the veterinarians in the group. Rex brought up the temperature problem. Our bags allow air to flow through pretty quickly and cool animals slung upside down. Are their respiratory systems compromised with the weight against the lungs, as opposed to being upright to exchange the air for temperature?

DAVE HUNTER, MONTANA: When we talk about temperature in bighorn, remember they do not sweat. The reason that we pour water on them is we're using their skin as an evaporative organ of the body. The fact is that as they would hang on those bags, the animals dissipate or get rid of heat by respiration. Anything you do to compromise that respiration is hard on the animal.

One of the criteria for Idaho was not slinging them upside down. Looking at moose, elk, and bighorn sheep, my concern was respiration. The trip back can bring up the body temperature. If they're breathing, they're getting rid of heat while flying around at 80 miles an hour, even with mesh on the bags. I would rather see a bag that supports the animal so it's not hanging by its neck or folded up in such a way that it's pushed the

diaphragm up. If they're sitting like a dog, that rope is pushing on the diaphragm, which is the main organ of respiration, and they have to pant because they can't get that diaphragm up.

I agree with Gary and James with hanging them upside down and watching their respiration. Esthetically, I find it distasteful. As far as going through all the records and trying to find areas where we had problems, I have not seen them. I think that with the way these animals are hobbled and hung up there, the diaphragm is allowed to move as they're moving back to base camp.

If you put them in the bags, those can be killers, too. Watch the way they're supported. A little animal has a big back, if you put the head out, the butt is not hitting the bottom of the bag. He's hobbled up there and he's hanging by his neck. Shove them all the way down in the bag. If those bags have an opening, close it all the way and sling him so he has a chance to use his respiratory system. I'll get off the soap box now.

INNES: We had a ram that we transported last year that died for that reason. He was a big ram and really heavy, the bag was only two or three inches too long. His butt didn't hang heavily, and his lights went out. That was the first ram of a major big transplant that died that way.