

Questions and Answers from Both Advanced Camera Systems Webinars.

Typed answers to all questions from webinar # 1 and many of the questions from webinar # 2 appear in the right-hand column. Many answers were verbal, but were only recorded for the second webinar. To find those and match them to questions for webinar # 2, use the “Time” column to determine where in the recorded webinar the answers were given. The webinar was started on time (10:00 am), so if the question occurred at 11:05 am, then you would scroll through the video to 1 hour and 5 minutes of elapsed time. Questions and answers for webinar #1 start here and those for webinar #2 start on page 7.

Webinar #1, January 31, 2017

Time	Question	Text Answer
10:01:39 AM	will the slides be available after the webinar?	Yes. The presentation will be posted on this page, after the webinar. http://wildlifeobserver.net
10:26:46 AM	What is the distance between daisy chained cameras?	About 1000m, but it varies based on terrain
10:39:19 AM	Does WON cost anything to use?	No
10:40:12 AM	For camera positions, can you put down how high off the ground the camera is mounted? It may be useful to know, since it may help you in camera mounting positions to reduce 'unknown' species.	We are currently not tracking that attribute, but we're happy to consider adding it
10:41:43 AM	Is the use of your database restricted to road crossing type data or are you housing any project involving remote camera data?	Yes, any project
10:41:55 AM	Will projects not directly related to road or DOT needs be precluded from using the network?	No, see previous Q/A

Time	Question	Text Answer
10:43:08 AM	when you tag multiple images with the same animals, does it count that as ONE animal in the tally?	We are developing this idea – groups of images associated with one event involving several animals
10:45:38 AM	Is there a limit to storage capacity per project?	not yet... but we should chat if you have more than say 100 GB of images
10:46:31 AM	sorry, let me try again- so you see the exact same deer in 4 photos in a series. You can indicate that that is ONE deer, not four?	Yes, we have a concept called "events" (not presented today) where species won't be double counted across positions... so 4 images with a single deer in each would only be counted as one deer, not 4. Some of this work will be fleshed out in the next phase.
10:47:29 AM	thanks, we should chat anyway. I'm from Vermont and working with a project that may like to work with you.	
10:51:08 AM	You all should contact Roland Kays and his critter cam project group. This is a statewide project.	We have talked to Roland, thanks for the suggestion
10:52:08 AM	How long do you store photos? or do you cap the amount of data (images) you will store?	This is intended to be a “legacy” system, so images will be stored indefinitely, or handed off to a different system if needed
10:52:10 AM	how do you prevent theft of camera systems	See our Help section videos on field installations
10:52:17 AM	Any suggestions on how to get your State Agency to buy in on the importance of this system?	Create and populate a project on the system (upload pics and tag them), then show the various system attributes for managing projects

10:52:27 AM	Although we can prevent the public from accessing project data, who ultimately "owns" the data; since we would be entering it into your system?	The data are owned by the original person/organization who took the picture. We expect people will ask permission to use others' data and we will not use your data without your permission
10:52:42 AM	With your experience, what would you say a realistic photos per hour for tagging photos would be?	About 100-200 per hour depending on person's experience and similarity of the events in the pictures
10:52:46 AM	can you bulk upload camera locations from a GPS or spreadsheet file	Yes, contact us
10:53:08 AM	can multiple volunteers log in to one project (if multiple people are maintaining cameras)?	Yes, they would need to be identified as participants in your project to they can log into the project
10:53:19 AM	What are your thoughts/observations on using "no glow" versus "low glow" IR cameras?	We now use only "no-glow" but we think someone needs to test whether or not they really are undetectable
10:53:32 AM	Tip for Camera Theft - Talk to adjoining landowners to let them know what you are doing. They will help keep an eye on the cameras as well.	
10:53:39 AM	Can the camera flash scare the animals away?	Possibly, certainly the white flash (night-time color photos) or low-glow have that potential
10:53:46 AM	does climatic data include only temperature or does it also include humidity, wind direction?	All of the above
10:53:56 AM	What camera would you recommend for reptiles/ Timber rattlesnakes ?	Any of the cameras we mentioned can detect and report movement. We have used Bushnells to detect non-warm blooded organisms at night. However, I think it is worth testing camera models

