



**The Monthly Newsletter of the Santa Rosa Photographic Society
Serving Santa Rosa and Sonoma County for over 34 years**

Focusing on...

Shooting RAW vs. JPEG

by the Staff of Mountain High Workshops

We were recently asked by someone who signed up for our Mammoth Lakes workshop about shooting in RAW format (NEF, CR2, etc.) versus shooting in JPEG format.

QUESTION:

Why shoot in RAW instead of JPEG format?

When you shoot with your digital camera set to save an image in JPEG format, the processor within the camera takes the information from the sensor and converts it to a color image, compresses it in a way that some data is discarded (lossy compression) and saves it to the camera's memory card.

When your camera is set to RAW format, the data from the image sensor is sent directly to the memory card without any processing. It is 'raw data' hence the term RAW. Each camera manufacturer has their own RAW image file extension. For example, Canon uses CR2, Nikon NEF, Sony SRF, etc.

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~ CALENDAR ~

APRIL

- 03 Digital images due
- 07 Board Meeting 7:00 PM
- 09 Dinner with the Judge 5:30pm
Monthly Competition 7:00pm
- 23 Program: Bird Photography,
Oliver Klink, Incredible Travel
Photos 7:00 pm
- 24 Newsletter items to Sheri

MAY

- 08 Digital entries due
- 14 Dinner with the Judge 5:30pm
Monthly Competition 7:00pm
- 16 Field trip, Angel Island
- 21 Newsletter items to Sheri
- 28 Program: Matting and Framing,
Diane Miller 7:00pm

June

- 05 Digital entries due
- 11 Dinner with the Judge 5:30pm
Monthly Competition 7:00pm
- 13 Field trip, Quarryhill Botanical Garden
- 25 Calendar images due
Program: Equipment and
Software Demo 7:00pm
- 26 Newsletter items to Sheri

~ EXHIBITIONS AND ONGOING CALLS TO ARTISTS ~

EXHIBITIONS, ETC.

Sorry, no Exhibitions information this month...

ONGOING CALLS TO ARTISTS

Santa Rosa Recreation and Parks Department: Exhibits at Finley and Steele Lane Community Centers and City Hall. To apply, go to Finley Community Center, 2060 West College Avenue, Santa Rosa, to pick up an application. Community Center hours are Monday - Friday, 8:00 am - 7:00 pm and on Saturday 9:00 am - 1:00 pm. For further information, call 707-543-4512; contact is Tara Matheny-Schuster, email tmatheny_schuster@srcity.org

The Atrium Gallery at Marin General Hospital mounts four shows a year of "healing art." The gallery is looking for local artists for future shows. Previous artists have included Ernest Braun. Send slides and SASE to Wende Heath, Institute for Health and Healing, PO Box 8010, San Rafael, CA 94912.

~ Fair News ~

It may be early but it's good to get started. Amazing how fast the days go. This year for the Marin Fair, lets plan for carpools to make the trips to deliver, pick up the rejects and pick up at the end of the Fair.

The Marin Fair is scheduled for July 1 through July 5, 2009. They are featuring a renewed sustainability theme: Cool Green Fun. *Hot Buttered Rum* will be there on July 4th and *Sha Na Na* will headline on the 4th. The entrance date for the Fair is 14 May 2009 and you can enter online at www.marinfair.org. The Exhibitor's Guide is available on-line March 1st or you can call 415-499-6400 and ask for one by mail. There is an Adult Photography competition print category for images of organic farming and ranching in the North Coast. Another special category is "cows".

Janet Gelfman

~ MISCELLANEOUS INFORMATION ~

SPRS WEBSITE

<http://www.santarosaphotographicsociety.org/index.html>

NEWSLETTER INFORMATION AND CORRECTIONS:

Contact Sheri Prager, Editor, The Positive Print

See SRPS roster for email address

~ Program ~

Bird Photography – and More

by Oliver Klink

23 April 2009

Why photograph birds? Birds are beautiful, fascinating creatures who exhibit exciting behaviors such as predation, courtship, mating and nesting. But they don't stay still for long and can be challenging to photograph. Through a set of images, you'll learn techniques for improving your bird photographs.

After seeing bird images, can we find parallels between photographing wildlife and photographing people? You'll be amazed at the many photographic concepts that can be applied to what is perceived as two different types of photography. Through a set of different images, you'll see how various techniques can be applied to both people and wildlife photography.

