

OAR NEWS

OCT 2014 ISSUE



The Owyhee Air Research Periodical

THIS ISSUE:

INVESTING IN THE FUTURE

REVIEWING THE LATEST IN INFRARED TECHNOLOGY

NDOW TESTS AERIAL INFRARED ON FAWN SURVEY

MEET THE BIOLOGISTS

Welcome!

This is your access to aerial research methods and news at OAR

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INVESTING IN THE FUTURE



OAR Takes On Its Most Ambitious Project

Working closely with scientists and acknowledging needs is a priority at OAR and has us investing in future improvements.

We're transitioning our software to GIS Pro, a data-recording software by Apple Inc. that incorporates basic GIS functions. It's simple and for your benefit, allows data reports to come in four file formats:

.KML .GPX .CSV .SHP

(GIS Pro will be running by December of this year)

This fall we're taking on our most ambitious project to date and transitioning our proven current Infrared system to a fully integrated EO/Cooled Infrared package.

What a fully integrated EO/Cooled Infrared Package Means:

- Greatly enhanced video-recording abilities for new sage and sharp-tailed grouse leks
- The opportunity for mark/recapture studies using laser illuminators
- Safe, high-altitude infrared population surveying for ungulates

(for more details, see "Reviewing the Latest In Infrared Technology").

This new system is a major investment in our cooperative futures and introduces a very exciting time for all of us.

Summer 2014 went quickly. We've enjoyed working with you to accomplish some great projects, including wild horse and eagle surveys, infrared bat cave surveys, wolf, and infrared fawn surveys (see "NDOW Tests Aerial Infrared").

I hope you enjoy our Fall periodical and find these articles continuously informative.

John Romero
Chief of Operations
Lead Pilot

Thoughts?
contact John at
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REVIEWING THE LATEST IN INFRARED TECHNOLOGY



OAR is investigating the newest infrared and day-light camera technology with focus on wildlife surveying capabilities.

We test flew several new integrated stabilized camera systems. Wescam's MX-10 and Cloud Cap Technologies' TASE 400 rated highest in our reviews.

(continued on pg. 2)

REVIEWING THE LATEST IN INFRARED TECHNOLOGY (continued)

Both systems are integrated gyro-gimbal units that enclose a cooled IR camera, an EO system consisting of a daylight camera and a low light camera, Laser Range Finder (LRF), and Laser Illuminators.

Their stabilization quality, resolution, zoom capabilities and ability to accurately geo-coordinate the point where the lense is focused are these cameras' most notable traits.

Not only is it possible to positively ID critters during the day or night, it's also possible to know where they are precisely and avoid double counting.

This is all accomplished from great altitudes keeping the pilot and camera technician out of harms way.



The MX-10
manufactured by Wescam
image courtesy:
www.wescam.com



The TASE 400
manufactured by
Cloud Cap Technologies
image courtesy:
www.cloudcaptech.com

*OAR will be purchasing one of these two systems and schedules to have it running by the end of 2014.
We believe the benefits for biologists will be substantial.*

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NDOW TESTS AERIAL INFRARED ON FAWN SURVEY

Survey Shows Fawns Can Be Detected More Efficiently With Aerial Infrared Footage Than With Traditional Ground Methods



With the support of Cody Schroeder from Nevada Department of Wildlife (NDOW), OAR spent two days carving aerial circles in the Ruby Mountains of Nevada to test-run its cooled, infrared camera system and its efficacy for counting un-collared fawns from the air.

It's June, OAR infrared technician, Ben Blake is cross-leg-seated in the rear of the aircraft piloted by Janna Greenhalgh, his eye pressed to the viewfinder of the infrared camera he's using to record the ground below.

Their morning began a half-hour before sunrise—a time chosen to maximize the temperature difference between warm-bodied animals and the cool, morning environment. Their flight window is the two hours before the ground begins to warm.

At 1,000 ft. they locate a collared, potential mother doe via radio telemetry and complete multiple aerial circles from multiple angles to ensure sufficient camera coverage.

"Video looks good, let's move on," Ben announces.

"Great. Stop record," Janna responds and she banks the aircraft wing East toward the next collared doe.