		to see if you are getting all or just a fraction of moving poikilotherms
10:53:57 AM	Have you used signage on the cameras, such as "images automatically uploaded" as an additional theft deterrence?	No, not that one, good idea
10:54:01 AM	can data be lost?	Possibly, though the data are backed-up every night
10:54:09 AM	Any experience of solar-powered cameras in places with several months of harsh winters with snow and cold temperatures?	Yes, in CO. Seems to help with battery life.
10:54:49 AM	Are the data checked (quality controlled) at all, given that the data are then shared publicly?	We do that with our own (Road Ecology Center) projects and assume that project owners will do that for their projects.
10:55:07 AM	Do you have another webinar and can some of my colleagues still sign up?	(Feb 8 th)
10:56:09 AM	Sorry if you answered this already - can you bulk upload attributed information from a spreadsheet?	Yes, but contact us first to get the fields you would need for this.
10:56:27 AM	have you used these cameras to show successes and/or failures of wildlife crossings and other similar structures	Yes. The instantly-communicating cameras allow success to be shown immediately.
10:56:32 AM	What is the cost to a State Agency's new camera trap	None

	project for downloading pics to your system?	
10:56:34 AM	When I have looked into cell models, there is a quiet period while the pictures are downloading. Has that been an issue you have come across, and if so, how do you combat that to make sure you do not have blackout periods of data collection?	Yes, there is sometimes a quiet period, which varies with camera. The Spartan Go-Cam and Reconyx both have ~1 minute rest time to transmit. The Bushnell “wireless” cell-cam does not require a rest, it transmits image later after camera is inactive.
10:58:13 AM	Are automated image detection programs reliable? I.e. will the computer/program be able to accurately sort through photos and identify a species?	They vary and accuracy also varies by species. The best approach would be to use automated image analysis for species that have high accuracy and then to periodically check % accuracy from a random set of pictures.
11:00:44 AM	Which state agencies in California are actively collaborating with you on this endeavor?	Caltrans
11:03:12 AM	I've noticed with the low glow cameras, mature mule deer bucks and bull elk will try to avoid cameras when they figure out where they are. They then take a different travel route if they can or get water elsewhere. I think it's the noise they hear. Has anybody else noticed this?	We have noticed that either the “no-glow” for any of the cameras are actually leaking some visible light, or the cameras are making a sound when they are activated.
11:03:58 AM	i'm still a little unclear on the covariates you can add. Can you put in treatment, veg measurements, etc. just like in a relational database?	You can enter variable that are part of the current forms for positions and images, all of which will be part of the database record. You can also suggest variables that you think would be useful to you and others.

11:04:11 AM	Would you accept images/data from projects globally (such as Europe) or only US/CA?	Yes
11:04:28 AM	have you considered posting photos of camera thieves on your website as a possible deterrent?	No, we haven't done that. We have passed images of thieves to law enforcement or partner agencies.
11:08:17 AM	Are you aware of a photo cataloging system that will automatically attribute a spreadsheet with info from the camera through image recognition such as file name, date, time, temp, pressure, moon phase... all of the things we have manually attributed from a Bushnell Trophy Cam in the past	Yes, our system does that.
11:08:20 AM	Is anyone assessing the reliability of these cameras, the proportion of crossings detected under different kinds of camera deployments? Distnces from structures, numbers of cameras needed, whether cameras work well when high on trees, how to deploy for different size animals, all seem to need to be addressed.	Yes, there have been several investigators in the field who have done this and presented results at the ICOET (http://www.icoet.net) and IENE (http://www.iene.info) conferences.
11:09:36 AM	the mature deer and elk may not be scared by the noise but may detect human scent	It could be visible light leakage, camera noise, the anomalous shape of the camera in nature, and/or human scent
11:09:38 AM	they hear the camera	
11:10:21 AM	re: wildlife becoming wary of cameras - is it possible that animals may be wary of	It could be, needs investigation

	cameras because hunters also use cameras?	
11:10:34 AM	You've taken time to thank everybody for their help. On behalf of everybody that has been involved with you and Dave, I would like to thank you guys for what you do to help us!	
11:11:03 AM	Great presentation! Very informative on the most recent advances and techniques. Thanks you so much for organizing this and making it available agency staff. Bravo!	
11:12:49 AM	Thank you very much! Very interesting webinar.	
11:15:31 AM	Do you have any trail cameras system for rent?	We don't rent cameras, but we could talk about loan/partnership.
11:16:51 AM	You talked about cell and wifi camera best-performer models. In general, the non-communicating models are more affordable, which can be the deciding factor when choosing models, especially for larger-scale projects. Do you have any model or brand recommendations for non-comm. models in terms of reliability, cost, and performance?	We find that Bushnell trophy cameras are the most cost-effective reliable camera. We have used the more expensive Reconyx, but don't find them to be better or more reliable than Bushnell. The best place to get camera comparisons and reviews is here: http://www.trailcampro.com
11:17:32 AM	Do you like the Buckeye camera system? If so, is it worth the additional 4-5 time cost of just a regular Bushnell \$400 camera?	We like it for its silence/invisibility to animals and the wifi.

