Newsletter of E.J. Peiker, Nature Photographer and <u>www.EJPhoto.com</u> All contents ©2012 E.J. Peiker

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Welcome to the quarterly newsletter from E.J. Peiker, Nature Photographer and <u>www.EJPhoto.com</u>. In this quarterly email publication, I keep subscribers posted on upcoming workshops as well as sharing photos and experiences with you. I will also give you brief impressions on any new equipment that I get the opportunity to use and any other general information in the world of digital Nature Photography. Please feel free to forward this to other photographers and interested parties but please do so only by forwarding this newsletter in its entirety. All content is copyrighted by E.J. Peiker and may not be reproduced. If you would like to be added to the mailing list, unsubscribe, or access back issues, please visit: <u>www.ejphoto.com/newsletter.htm</u>



Jokulsarlon Glacial Lagoon - Iceland

NOTICE: SPECIAL FROM HUNT'S TO QUACK SUBSCRIBERS BELOW

Focus Stacking

In the world of ultra high resolution sensors, the smaller pixel size associated with them has sent us into a regime where we can easily record diffraction at smaller apertures. Diffraction occurs when light passes through the aperture diaphragm and is bent causing the light to fan out slightly. If the fan-out of that light is larger than the size of a pixel, you are now recording diffraction; therefore, this phenomenon can effectively reduce the resolution of our cameras. The smaller the aperture, the more a pinpoint of light is turned into a disk (Google Airy Disk for technical information) and the more pixels are used to record a single pinpoint of light.

In landscape photography, we often like to use small apertures to maximize our depth of field so that we can get foreground and background objects in focus simultaneously. Often this requires f/16 or even f/22 or f/32. Newer cameras with high megapixel counts and therefore smaller pixel sizes will lose more resolution due to this at larger apertures than older cameras with larger pixel sites. A camera like the D800 is already starting to record diffraction at f/8 and cameras with even smaller pixels like the 24 megapixel APS-C (DX) cameras start to record diffraction at apertures as large as f/5.6. What's a landscape photographer seeking depth of field but not wanting to reduce the fine detail resolution of their photos to do?

One solution is Tilt/Shift lenses which allow you to tilt the focus plane and thereby alter the depth of field profile of the lens while not reducing the aperture. This is a highly effective solution but the focal lengths available are very limited. They are also, by definition, manual focus lenses. Setting up a shot to get the desired depth of field through precise tilt adjustments can be time consuming. These lenses are not great when you have to work fast.

A second choice that is rapidly gaining popularity is to take two or more shots while bracketing focus. For example, one shot would be focused on the foreground, a second on the mid ground, and the third on the background. The images are then put together into a single image selecting the in focus portions of each. This is commonly known as focus stacking. It is

a technique that macro photographers have been using for some time but now it is catching on with photographers using high megapixel cameras for landscape photography as it allows one to achieve whatever depth of field is needed.

To insure that there are no bands of out of focus areas in a photograph, care must be taken to take all of the shots with significant overlap in the in focus areas. I recommend starting with the nearest shot and then working the focus in steps out to infinity. In many cases two shots is enough when shooting wide angle lenses in the mid apertures (around f/5.6 to f/8) but sometimes more are needed, especially with longer focal lengths or larger apertures.

For illustration purposes, a macro shot is easiest. Below is a photo of some blossoms taken during my Navajo Country and North Rim of the Grand Canyon workshop in August:



Photo 1 - Near Focus:



Photo 2 - Mid-near Focus:



Photo 3 - Mid-far Focus:



Photo 4 - Far Focus:



These 4 photos were stacked into a single Photoshop document. The easiest way to do this is to select the 4 photos in Bridge and then select Tools > Photoshop > Load Files Into

Photoshop Layers. Photoshop will launch and the four layers will be placed into a single document. Select all 4 layers by clicking on the top layer and then holding down the Shift Key and then clicking on the bottom layer. Next select Edit > Auto-align Layers followed by Edit > Auto Blend Layers. From the pop-up window, select Stack Images and make sure that Seamless Tones and Colors is checked and click on OK. Photoshop does it's magic and returns a photo where the sharpest parts of each of the 4 layers is used:



There are a number of more powerful third party focus stackers available on the market including Helicon Focus and Zerene Stacker but in most cases for nature photography, the tools within Photoshop, as I've outlined above are adequate for excellent results.