All the concepts explained during the talk can be further learned and practiced at IncredibleTravelPhotos workshops. Additional information can be found at www.incredibletravelphotos.com. Oliver can be reached at oliver@incredibletravelphotos.com

Oliver Klink

Oliver Klink has a Masters in Engineering Physics and an MBA. While attending college in his home country (Switzerland) he also studied photography. He says, "Giving Nature the ability to speak through my camera is what inspires me." Oliver travels to many countries to teach workshops and photograph animals in the wild. His work has been exhibited at various US and international galleries, most recently at ModernBook Gallery in Palo Alto, CA.

Have dinner with Oliver and fellow club members before the meeting. Join us at 5:30 PM on the 23rd at Kirin Restaurant, 2700 Yulupa Avenue, Santa Rosa. Please confirm your dinner reservation before April 21; email or phone Bob Alwitt, alwitt@comcast.net, (707) 933-9795.

~ New Members ~

JOAN HOWARD

WANDA LEE

ROBERT MOORE

ROBERT SELGEL

NICOLE SMITH

KATY THOMAS

LINDA THOMAS

WELCOME!

MAY 17TH FIELD TRIP TO ANGEL ISLAND

Please note that the May trip will now happen on SUNDAY, MAY 17TH.

Early sign ups will be appreciated so that we can arrange carpools to the ferry at Tiburon.

FEBRUARY COMPETITION RESULTS

GENERAL

Level B

1st Iban Boatman	Anne Abrams
2nd Floating Over Sonoma County	Steve Lowry
3rd Dancer of Sarawak	Anne Abrams

Level A

1st Trees in Morning Mist	Ira Gelfman
2nd Twin Pops	Harold Moore
3rd Next Step Port Jim	Oswald Print

Level AA

1st Tuscon Palette	Bob Orr
2nd Seven Digits	Drew Jackson
3rd Autumn Afternoon in Carneros	Cris Gondak

Level M

1st Farming the Palouse	Russ Dieter
2nd Resting at the Cathedral	Jerry Meshulam
3rd As Years Go By	Howard Bruensteiner

CREATIVE

Level B

1st Daisies 5 2b	Ken Hutchins
2nd Photo Haiku: Lady in Red	Lance Plaza
3rd Chihuahua in Love	Rodney Jonk

Level A

1st Bay Boats	Jeremy Joan Hewes
2nd Polar Poppy	Kevin O'Connor
3rd Butterfly Heart	Ira Gelfman

Level AA

1st Down in the Valley	Janet Gelfman
2nd Rainbow Bricks	Larry Mackie
3rd Ghostly Venue	Jon Frieseke

Level M

1st Monterey Coast Abstraction	Diane Miller
2nd Electric Forest	H Bruensteiner
3rd Ready to Devour the Road	Tania Amochaev

NATURE

Level B

1st Twin Fowl Sleeping	Roger Mercer
2nd Nest Builder	Bob Walker
3rd Eagle Flight	Joan Palmer

Level A

1st Gopher Snake	Harold Moore
2nd Sonoma Coast Sunset	TJ Mills
3rd Egret Feeding at Bodega Bay	Phillip Hann
3rd Jelly	Jim Oswald

Level AA

1st Jellies	Marilyn Caven
2nd American Wigeon Male San Diego	Janet Gelfman
3rd Canadian Bull Elk	Linda Caldwell

Level M

1st Bald Eagle With Catch	Tania Amochaev
2nd Monarch Gathering Pollen	Marilyn Brooner
3rd Winter Meadow	Gus Feissel

2008 End of Year Winners M—General

"HERON WITH EVENING CLOUDS" BY DIANE MILLER



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What does this mean? First you need to realize that the sensor in your digital camera does not 'see' in color. Each individual sensing element on the sensor (ten million of them in a 10 Mega Pixel sensor) records brightness levels, from pure black to pure white. Some of the individual sensor elements have colored filters over them. Your camera's processor takes this raw data from each pixel sensor and does an interpolation to make a colored image. When you have your camera set to save the image in JPEG, by definition, you are saving an image where each pixel element can have one of 256 different brightness levels. Shooting in RAW with 12-bits of data for each pixel element can record 4,096 brightness levels of brightness and if your camera uses a 14-bit RAW file, each pixel can record 16,384 brightness levels. So you can see that there is a whole lot more image information in a RAW file than there is in a scene captured in JPEG.

OK, but what does this really mean?