11:17:37 AM	Thank you guys! great job!	
11:22:53 AM	how is the data sent to you secured so it is not lost	We backup all data every night
11:24:14 AM	possible to back up the files off your server?	There are ways to “offload” the images.
11:24:15 AM	Super presentation! Thank you very much for all the information and efforts :)	
11:24:22 AM	Thank you	

Webinar #2 February 8th, 2017

10:07:31 AM	How can we get the copy of the slides for the presentation?	There are currently on the website, and later this week, we'll also have the audio available
10:18:42 AM	Why not test Moultrie?	We only tested cameras from 6 manufacturers. For camera reviews and comparisons, go to http://www.trailcampro.com .
10:19:12 AM	At some point, can you please speak about cellular data plans necessary for these cameras and how to factor data volumes into selecting data plans?	Data plans vary in price. The most reliable and cost-effective approaches are to use Bushnell’s wireless camera and data plan (~\$10/mo), or with other cameras to get a SIM card from an ATT store and use ATT Buy a Session (~\$8/mo).

10:19:26 AM	Do all these cameras work properly down to -35C?	We have tested them down to -20 F and they seem to work. The issue does not seem to be the camera, but the batteries. Li and solar panel best solution.
10:22:25 AM	was the Bushnell using 2G/3G to transmit?	3G
10:24:30 AM	what is max distance between cameras for daisy chain?	Manufacturer says up to 2 mi line of sight. In hilly or forested terrain, I suggest a few hundred meters max
10:28:24 AM	tested to what range of temperatures?	-20 to +100 F
10:28:45 AM	Does any of this work in highly remote areas with no cell coverage?	No, you need cell coverage. Wifi can be used if you have a wifi connection somewhere nearby
10:29:56 AM	have you ever seen any issues with the battery (leakage, rupturing etc.), what happens if it is damaged by wildlife (e.g. carnivore puncture)	We have not seen that.
10:30:39 AM	So can you get a satellite connection for any of these cameras for very remote sites?	We use commercial and wi-fi. We have not used direct satellite connection, but this is conceivable.

Time	Question	Text Answer
10:33:09 AM	Other = thermal camera connected to WSDOT data network	
10:33:51 AM	Are data publicly accessible?	It depends on the project manager. You can set the project to public or private when you set it up, or any time after that.

Time	Question	Text Answer
10:34:17 AM	what if you don't want your data shared with the world?	You can set the project to "private"
10:34:59 AM	Can you add a logo to the images?	There are various kinds of software that you can use to do that in bulk before you upload the images, but we don't do that.
10:40:31 AM	Non-wildlife images are filtered automatically?	Not yet, if the next phase is funded, we will do it then.
10:41:43 AM	Are there opportunities to create security levels, specifically to use volunteers (as participants) catalogue new photos without having access to the entire database?	Yes. The project manager set that up
10:41:48 AM	by position, do you mean geo-referenced position? i.e. site coordinates	Yes, exactly
10:44:01 AM	How is sampling effort, that is, individual camera down time, accounted for?	You can enter deployment/sampling time on the website as part of your position attributes
10:44:03 AM	I use MapView Professional software	[for organizing camera trap data]
10:44:13 AM	ArcGIS Collector	[for organizing camera trap data]
10:44:25 AM	Jackson Hole Wildlife Foundation's Nature Mapping website.	[for organizing camera trap data]
10:44:25 AM	Worked with a local software developer to build our own system, (in-progress) very similar to what you outline	[for organizing camera trap data]

