Conserving the canvas: reducing the environmental footprint of legal briefs by re-imagining court rules and document design strategies

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The kids in my neighborhood have become pretty well convinced that they will inherit a resource-depleted planet unless we do something to curb our squandering ways.¹ Those kids are sometimes even aggressive in telling the adults how careless and callous we are.² Can attorneys do something small to help—other than drafting, litigating, interpreting, and enforcing environmental laws and regulations? Put another way, is there something that I can write an article about that will demonstrate to the local eco-activist youths I know that I, as a legal writing scholar, also care about the fate of the planet?³

¹ In the spring and summer of 2009, green was definitely the new pink. You could not go to a girls’ clothing store without tripping over a t-shirt emblazoned with some kind of Earth-protection slogan. Anything from the “Reduce/Reuse/Recycle” theme to “Save the Earth: it’s the only planet with chocolate.” I cannot speak to the 2009 fashions of elementary-age boys because I am not funding any of their wardrobes.
² A word of caution for those of you who might not know anyone under the age of ten: if you dare to leave your car idling for more than thirty seconds the kids will cheerfully recite for you the health and environmental hazards associated with car emissions as well as the state regulations setting out fines for doing so. Or if you offer them a piece of fish to try for once in their chicken-nuggets-only lives, they may gaze at you calmly and quote from their third grade independent research project and their thoughts on the “senseless aquatic carnage” that they associate with commercial long-line fishing techniques. Or, if you forget to bundle your errands together in one carefully plotted excursion, they will remind you that they know how to use the phrase “non-renewable resources” in a sentence and that they are not afraid to do so. If you think that I am kidding, I will be happy to introduce you to my local elementary school principal who would be appalled that I am talking about this with attempted droll humor.
³ You can bet that if I do order any reprints of this article, I will be hearing it from the kids, “Why did you have to go use up that paper too?” For an essay about sustainability in law review articles, see Timothy Mulvaney, Pinning for Sustainability, 44 U. Rich. L. Rev. 1115 (2010).
Caring about the environment is not a new topic for Americans. But it is definitely a hotter topic now than in 2004 when I wrote the article about briefs and readability. Forgive me this transgression: I missed an important argument as to why we should be redesigning our lawyering documents. Not only is readability an important issue but so is the environmental footprint of our document design choices. So here is the bottom line advice that I offer today—judges and attorneys can easily cut down on the environmental impact that our documents have by making three easy and simultaneous changes to court rules and practices:

1. allow and encourage or even require double-sided printing;
2. move to 1.5 line spacing rather than double spacing; and
3. adopt court rules that limit documents by word counts while simultaneously eliminating font and font-size requirements.

These recommendations do not involve going paperless. Eliminating all paper filing is certainly the best thing that we could do for the environment but is probably not completely realistic at this point in time. Moreover, even in those jurisdictions where attorneys submit documents by electronic filing, hard copies are nevertheless being printed by those people who have to read them. Computer screen reading is just not feasible yet for long documents so it does not behoove us to ask people to completely buy into paperless everything. Until we can all afford and are ready to use personal document readers, we will realistically still have a world where we prefer to read longer documents in hard copy. For that reason this article will make its conservation recommendations based on the somewhat more temperate concept of sustainability.

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4 Okay, I admit, that was a cheap pun.
6 Sure, there’s the Amazon Kindle and the Barnes & Noble Nook. In an unscientific poll, everyone I know who owns one loves it. But we aren’t there yet with universality. Nor is the technology completely perfected for note-taking.
7 But it is something that several of us are watching. And when it happens, you can bet that we will be there with recommendations of which layouts and fonts will make the most readable or persuasive onscreen design.
A. Attorneys are spendaholics when it comes to paper.