Let me put this another way. If you have a camera like a Canon 40D or a Nikon D80 that has a 10 MP image sensor and you shoot in RAW the camera will save the image in around 10 MB of file storage. If you are saving the image in JPEG format and you choose the highest level of compression, i.e. the smallest saved image file size, you will end up with an image that has about 2 MB worth of stored image data. If you choose the lowest level of JPEG compression, i.e. the largest JPEG image, you will end up with about 5 MP worth of image information in the file. So when you are shooting with your 10 MP sensor camera, and saving the image to the memory card in JPEG format, you are getting a lot less image data and you are throwing away 5 to 8 MB of image data with each shot. Now for taking snapshots, this is not a problem. **The reason you are interested in our Mountain High Workshop is that you no longer want to be a snapshot shooter. Most all serious landscape photographers shoot in RAW format.**

QUESTION:

What camera settings apply to RAW and which to JPEG?

In general, settings that affect the operation of the camera will have an effect on the RAW and JPEG images, while settings that affect the appearance of the image after the shutter button is pressed will affect only the image saved in JPEG format.

Here is a list of some of the things that will affect the RAW and JPEG image:

ISO setting, f-stop setting (aperture), shutter speed, focus.

Here is a list of things that will affect only the JPEG and **not** the RAW image.

Color temperature, sharpening, color saturation (normal, vivid), contrast and 'black & white'.

QUESTION

What are the advantages of shooting in RAW and what are the disadvantages?

Disadvantages of shooting in RAW format:

1. Image size is larger, for example, 10 MB versus 2 to 5 MB in JPEG from a Nikon D60 or a Canon 40D. This takes up more room in your CF or SD memory card and on your computer's hard disk. It also takes longer and requires more DVD capacity to burn your images to disk. Larger images take longer to load and save in an image processing program.
2. Most image software cannot display your camera's RAW image. You will need software that has the ability to take the RAW data from your camera's image sensor and convert it to a digital image that can be displayed. Your computer's operating system will need a small program, called a 'Codec', that is developed by each digital camera maker so that their own unique RAW camera information can be understood by the computer operating system. For example, if you use Windows XP or Vista, your included image software, like the Photo Gallery and the Windows Explorer, cannot display a thumbnail or an image from a RAW file taken with a Pentax, Sony, Nikon, Canon or other make of camera unless you have downloaded the Codec for your camera from the manufacturer's web site. Once you have done that and installed the Codec, Win XP or Vista can understand what a SRF, a CR2 or a NEF file is and can display the image or thumbnail.

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3. Since every RAW format is unique to a make and model of camera, there is some concern about long-term viability of the RAW image file. In other words, in 20 years, will the latest version of Photoshop or your computer's OS be able to display a RAW image created in your ancient digital camera? The answer is maybe, but probably not. So Adobe, the maker of Photoshop, Illustrator and Lightroom image processing software, has created a RAW image storage 'standard' called DNG, for Digital NeGative format. Adobe has stated that they will support the DNG format for as long as they are in business. So if you are concerned about archiving your digital RAW image file and having them readable in the future, it is a simple matter to convert them to DNG format from within an Adobe program like CS3/CS4 Bridge or Photoshop Elements Version 7 or with a free conversion utility available from Adobe.
4. Since there is no processing or correction to your RAW image file, the colors will seem a bit washed-out looking and lower in contrast. The images will also appear to be not as sharp as in a JPEG image. All of these conditions exist for the data from your camera's sensor, but when your camera's processor is set for JPEG mode, the processor corrects for this, with the settings you want applied via the setup menu or some set of default values (sharpness, color saturation, etc.). When shooting in RAW, you must do these tasks yourself in a separate step on your computer. If you are going to shoot a thousand images in one day, that's a lot of images to process outside the camera. You might consider shooting in both RAW and JPEG or just JPEG format. It all comes down to what is your goal in taking the image in the first place. If you are taking images to try to sell large prints or for display in a salon or if you post only your very best work to your web page, Flickr photostream or Pbase account, then you should shoot in RAW, even if you take 2000 images in a day. If you have a Photoshop product, you can do a batch processing of your raw images and give them all the same sharpness corrections and apply a color enhancement etc. and turn them into JPEGs just like your camera's process can do. You still have the original un-modified RAW image data files so for individual images, you can go back and tweak them.
5. In most cameras, the RAW file is not suitable for printing directly from the camera.

