Nature photographers achieve traditional darkroom feel with HP large-format digital printing

Bringing large format into the studio

John Canfield, Nature Photographer and Writer of articles and books on digital photography, has seen a growing trend for professionals in his field to print their own digital photographs in-house. Recognizing this trend, the North American Nature Photography Association (NANPA) invited Canfield to hold a workshop on fine art digital printing at its annual summit in 2009. "A lot of photographers can now afford to put a large-format printer in their studios," said Canfield, "and many are returning to the traditional surface looks of analog darkroom days, only now they're using digital to achieve that same beautiful quality."

The NANPA summit is the premiere nature photography conference in North America and, as well as a series of technology workshops, it includes presentations, reviews, and a tradeshow, all with the objective of educating and inspiring people interested in nature photography while also acting as a forum for networking. About 400 people attended the 2009 edition in Albuquerque, New Mexico. Signing up in advance for Canfield's printing workshop were 35 photographers ranging from very serious amateurs to professional landscape and wildlife photographers and specialists in stock photography.

Comparing output from different printers

The focus of the workshop was on preparation for printing—resizing, sharpening, creative borders, media selection, and color management—and then the actual printing of sample large-format prints using different output methods: a 44-inch (111.8-cm) HP Designjet Z3200 Photo Printer using Original HP 72 Vivera pigment inks and the HP 73 chromatic red ink; a 24-inch (70-cm) printer from a competitor of HP's; and a 17-inch (43.2-cm) printer from another competitor. During live demonstrations in Adobe Photoshop,

participants practiced different types of adjustments and then carried out soft proofing on the computer screen. They learned how paper color profiles are used, working with samples of Canfield's work on different media types including canvas and fine art papers. Part of the workshop consisted of the participants printing samples of their own work (having been asked to bring along files on flash drives for this purpose) and being given the final prints to take home.

The trainer's choice of printing materials

Depending on the image to be printed, Canfield recommends different paper types. "HP Baryte Satin Art Paper is one of my favorites," he said, "especially for black and white work; for that it's the main one I use. It produces prints with a really nice traditional look and feel. It has an excellent Dmax and a very smooth finish and tends to hold small detail very well. I also use baryte papers from other vendors, but my preference is for HP's. It does a better job of reproduction, the texture is the nicest, and it's consistent from one roll to the next."

Another of the papers that Canfield uses most is the resin-coated HP Professional Satin Photo Paper. "The resin gives a traditional texture," he said. "Color reproduction is great. The paper has a wide color gamut, and it works well with or without HP Gloss Enhancer." That said, the photographer always turns on the gloss enhancer setting on his HP Designjet Z3200 Photo Printer when printing on baryte and photo papers. "Using the HP Gloss Enhancer, there is no gloss differential on the prints," he

said. "I get perfect gloss uniformity across the images. That always improves the print."

When it comes to a traditional photo rag, Canfield's choice is HP Hahnemühle Smooth Fine Art Paper. "On this cotton rag," he said, "I use the printer's matte black HP Vivera pigment ink, which achieves a denser black than the printer's photo black alone would. The paper works well for fine art prints, in both color and black and white. The prints have a more expressive look about them, more so than on resin-type papers. This paper is excellent for exhibition prints and limited editions, which need to stand out."

When printing on canvas, Canfield prefers HP Professional Matte Canvas for both portrait and landscape prints. "This canvas has a very nice texture," he said, "and reproduces color exceptionally well."

Black & white prints with a traditional darkroom feel

The HP Designjet Z3200 Photo Printer created quite a stir at the workshop. "The prints from the HP printer were extremely popular," said Canfield. "People who had experience with one of the two other printers preferred the quality from HP. Comments from participants were that the prints looked better than anything they had tried before. The black and white prints on HP Baryte Satin Art Paper were the most neutral they had ever seen. People were impressed."

Canfield's own verdict echoed the enthusiasm of his students: "The HP Designjet Z3200 Photo Printer using HP Vivera inks produces

black and white photographs with a great traditional darkroom look and feel to them," he said. "The black is the deepest I've ever seen on an inkjet printer. It's right on par with traditional darkroom techniques. Blacks are completely neutral. There is no metamerism going from one light source to another. The printer's grayscale produces prints with an excellent tonal range, giving very smooth tonal transitions."

One of the participants had brought along a black and white image of Grand Teton National Park, Wyoming. It was similar to a classic photograph by Ansel Adams, having purposely been shot from roughly the same position as Adams' original viewpoint. The workshop group printed the image on the HP Baryte Satin Art Paper using the HP Designjet Z3200 Photo Printer. "The photo has clouds in the sky, and there are real deep shadows on the mountain," said Canfield. "It possesses a very wide tonal range. The whites on the print hold the detail nicely—there are no blown highlights—and there is great definition between each shade of black. The owner of the image commented that he had not seen anywhere near as much detail in the shadows on other prints he had made of it."

### Color saturation, consistency, and accuracy

The excitement emanating from the workshop area of the summit was not only about the black and white print quality. One of the innovations of the HP Designjet Z3200 Photo Printer's 12-ink printing system, with its HP Vivera pigment inks, is the inclusion of the new HP 73 chromatic red ink. This addition widens the gamut of colors printable, bettering even the extensive gamut already available on HP's previous printer, the HP Designjet Z3100 Photo Printer. "Participants told me that the reds and yellows on the color prints were better than anything they had seen before from other printers," said Canfield. "The HP 73 Chromatic Red Ink Cartridge significantly improves red tones, giving better saturation and color accuracy."