Prime Lenses Revisited

My article "The Case For And Against Prime Lenses" in the last issue of <u>Quack (Autumn 2012)</u> spurred an unprecedented amount of email questions - mostly from new D800 and D800E and Canon EOS 5D Mark III owners. Most of these photographers are also finding the zoom lenses that they have come to rely on in the past inadequate to get the most out of the D800 and D800E's incredible 36 megapixel sensor and even Canon's excellent 22 megapixel 5D Mk III sensor.

I have now completed my transition to primes in the focal lengths that I use most for landscape photography. I now use the Zeiss 21mm f/2.8, Zeiss 25mm f/2, Nikon 28mm f/1.8G, Nikon 35mm f/1.4G, and Nikon 50mm f/1.4G. The increase in resolution that these lenses provide

over the 14-24 f/2.8G and 24-70 f/2.8G zoom lenses cannot be understated especially in the corners. Here are some of the questions and answers:

Question: I have read about focus shift on fast primes. Is this something you have experienced and something to be concerned about.

Answer: Focus shift is a phenomenon where the focus of a lens changes slightly from wide open to when a lens is stopped down. Since our phase detection autofocus systems focus with the lens wide open and we usually shoot stopped down a bit, this is a potential issue. However, in practice for a landscape photographer this is negligible and can be ignored due to the increased depth of field at smaller apertures and we generally do not focus at or near minimum focus distance. If you are really concerned about it, using live view and its associated contrast detection autofocus completely eliminates this since you are focusing with the lens stopped down. I did do a few tests on both Zeiss and Nikon primes and found focus shift to be undetectable on the ISO 12233 resolution test chart.



Question: Does this mean you are selling your zoom lenses and going with primes only?

Answer: No, I am retaining the zooms for situations where versatility trumps maximum corner resolution. The zooms like the 14-24 and 24-70 are world class zooms, it's just that we now have sensors that outresolve them especially in the corners and at fast apertures.

Question: How are you focusing the Zeiss Manual Focus lenses to insure critical sharpness?

Answer: Initially this was a bit of a challenge. Even though you get focus confirmation in the viewfinder, I quickly learned that the focus confirmation light illuminates across a small range of focus settings - they can't all be accurate. In general if your focus is at some distance, this is less critical due to depth of field but if focusing relatively near it can be a problem. In those situations, using Live View and zooming in on your point of critical focus on the LCD can give you extremely accurate results - much more accurate than phase detect autofocus. It would be nice to have focus peaking on theses cameras like Sony has on theirs. How about a firmware update with focus peaking Nikon and Canon?

Nikon 70-200 f/2.8G VR II versus Nikon 70-200 f/4G VR

Those that read my newsletters, articles and forum posts on EJPhoto.com, Naturescapes.net or Facebook know that I am always looking for no compromise gear that makes the weight load that I need to carry in the field lower. When Nikon announced the 70-200 f/4G VR lens in October 2012, I decided to get first in line for this lens using my Nikon Professional Services membership and Hunt's Photo and Video sponsorship. The lens, according to Nikon, promises even better image quality than the very good 70-200 f/2.8 VR II lens but at nearly half the weight and in a much smaller form factor. Of course I give up a full stop of light but for landscape photography, where this would be used as my long lens, f/2.8 is relatively unimportant. I would plan to continue to use the 70-200 f/2.8G lens in wildlife situations or situations requiring a fast telephoto zoom. When I was shooting with Canon equipment from 2000 to 2008, I owned both their 70-200 IS f/2.8L and 70-200 f/4L IS lenses and loved the smaller lighter lens as its image quality was equivalent in a much smaller and easier to travel with form factor. The downside to the Canon lens was relatively weak construction for a professional grade lens; it is definitely not a lens you want to knock around very much or risk a complete internal failure and possibly a complete coming apart into two pieces which happened to me at an inopportune time in Iceland. Other than that, it generally made the cut when traveling where the heavier f/2.8 lens did not. So when Nikon finally announced an f/4 pro grade lens in this range, I was elated and eager to try it out.

I generally don't like to be first in line for new gear but I felt this to be relatively low risk based on the resolution data from Nikon and the possibility to return the lens if something substantial didn't live up to my expectations. I made plans to do a complete test of the new lens and compare it to the f/2.8 VR II variant. The tests were performed with the Nikon D800E, the highest resolution 35mm DSLR on the market, thereby minimizing any camera contribution to the test results.