Advantages of shooting in RAW format--

1. Your image, the one you spent so much time traveling to get and composing, will have a lot more information content. This will give you better image quality and provide more image detail.
2. Using a RAW image processing program, like Nikon's Capture NX2, Canon's Digital Photo Professional V2, Adobe Camera Raw, Adobe Lightroom 2.0, or other RAW image processing programs, allows you to make a whole range of image changes that are not available to you if you shoot in JPEG format. When you shoot an image in JPEG format, you are relying on a tiny and very limited image processor and software within your camera to process the RAW image data. When you shoot in RAW format, you have a much more powerful processor in your computer and much more sophisticated and flexible software to do that task.
3. When you use software to process your RAW image, you do not actually change the RAW image. All changes are saved to a small file, called a 'sidecar file' named like this: DSC_2009-4-0002.xmp. This has a very great advantage in that your original image always stays unchanged and you can go back to it and find it in its original state.
4. A RAW file will contain data that can produce an image with a much higher dynamic range of exposure. This means that you can have your image with more detail in the highlights and shadows.
5. Remember, when you shoot in JPEG mode, even at the biggest or highest density JPEG option available, your camera's processor converts the raw data from the sensor and produces a JPEG file that it saves to your memory card. The raw data is then deleted from the processor's buffer and is lost forever. You only have the data contained within the JPEG image. You can never get that RAW image data back.

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When should one shoot in both RAW and JPEG format?

Shooting in both RAW+JPEG mode gives you the ability to preview the images quickly (both because the files are smaller and no conversion from RAW format is necessary). Doing this is also convenient if you are wanting to share images in the field with someone whose computer software does not support your camera's RAW format. For example, at our workshop, if you had a camera whose RAW format is not supported by the image viewing software on your instructor's laptop computer, then you would not be able to have your image evaluated in the field. If you saved in both RAW and JPEG format, then your instructor could see and evaluate your image as a JPEG. You might also want to shoot in RAW and JPEG formats so you could send the images to others without having to do any other processing.

One last note on RAW shooting. If you purchase a new camera, you might want to shoot in both RAW and JPEG formats for a few months. This is because the post-processing software companies are behind the camera manufacturers in making RAW image converters for their software. What's worse is that some new camera RAW formats are not supported in older image processing software. For example, Adobe's Photoshop CS3 will not open a RAW file from Canon's new 5D Mark II. You will have to use Canon's software to convert to a TIFF file or upgrade to Photoshop CS4. The same will be true for Nikon, Pentax and Sony's newest highend digital cameras with the 24 MP sensors.

QUESTION

What color space should I be using for my serious land and seascape images?

First, since we hope you are convinced to shoot your serious land and seascapes in RAW format, the camera processor does not convert the raw data into a color image. The data sent from sensor to memory card is raw, meaning that there was no processing applied to it by the camera's internal processor. It consists of brightness data for each sensor element on the image sensor. So no color space is used or needed.

But let's take a minute to talk about color space anyway because it is very important downstream in your processing.

The sensor in your camera has a pattern of individual sensor elements. They are covered with red, green and blue filters. There are usually twice as many green sensor elements as there are blue and red. Our eyes are more sensitive to green so there are more green-filtered sensor elements.

The color information for the image you have captured comes from an interpolation algorithm that is applied by your camera's processor when you save in JPEG format or from external software (like Adobe Camera Raw or a program from your camera's manufacturer) when you save in RAW format.

The process you choose to convert the RAW data to a colored image (inside your camera or on your computer) requires a 'color space'. We don't have space go into this deeply here but 'color space' is a standard used by computer devices that display or print colored digital images. The color space you use is normally dictated by the end use of your images.

Here is what the experts at Adobe say.

"When you shoot JPEG, you typically have a choice between capturing images in either sRGB or Adobe RGB (1998). Yet the vast majority of today's cameras can capture colors that lie outside the gamut of either of these spaces, especially in the case of saturated yellows and cyans, and those colors get clipped when you convert to sRGB or Adobe RGB.

Raw converters vary in their ability to render images into different color spaces, but Adobe Camera Raw offers four possible destinations. One of these, ProPhoto RGB, encompasses all colors we can capture, and the vast majority of colors we can see."

So the setting in your camera's setup menu for color space only applies when you shoot in JPEG format. The color mode you choose is according to what device you will use to view or print your images. The older sRGB color-space is closer to most ink jet, pigment, and lab printers. For posting images on web sites such as flickr.com, the sRGB color space is best. Some photo agencies require one standard or the other. For the very best color you will want to use the ProPhoto RGB color space in Adobe Camera Raw and send your image for printing as a TIFF file.