However, a printer must not only produce outstanding-quality color prints; those same colors must be repeatable on all prints and across different paper types. "The participants were impressed at how every HP print was good," said Canfield, "there were no reprints. With other printers, you sometimes have to reprint due to color inconsistencies. With HP, colors are consistent from one paper type to the next. I change rolls and don't have to re-profile. All HP Designjet Z-series printers have onboard spectrophotometers, making it much easier to get prints with consistent, accurate colors. That's at affordable prices all in one package—you don't have to buy separate profile-making equipment or software. The learning curve is easier, and the output is high quality."

Print permanence

Once photographers have printed their own large-format prints, they want to be sure that the prints will last for years to come in exhibitions and galleries or in their clients' homes and businesses. "Image durability is very important for people buying prints," said Canfield. "No-one wants to spend money to see a print fade 2 years or even 20 years down the road. With output from the HP Designjet Z3200 Photo Printer, I am able to tell people that the print permanence rating is for over 200 years,* which reassures them about their purchase."
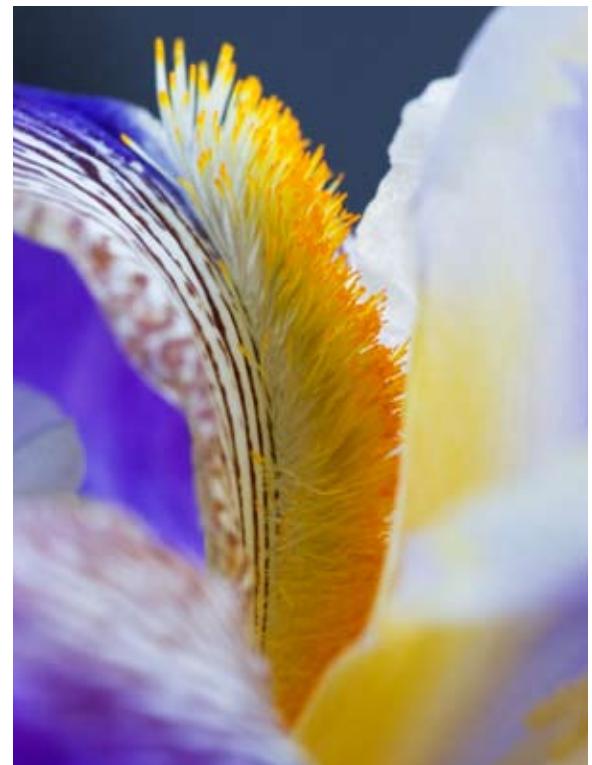
* Display permanence rating for interior displays/away from direct sunlight, under glass by HP Image Permanence Lab and/or by Wilhelm Imaging Research, Inc. on a range of HP media. Details are available at www.hp.com/go/supplies/printpermanence.

Significant increase in business

With his wife Kathy, Canfield also runs a photo studio in Washington state, doing portrait work for clients in their local county area and printing exhibition prints for other fine art photographers. Using HP Designjet Z-series printers the couple have seen a 15% increase in their fine-art printing business and a 100% increase in portrait photography. "HP has made it easier and more profitable because of the lower costs of ink and media," said Canfield, "and we also turn printing around faster than our competitors do. Other photographers in our area are still sending print production work out to labs."

But the primary reason that Canfield chose the HP Designjet Z3200 Photo Printer over all others was its image quality. "That was the deciding factor," he said. "HP has a reputation for quality and long-term experience. They have been doing graphic printers forever and have the best range of digital color products on the market. No-one can look at a print from the HP Designjet Z3200 Photo Printer and not be impressed with the image quality."

Challenge:
Train nature photographers on how to print large-format digital prints with outstanding image quality

Comparison of print quality among:
- 44-inch (111.8-cm) HP Designjet Z3200 Photo Printer using Original HP 72 Vivera pigment inks and the HP 73 chromatic red ink
- 24-inch (70-cm) printer from a competitor of HP's
- 17-inch (43.2-cm) printer from another competitor

Media solutions:
- HP Baryte Satin Art Paper
- HP Professional Satin Photo Paper
- HP Hahnemühle Smooth Fine Art Paper
- HP Professional Matte Canvas

Results:
- Course participants were convinced more than ever about the advantages of digital technology
- Strong preference among participants for the image quality from the HP solution
- Black and white prints on HP Baryte Satin Art Paper were the most neutral they had ever seen
- More detail visible in the shadows on HP prints than on those made using other machines
- Reds and yellows on the HP color prints were better than anything they had seen before
- Participants were also impressed at how every HP print was good—there were no reprints
- HP Designjet Z-series printers have resulted in a 15% increase in the Canfields' fine-art printing business and 100% increase in their portrait work

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Jon Canfield has had fine art photographs and technical articles published in specialist magazines Shutterbug, Outdoor Photographer, Digital Photo Pro, and PC Photo, and his books include Camera RAW 101, The Digital SLR Guide, ProShow Visual QuickStart Guide, Print Like a Pro, and Photo Finish.

To learn more, visit www.hp.com