Construction:

The very first thing I noticed when pulling the new 70-200 f/4 lens out of the box was the Made in Thailand stamp. While this in itself is nothing to fear since the excellent D300 and D300s camera bodies and most of Nikon's consumer grade product is made in Thailand, this is the first lens that I have owned that does not have Made in Japan stamped on it. The new lens seems to be solidly constructed with a professional finish that looks just like any other prograde Nikon lens. The outer barrel is polycarbonate while the f/2.8 lens is metal. This is part of the reason why there is such a stark difference in weight. But the lens looks and feels like a precision professional tool with similar metal mounts and similar nano-crystal lens coatings.

The new lens incorporates three Extra-low Dispersion Glass elements while the f/2.8 lens incorporates 7 of these. The lens element construction diagrams can be compared below:





70-200 f/2.8G VRII

70-200 f/4G VR

As you can see, the optical design of the lenses are very different. The lens collar, which is standard equipment on the f/2.8 lens is an additional and overly expensive purchase on the f/4 lens. For a lens costing \$1400, the lens collar should be included!

The size difference due to the smaller f/4 aperture and the reduction in weight due to construction materials results in a weight drop from 54.3 oz (1540g) to 30.0 oz (850g). In practical terms this is a drop of over 1.5 lb for the same focal length range and, on paper, equivalent or better image quality.

Sharpness and Resolution:

Besides the dramatic weight loss, the thing that attracted me most to the new 70-200 f/4G lens was the published MTF curves by Nikon. On paper the f/4 variant of this lens looks superior to the f/2.8 lens:



70-200 f/2.8G @ 200mm



For detailed information on how to read MTF curves, simply Google the term. In short, on the X-axis, 0 represents the center of the frame and the far right of the graph represents the extreme corner of a full frame (FX) image. The closer the numbers for the different lines on the graph stays at a value of 1 on the Y-axis as you move from center to corner, the more perfect the lens resolution is. As you can see, for both the wide case at 70mm and the long case at 200mm, the new 70-200 f/4G lens has superior performance. The MTF performance on the f/4 lens is truly outstanding for a zoom lens and would even be considered good for a 200mm prime lens.

With the Nikon information as a backdrop, I set out to find if the claims are true and if a difference can be seen using my own ISO 12233 test chart. Looking at the center first, the f/2.8 lens, as expected, had excellent performance resolving approximately 3500 lines per frame at f/2.8. The f/4 lens, however, nearly outresolved the test chart scoring approximately

3750 lines per frame at f/4. When the f/2.8 lens is stopped down to f/4. It's performance is nearly equal to the f/4 lens. The corners were a different story. The f/4 lens loses little resolution in the extreme corners dropping to 3250 lines per frame while the f/2.8 lens drops substantially down to about 2500 lines per frame at f/2.8 and 2750 lines per frame at f/4. So, on the wide end at similar apertures, the two lenses resolution capabilities are indistinguishable in the center of the frame but the new 70-200 f/4G lens has a substantial advantage in the corners.

Moving on to the telephoto end, center performance is again equal at an f/4 aperture and there is a slight drop-off in resolution at f/2.8 on the 70-200 f/2.8G VR II lens. The f/2.8 lens fares much better in the corners at 200mm then it did at 70mm. On the ISO 12233 chart, the two lenses are nearly identical at f/4 and the 70-200 f/2.8G loses about 250 lines per frame of resolution when opening up to f/2.8.

Overall for resolution, the new f/4 lens has a substantial advantage on the wide end for image quality in the corners of the frame and performs equivalent to the f/2.8 lens on the long end.

Linear distortions:

At 70mm, both lenses exhibit slight barrel distortion. At 200mm the f/2.8 lens exhibits essentially no linear distortions while the f/4 lens exhibits mild to moderate pincushion distortion. In today's world of automatic distortion correction, this parameter isn't as important as it once was but as of this writing, Adobe Camera Raw, the RAW converter included in Lightroom, Photoshop and Elements is capable of automatically correcting any f/2.8 lens linear distortions but not f/4 lens distortions. While this will undoubtedly change in the coming weeks or months, for the moment, you will need to manually correct any visible linear distortion with the f/4 lens or create your own lens profile with Adobe's Lens Profile Creator.