If you join us in our upcoming workshop in Mammoth Lakes, June 3-7, 2009, you will learn a lot more on how to make the most of your investment in photographic equipment. More information here:

www.mountainhighworkshop.com

~ FIELD TRIPS 2009 ~

APRIL 18TH FIELD TRIP CALIFORNIA ACADEMY OF SCIENCES

We will visit the new California Academy of Sciences located at 55 Music Concourse Drive in Golden Gate Park. The Academy contains four plus venues - the aquarium, the planetarium, the natural history museum and a four-story rainforest. The roof is a two and one-half acre expanse containing California native plants. This "roof" provides super insulation, prevents rainwater runoff and acts as a new habitat for native birds and butterflies. The building was insulated with recycled denim. There are many fascinating and eco friendly things to learn about in addition to all of the venues to visit. This facility has been noted as the greenest building in the world.

Tickets are \$19.95 for seniors and \$24.95 for adults. The Academy is open from 9:30 AM to 5:00 PM. Tickets may be purchased on-line at ticketing@calacademy.org. Wheelchairs are available upon request (for questions and additional information call 888-670-4433). You may bring your tripods with you and use them PROVIDED there is plenty of room and the tripods do not present hazards to other guests of the Academy. For additional information go to www.calacademy.org.

If we have a group of fifteen or more, we can obtain tickets for \$21.21 adults and \$16.96 for seniors. We would need to book those tickets as soon as possible so please be sure to sign up. If we go as a "group", I will need to obtain your checks so that I can contact the Academy and get all the tickets at one time.

It is recommended that we carpool. When you sign up, please indicate the number of riders you could accommodate. We will plan to meet at the Academy Café at 12:00 noon to touch base and have lunch. A menu from the Café is on the side table along with the sign up sheets.

MARCH 21ST FIELD TRIP – MUSTARD AND POTLUCK



We met at the Campbells, dropped off food, and headed out to shoot mustard. We found some good fields on Willowside Road just off Guerneville Road as well as at Kelly Farm on Occidental Road. For a few precious moments, the light was beautiful - and then we dodged rain. The potluck was much fun and a great opportunity to become better

acquainted with newer members.

THE SIGN UP BINDER FOR ALL FIELD TRIPS FOR 2009 IS ON THE SIDE TABLE AT EVERY MEETING. PLEASE NOTE IF YOU PLAN TO BRING FAMILY AND/OR FRIENDS WITH YOU.

~ FORUM FEATURE ~

~ Fungi... ~

9 March 2009

Kevin O'Connor

...are fruiting fabulously in forests not far away. Not the sexiest of nature subjects as they don't sing or fly but I like them. The story? I enjoy stumbling around the woods looking for this stuff. If anyone can ID these, I would appreciate it.

All are from the Willow Creek area of Sonoma Coast State Park.



Butch Conner

wonderful light on the first two!

Steve Lowry

But it looks like you blew out the top fungi of the first image and maybe the white stem in the second image.

Marilyn Brooner

Great Fungi images, Kevin. I think they should do well in nature.

Janet Gelfman

Hi Kevin -- If you google "fungi identification" you will come up with a host of websites that might be helpful. I don't have any reference books on fungi since I haven't done much of that. However, you tempt me with these wonderful images which will do well in Nature I am sure. I don't know what is in our Library at SRPS. If Adele is reading this post, do you remember if we have any such identification books in the Library? Maybe we should ask for a couple of these kinds of things for everyone to use? Anyway Kevin I especially like the first one--blown out or not. The composition is lovely. I also like all the rest -- but the first is my favorite along with the second which seems to tell the story of where these things come from. Thanks so much -- Janet

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Marcia Hart

I'm finding both the light and composition in the first one especially appealing. Nice work, Kevin!

Kevin O'Connor

Thank you all for the kind comments. My highlight warning didn't flash so I didn't bracket. The blown highlight raises a question: Should HDR be verboten in Nature if done from a single image?

Kevin O'Connor

Howzzat?



Butch Conner

Big no! The cut off shroom leads us right off of the image. The original is a very nice composition. I believe you can do local dodge and burn for nature, if it isn't blown why not just work on that one and bring it down a bit. Did you shoot in RAW? If so what does recover look like?

Diane Miller

I think "faux HDR" (from a single image) would be going way too far for N -- it is meant to be an artistic technique. But making proper adjustments in Camera Raw to get a good histogram is legal and desirable. You are shooting in Raw, I hope. You can recover about a stop of lost highlight and shadow detail.