Time	Question	Text Answer
10:46:28 AM	Will you eventually be doing some kind of meta data analysis on all these web data?	No, not on the image data or records. We sometimes look at the data about web-system use.
10:46:46 AM	can you upload photos from folders on your hard drive that contain images from past monitoring	Yes, just need to sort out the images containing wildlife, then put them in a folder to zip and upload.
10:46:55 AM	can alter effort to account for obscured days (e.g. obscured by snow)?	Yes
10:47:04 AM	You can export data to use in different tools... such as MapView	Yes
10:51:57 AM	Can videos from cameras be automatically analysed, not just photos?	Not yet, we will work on that later in the next phase.
10:55:26 AM	Are there ever issues with camera theft or vandilism when data (camera positions) is shared with the public?	Not yet, but it is possible. The easiest way to prevent that is to make sure the map of locations and positions is low-resolution and does not permit close zooming for people who are not members of the project.
10:59:44 AM	I would emphasize that fewer visits to cameras would decrease the effects on wildlife behaviour from wildlife avoiding people...	That seems likely.
11:03:00 AM	Do you host any Canadian projects?	yes
11:03:37 AM	What is the cost to a State agency to utilize your program to download and store pictures?	No cost

11:03:41 AM	wanted to ask about herptiles or low temp or non-warm blooded species. A lot of crossings are being installed or revetted for amphibians and reptiles (and in some instances arthropods and crustaceans). We have been using cameras for new western toad tunnels and red-legged frog crossings here in southwest BC. Work well for motion sensitive but what would be other options for these types of taxa	Please contact us for help with this issue.
11:04:07 AM	Were trigger sensored systems tested with all communication systems? Was one system better than another?	In terms of sensitivity? Bushnell is so sensitive it loses points for too many false positives. Most cameras allow you to vary trigger sensitivity.
11:04:25 AM	can you customize the attribute fields for the images?	You can use the ones we already have and suggest others if ours don't cover your needs.
11:04:27 AM	Have you seen this effort for automoted pic identification? http://ibeis.org/wordpress/	No, thanks for the connection
11:04:46 AM	In very remote sites (satellite-based Wi-Fi), could cameras be used for detecting wildlife for real-time mitigation response? E.g. approach of sensitive animal requiring reduction in activities.	Yes, we have done that with cell cameras and could do it for others.
11:04:57 AM	How is an 'event' detected - that is, the same animal in multiple images which I consider 1 event/detection?	We use a cutoff of same animal(s) in under 10 minutes = 1 event. This is typically from multiple triggers/photos
11:06:33 AM	Will you be developing an API to allow data retrieval from other servers?	Not soon
11:06:58 AM	Can projects from other jurisdictions (Canada) upload projects?	Yes

11:07:50 AM	Has video live streaming been used with these systems to better understand how wildlife interact to a wildlife crossing as they approach and leave a crossing?	Not yet
11:08:41 AM	You mentioned at the beginning of your presentation that some cameras may be detracting/affecting species - can you please expand on your findings and observations	This is not from a formal study, but it looks like several camera types that are “no-glow” may actually alert animals, which could be from visible light leakage, or noise (or scent)
11:09:09 AM	Are any camera projects in the process of being developed on any major highways in California Central Valley?	On the edge of the valley (80, 5, 49, 41) and then we have one coming up on 65.
11:10:29 AM	We do not use the cameras for road monitoring; ours are remote...used for occupancy/diversity. Is there room in your system for including non-road data?	Yes
11:12:52 AM	When setting up account and entering project information it would be useful to add AADT	Good idea
11:16:05 AM	Does anyone listening have any tips on reducing trail camera theft?	We have several tips on one of our Help videos about camera placement.
11:16:55 AM	We collect timed photos to quantify our camera effort (days obscured), but only triggered photos are used for our occupancy calculations (this is done in an attempt to standardize zones of detection - making them represent the trigger range of the camera). Would the data management system be able differentiate between timed vs triggered photos from a given camera?	Only if you differentiated among them somehow.

11:18:52 AM	Couldn't you just use the time-stamp of the images as a way to filter them?	Yes
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11:19:11 AM	Thank you for the presentation.	
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11:19:35 AM	Would you use gloves when installing and maintaining the cameras (to reduce human scent)?	We sometimes use gloves and it seems like a good idea
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11:20:08 AM	Thanks for the webinar, great and succinct presentation. I will consider using this system.	
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11:20:31 AM	Thank you!!!	
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11:20:53 AM	Thank you! that was a great presentation	
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11:20:55 AM	Great. Thanks a lot!	
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11:20:59 AM	It was great, thank you very much!	
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