Chromatic Aberration:

Since the 70-200 f/4G lens only has three ED lens elements while the 70-200 f/2.8G lens has 7, I expected the f/2.8 lens to have a significant advantage in chromatic aberration (CA). However, the tests do not bear this out. While at 200mm, CA was minimal and insignificant with both lenses, at 70mm, the f/4 lens had a large advantage over the f/2.8 lens. The f/2.8 lens has significant color fringing in the corners, especially on vertical lines. Overall then, the f/4 lens is superior for CA. Again, in today's world, CA can largely be corrected in RAW conversion so this is less of a problem then it once was. But since we don't have lens profiles yet for the f/4 lens, it's good to know that CA is not an issue for this lens. The two 100% clips from the corners of the ISO 12233 test chart clearly show the CA difference and the loss of resolution at 70mm on the 70-200 f/2.8G lens mentioned earlier in this review:



Vignetting:

The 70-200 f/2.8G has a clear advantage in vignetting at the long end of the zoom range losing 0.7 stops of light in the corner relative to the center while the 70-200 f/4G lens loses a full stop of light. At 70mm, both lenses perform much better from a vignetting standpoint and they are approximately equivalent with a 0.25 stop loss of light. Again, RAW converters can automatically correct for this but it does so by boosting levels in the vignetted areas which can lead to increased image noise in those areas

Auto-focus Response:

As expected, in low light and indoor situations the f/2.8 lens acquires focus much faster and is able to achieve autofocus at a lower level of lighting. This is purely due to the fact that the lens lets in twice as much light since the lens has a full stop larger aperture. In brightly lit and daylight outdoor situation the performance is more equal but there is still an advantage to the f/2.8 lens in initial acquisition. This difference is nearly eliminated if the focus limit switch is used. Repeated focus attempts, switching between infinity and minimum focus, also favors the f/2.8 lens by a small margin. Once a subject is acquired, both lenses are able to track a moving subject accurately with no noticeable difference but erratically moving subjects were not tested.

Vibration Reduction:

The 70-200 f/4G lens has a newer Vibration Reduction (VR) mechanism which is claimed to provide up to 5 stops of vibration reduction while the f/2.8 lens only claims a 4 stop reduction. To test this, 10 hand-held shots with each lens at 1/25 and a 200mm focal length, were taken. Of the 20 total shots taken in total, 7 of the top 10 for sharpness were taken with the new f/4 lens. The remaining three shots with the f/4 lens were in the top 15 slots. The top 5 shots were all taken with the f/4 lens and the bottom 5 shots were all taken with the f/2.8 lens. While it is difficult to distinguish how many stops of light a vibration reduction system really can deal with, it is clear from these tests that there is an improvement with the new lens. It is also clear that

manufacturers inflate the capabilities of their IS systems. I would subjectively rate the VR systems on these two lenses as being capable of reducing vibration by 3 to 3.5 stops of light.

Other Observations:

When the 70-200 f/2.8G VR II lens came out, it was heavily criticized by some due it's staggering loss of focal length as the lens approached minimum focus distance. While doing the testing above, it became immediately obvious that the 70-200 f/4 lens does not suffer from this phenomenon nearly as much, despite having a shorter minimum focus distance. Below is a sample of a picture taken at the f/2.8 lens' minimum focus distance and then the same image taken with the f/4 lens from the same spot. Both images are taken with a zoom setting of 200mm:



As you can see, these two pictures taken from the same spot at 200mm shows how much focal length the f/2.8 lens loses compared to the f/4 lens. The difference is dramatic. Furthermore, when the f/4 lens is then moved to it's minimal focus distance, this is the image at 200mm:



Overall the 70-200 f/4 lens does not lose very much focal length as the focus setting approaches its minimum and since it's minimum focus distance is less, it is capable of significantly larger magnification up close.

Conclusion:

For a lens costing \$1000 less than it's bigger f/2.8 brother, the 70-200 f/4G is an incredibly competent performer. It offers outstanding sharpness and resolution from corner to corner and through its full zoom range. For a landscape photographer, its better corner sharpness and lower chromatic aberration makes it an exceptional short to medium telephoto option. Its build quality, while not as tank-like as the f/2.8 lens is excellent and its overall weight and size savings makes it a great travel companion and much easier to hike to backcountry photoshoots with. It is competent enough to easily handle wildlife but in low light and for maximum auto-focus performance, the f/2.8 lens has an edge. For now, vignetting and any visible linear distortions will have to be dealt with manually but I expect Adobe and other companies to have lens profiles that automatically correct for this in the near future.