Marcia Hart

Interpreting the rules - especially in nature - is a bit tricky and we all, with integrity, can interpret differently. My interpretation says Kevin can make adjustments - in the nature category - to specific areas of the image to darken and lighten so it will represent what he saw in the field. I'm quoting from the rules below with the information that leads me to that conclusion. If I'm wrong, I hope someone will help me to reinterpret correctly.

- Either global or local adjustments to achieve an image as seen in the field are allowed. This may be accomplished by the use of filters (including polarizers), flash or adjustments in the computer. The addition of catchlights is allowed.
- Filters such as colored warming and cooling filters may be used in the field, and the equivalent global adjustments may be made in the darkroom or in the computer; however, such adjustments should be minimal and consistent with the visual appearance of the subject in the field.
- Graduated neutral density filters that balance the range of light between two areas of an image, such as sky and foreground, may be used in the field, and the equivalent local or masked adjustments may be made in the computer. Techniques to expand the tonal range captured are also allowed.

I took Kevin's first image into PS - it looked SO much more saturated I was surprised. I did a bit of masking to bring up or down the light in a few areas to make it look like what Kevin "saw" - as if I know...!



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Marilyn Brooner

You're right Marcia, this can be done in nature. Big improvement on this image.

Janet Gelfman

Hi Kevin -- I agree with Marcia's comments regarding the rules; however, I really like the color saturation in your original image over the "toned down" one above. I think you can keep your color and make an adjustment that will be more than acceptable. Janet

Tania Amochaev

Your first and third mushrooms are probably some kind of inky caps; the second is a shelf mushroom, used for dyes, perhaps a Turkey Tail (can't tell how much flash you have on it). If you really like mushrooms, there is a wonderful club, called SOMA - Sonoma Mycological Association - that does forays and training all around the county. I think they had one today.

<http://www.somamushrooms.org/>

Marcia Hart

I agree with Janet. As I said above, I was so surprised to see how saturated the image looked when I opened it in PS, so I took it down a bit. Mistake. (It still looked over-saturated before I posted it.) The original saturation was perfect. I have no idea what happened when I opened it. Never happened before. One of life's little mysteries... Blah, blah, blah...

Kevin O'Connor

It wasn't saved in PS, I use Corel Paint Shop Pro that might explain something. It was shot in RAW, I opened it in DPP and the histogram is barely kissing the right side so I think i can pretty easily fix the hot spot. I'm also pretty sure the mushrooms weren't poisonous because I went back and ate them and then spent the day at the beach 😊



Diane Miller

I'm reminded of my mother's reaction when pot became so big in the '60s. She said, gee this stuff grew all over the farm. We never knew it was good for anything.

NEW SAFARI PHOTO WORKSHOP, SANTA ROSA, CA

On April 25-26, 2009, Safari West, located at 3115 Porter Creek Road in Santa Rosa, California, is hosting a two day instructional photography workshop. The two day workshop cost is \$565 per person, which includes dinner, breakfast and lunch on-site. With overnight lodging (in a luxury tent) included, the workshop cost is \$810 for single occupancy and \$1,360 for a double occupancy tent. These rates reflect a 10% lodging discount for workshop participants.

John Burgess, renowned professional photographer, will provide hands-on instruction in the technical aspects of photography, including expertise on composition and use of light. The expedition includes field-shooting done on Safari among the Safari West animals and the rolling hills of the Sonoma Serengeti. Participants will also have the opportunity to document behind the scenes animal encounters with keepers and early-morning feedings. While the main classroom is in the wild, afternoon and evening instructional periods and slide shows will be held in our Elephant Room. The workshop is designed for beginners to advanced photographers and is limited to sixteen people. Participants will need to bring their own digital or film SLR camera with a range of lens focal lengths. Laptops are strongly encouraged for classroom work.

Safari West is nestled on four hundred acres in the heart of California's wine country and is home to over six hundred exotic mammals and birds. This first-ever Photo Expedition Safari will take full advantage of our dramatic landscape and its unique inhabitants, giving photographers and wildlife lovers an unrivaled opportunity for fascinating images.

For more information:

Safari West 707.566.3620

If you can't attend this workshop, we will be offering another opportunity this fall. Check out details on our website at <http://www.safariwest.com/photo-expedition-workshop/> or visit the website of workshop leader John Burgess with images of Safari West at <http://www.jburgessphoto.com/safari/safari.html>