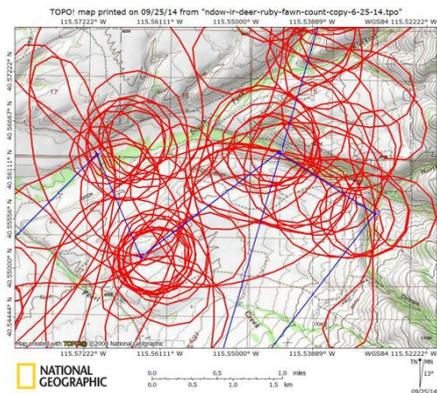
It's a tested system of equipment and verbal communication that allows OAR to reference precisely the IR footage to the geo-referenced waypoint of each collared animal.

Meanwhile, Schroeder and a ground crew conducted the same survey near the time of take-off, navigating terrain using radio collar signals to get ground counts of fawn near the same seven doe.

The Results:

What was accomplished in three-hours of air time and video processing, took the ground crew nearly a full day.

(continued on back fold)



MEET — THE — BIOLOGISTS

I had the pleasure of interviewing Ed Partee of Nevada Department of Wildlife and Jake Powell from Idaho Fish and Game and asked them a few questions about work and life.

Here's what they had to say...



JAKE POWELL

Game Biologist
IDFG (13 years)

Where did you grow up? Idaho Falls, Idaho

What is your area of specialty and what inspired you to pursue a career in that area? I consider myself a well-rounded biologist, but big game is what I enjoy the most. Hunting with my dad, grandpa, and brothers is what nurtured my love of the outdoors and is why I pursued this career.

What's the worst job you've ever had? Rogueing potatoes was likely the worst job I've ever had. It consisted of 12-14 hour days, 6 days a week, at \$3.25/hour.

What do you enjoy doing outside of work? Hunting big game, trapping, camping, spending time with my family, and constructing things with my hands, whether it be wood working, welding, or taxidermy.

Are you married/have kids/ pets? I have a beautiful wife—Katie; three awesome kids—Bridger (6), Tanner (4), and Riley (2); and two dogs, Skeet (12), and Timber (8 weeks)

What is your happiest memory? The birth of my kids.

Where did you grow up?

I grew up in Carson City, Nevada, but was born in Reno because the Carson City hospital had just burnt down.

Where did you complete your undergrad? I graduated from the University of Nevada, Reno in Resource Management.

What inspired you to pursue a career in your field? I've been hunting and fishing since I was in middle school and I also had a good friend who worked at a hatchery and that helped grow my interest.

What do you enjoy doing outside of work? I like to hunt and fish and ski in the winter time.

Are you married/have kids? I have a wife-Jennifer, and two daughters, Jessica (21) and Brittany (16).

What are your goals for the future? To work at NDOW nine more years and then retire.



ED PARTEE

Game Biologist
NDOW (21 years)

NDOW TESTS AERIAL INFRARED ON FAWN SURVEY (continued)

Challenges in Using Infrared:

It's difficult to guarantee the correct doe in the video. Potential solution: attaching distinct infrared reflective material to each collar for positive identification.

Spotting bed-down doe in insulated habitat can be a difficulty lessened by passing over locations from multiple angles, but thermal camouflage can be as challenging in aerial infrared filming as visual camouflage is to a ground spotter.

However, our successes have us testing other possibilities. Could IR be used successfully for:

- Temperature variations in hot springs?
- Vegetation surveys?
- Cold spots in landscapes? In June we tested our IR camera on cold spot detection and flew midday over a known cave system in Kuna, Idaho. The infrared footage revealed astoundingly clear results of cave passages.

Ah, the possibilities.



We want to thank NDOW, Cody Schroeder, and collaborating biologists for their passion and unwavering dedication to their field.

Without their interest and particularly their trust, OAR's efforts to develop new surveying options with measurable improvements would be valueless.

IN OTHER NEWS



OAR has switched software to Apple Inc.'s new GIS Pro!



Recently published on
www.redhensystems.com/success_stories:
"Real life success stories from real life Red Hen Clients"
an article highlighting OAR's work and success in collaboration with Red Hen



OAR is currently researching uses for Night Vision Goggles. Stay tuned for more info.

Thank you for reading OAR NEWS Oct. Issue!

Questions or Comments?
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OAR NEWS is produced by Emily Romero, Professional Writing and Design