This lens will immediately find a home in my landscape lens kit. Saving 1.5 pounds is very welcome, especially since I actually gain corner resolution, something I am always in search of.



Special Offer from Hunt's Photo and Video to Quack Subscribers

Hunts is offering the Lightning Bug lightning trigger that I wrote about in my last newsletter to my subscribers at a special discount. Call Hunts at 781-462-2340 before 5:00PM Eastern (UTC - 5) time on 12/20 to receive \$40 off of this great product - a 23% savings. Note that this offer is only good by <u>calling Hunt's</u>. See the attached PDF for more information. Ground shipping in the 48 contiguous United States is free!

The Lightning Bug detects lightning and fires the shutter so that you can capture dramatic lightning photos. It is a very cool accessory for the landscape and weather photographer. It consists of the detector which is

hot-shoe mountable and a cable specific to your camera. Give Hunts a call!

Upcoming Workshops

Arizona DuckShop[™]: (15- Jan 18, 2013)

The original DuckShop is back for Winter 2012/2013 with two different dates for your waterfowl photography convenience. Learn waterfowl photography from one of the world's best known waterfowl photographers. This is the one that started it all but in an expanded format that has us visiting several locations in the waterfowl winter Mecca of South-central Arizona. I will put you right where you need to be to walk away with breathtaking images of a wide array of ducks species, waders and other species at some of the best hot spots in the US! The Phoenix, Arizona area is a very popular winter home for many species of



waterfowl and they'll be all decked out in full breeding plumage! Possible species include Northern Pintail, American Wigeon, Ring-necked, Gadwall, Northern Shoveler, Canvasback, Lesser Scaup, Mallard, Redhead Ducks and many other bird species. <u>http://www.naturescapes.net/docs/index.php/workshops</u>

SoCal DuckShop™: (Feb 13 - Feb 18, 2013)

Join me for this exclusive Southern California DuckShop![™]. This 5-day workshop will put you right where you need to be to walk away with breathtaking images of a large array of ducks, waders and other species at some of the best hot spots in the US! Visiting locations such as Santee Lakes, La Jolla Shores, the famous Bolsa Chica Preserve, San Joaquin Sanctuary and Upper Newport Bay we are likely to see species such as Brown Pelican, Green-winged Teal, Blue-winged Teal, Cinnamon Teal, Bufflehead, American Wigeon, Gadwall, Lesser Scaup, Ring-necked Duck, Ruddy Duck, Northern Shoveler, Surf Scoter, Wood Duck, American Avocet, Western Sandpiper, Least Sandpiper, Long-billed Curlew, Marbled Godwit, Black Turnstone, and many more! I know each of the locations intimately and



have scheduled this exclusive workshop for the optimum tide conditions and the best chances for creating dramatic images. <u>http://www.naturescapes.net/docs/index.php/workshops</u>

Ultimate Iceland Adventure: (July 8-20, 2013 - SOLD OUT) (July 7-19, 2014)

Join NatureScapes.net founders Greg Downing and E.J. Peiker, along with world-renowned Ornithologist and Icelandic photographer, Jóhann Óli Hilmarsson, on what we feel to be THE ultimate Iceland adventure! Not only is Iceland one of the best places on Earth to photograph cliff dwelling birds such as the colorful and comedic Atlantic Puffins, Razorbills, Murres and many, many other sea birds and Arctic species, it is also one of the most spectacular landscape spectacles on the planet. And this workshop and tour offers the best of everything and at an incredible value! With Greg and E.J.'s combined bird and landscape photography experience, along with their previous experience in Iceland, and Jóhann Óli Hilmarsson's extensive knowledge of the area, and it's birds and wildlife, you can be certain of being presented with guite simply THE best opportunities to bring home beautiful photos of all the incredible birds, the breathtaking landscapes and even some of the local culture. Our journey starts in the



capital city of Reykjavik and takes us north to the Snaefellsnes Peninsula and its fantastic seascapes. We then progress further North by ferry to the small island of Flatey and what many call the best seabird cliffs on earth at Latrabjarg. Our trip takes us to many of Iceland's most spectacular waterfalls including the Barnafoss area where the water pours out of a kilometer long cliff into glacial blue waters. We then head south to photograph Red-throated Loon in breeding colors as well as Black-tailed Godwit at the Floi Preserve. Next we go to one of the most spectacular waterfalls in all of Europe and photograph the Geysir area of natural geysers



as well as a string of other beautiful waterfalls. From here we make our way across the south part of the island stopping at many locations including the world famous Laki Craters and both an evening and morning shoot at the beautiful Jokusarlon Glacial Lagoon! With ALL expenses covered, and a set of 3 great guides, with nearly a century of experience between them, you can ease the worry of travel from your mind and partake in this adventure without stress! Each day will bring us a new adventure and new opportunities as we explore and

photograph this truly magical place! <u>http://www.naturescapes.net/docs/index.php/workshops</u>

Downeast Maine: (Sep 29 - Oct 4, 2013)

This 4-day Landscape Photography Workshop will put you right where you need to be to come home with breathtaking of this rugged and beautiful coastline. Rain or Shine, there is plenty to photograph on the far northeastern seashore of Maine. From sunrise along the beautiful corral sandstone coast, to the lush interior rainforest and the highlands of Cadillac Mountains, and much more, we will photograph the beautiful Acadia National Park. In addition, we will visit one of the USA's most charming lighthouses at West Quoddy Head, the easternmost point in the USA. The shoreline here provides beautiful landscape scenery with and without inclusion of the lighthouse. This workshop will focus on the techniques to record these landscapes in their full glory. This includes focus bracketing techniques and natural looking HDR techniques to really create fine art wall hangers for your portfolio. A general outline follows below however the days and locations may change due to weather conditions so that we can maximize our opportunities in the right type of light



for each location. http://www.naturescapes.net/docs/index.php/workshops

Private Photography Instruction and Consulting Services

In addition to the DuckShop photo workshops that I launched 10 years, I also offer private instruction in Wildlife and Landscape photography at the place of your choosing within the USA and Canada. These private workshops are of the one on one variety (or two on one). Clients may schedule time in 4-hour time blocks for either classroom or field sessions. With just two people, a number of shooting locations become possible that aren't possible for larger groups and thereby making it possible to photograph some species or locations that are not attainable with larger groups. More specific instruction, based on the client's specific needs, can be given using this delivery method in either the classroom or in the field. For more information please see the following link: www.ejphoto.com/duckshop_private.htm

I also offer both photo equipment and computer workstation/digital darkroom consulting services. This allows me to combine my 27 years of work in the computer industry with my lifetime of photographic experience and provide services at a technical level that are hard to find elsewhere. Contact me for rates and specifics or visit my rate sheet: www.ejphoto.com/Quack%20PDF/Rate%20Schedule.pdf

Two eBooks Now Available

Duck photography season is in full swing over much of North America. Be ready with my eBook "**Ducks of North America – The Photographer's Guide.**" It is an essential text that covers all of the techniques needed to get the best shots of waterfowl and birds in general. It covers every species in the wild and in captivity in North America and gives species specific tips on how best to capture them and where to find them. Eleven years in the making, this book is a great tool for the beginning, intermediate or advanced waterfowl photographer. The tips in it are easily applied to all birds and most other subjects too. It sells for \$30. While this is expensive for an eBook due to the incredible amount of time and money it took to create it, it will easily save you 10 times that in aggravation, time, and failed attempts.

I have also released my previously privately published paper book "West – A Collection of **Photographs From The Western United States**" in a fully updated and revised eBook version. It is available for \$10.

Both books can be ordered from the fine outlets you will find at this link: <u>http://www.ejphoto.com/ebook_page.htm</u>

Facebook Page

On my Facebook Fan Page, I am keeping those interested up to date on what photo excursions I go on as well as short commentaries on a variety of photo related subjects and tools. I also have nearly 100 galleries accessible through there. Please visit: http://www.facebook.com/pages/EJ-Peiker-Nature-Photographer/150804446733 and if you like what you see, please click the "Like" button.

SD and CF Card Image Recovery

Let someone that worked as a professional in the computer industry for more than a quarter century and has a multitude of tools available attempt to recover images from your damaged, formatted, or corrupted media cards. There is a basic \$25 charge for the analysis. If I determine that I can recover images, I will recover them, with the card holder's approval, for an additional \$75.

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E.J. Peiker conducts consulting services and product design services for a number of photographic product companies. The companies change from time to time:

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E.J. Peiker is a founding partner in www.Naturescapes.net

Those that know me, know I would not endorse a product even for compensation if I did not feel it were a superior product.

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