Printing on a piece of paper involves several natural resources. The most obvious is trees. Another is the energy that it takes to produce paper. A third resource that most people can easily appreciate as precious, even if they don’t normally connect it to paper production, is water.9

Just sit back for a moment and visualize how many briefs are filed in this country at the state and federal levels. Now visualize a forest. How much of that forest did it take to create those briefs? The answer that I have very roughly calculated is somewhere in between 34,000–55,000 trees annually, or roughly thirty to fifty acres each year.10 Meanwhile the United States timber harvest has been growing since the government first started collecting data and is expected to continue to expand in order to meet increasing demands.11

Although the number of pages per tree depends on the size and type of the tree, one generic estimate to use for the conversion is 8,333.3 sheets of virgin paper per tree.12 That number reflects only the raw material, however, and does not include the water or energy involved.

9 This article recognizes but does not analyze the energy inputs and pollution outputs of paper production. The article also recognizes that there are recycled paper options out there. However, according to the independent certifying organization, Sustainable Forestry Initiative, recycled fibers make up only a small percentage of most commercial papers. Sustainable Forestry Initiative, SFI Paper, Packaging and Printing Certification, http://www.sfiprogram.org/paper-certification/index.php (accessed Apr. 1, 2010) (the SFI certified sourcing logo can be seen on many office paper products. Next time you grab a ream of paper from the supply room you can check to see if your institution participates by looking on the packaging). But see the ABA–EPA recommendations that law offices voluntarily agree to use 30% post-consumer recycled content in their office paper supplies. ABA, ABA–EPA Law Office Climate Challenge WasteWise Program, http://www.abanet.org/environ/climat-echallenge/wastewise.shtml (accessed Apr. 1, 2010); see also N.J. Ct. R. 1:4-9 (amended in 2008 to read, in pertinent part, “recycled paper should be used”).


12 By “virgin paper” I mean paper that does not carry a significant recycled percentage. That is still the majority of office printing paper. See supra n. 9. The 8,333.3 number is provided by the Conservatree organization, which reminds us that this is only a ballpark estimate since trees differ in size. Conservatree, supra n. 10. The numbers are based on calculations included in Claudia Thompson, Recycled Papers: The Essential Guide 64 (MIT Press 1992), citing 1991 estimates that were calculated by a graduate student, Tom Soder, from the Pulp and Paper Technology Program at the University of Maine. Id. Mr. Soder (Dr. Soder now) calculated that, based on a mixture of the types of woods used for paper, 40 feet tall and 6–8 inches in diameter, it would take an average of 24 trees to produce one ton of printing and writing paper, using the chemical process most often involved with the production of our 8.5 x 11 sheets of paper. Id. According to its website, Conservatree is a non-profit organization providing information about environmentally sustainable paper practices. It has been in existence since the mid-1970s, when it first began as a for-profit paper distribution company and the only company distributing recycled papers. Its website interestingly admits that when it helped popularize a phrase “a ton of recycled paper saves 17 trees” that statistic was an overgeneralization based on a report to Congress in the 1970s. The report itself was based on newsprint rather than office paper. Conservatree therefore set out to update numbers. Another website also purports to help calculate the relative tree consumption of paper usage and uses the same MIT calculations as its basis. Envtl. Def. Fund, Paper Calculator, http://www.papercalculator.org (accessed Apr. 1, 2010) (note: in order to get to the proof that the paper calculator uses the same MIT calculations, you must plug in some numbers to the calculator).
To help with the visualization exercise, I have selected a few jurisdictions to demonstrate how quickly the number of pages adds up. The Federal Court Management Statistics for 2008 report over 61,000 appeals. Many of those are prisoner appeals or administrative appeals. To be conservative in my calculations, I removed those two categories from the equation, which left me with 32,668 appeals in the federal courts in 2008. The general Federal Rule of Appellate Procedure typically requires a 14-point font and limits initial briefs to thirty pages and reply briefs to fifteen pages, unless leave is granted to exceed those limits. A minimum of twenty-eight copies must be produced (twenty-five filed with the clerk of the Circuit Court, two copies served on opposing counsel, and one presumably printed for the filing party). Assuming briefs at their maximum number of pages (seventy-five), and assuming only one party per side, and excluding any consideration of appellate records or motions, a conservative total comes in at 68,602,800 pages of appellate briefs filed in the federal appeals courts. That is 8,233 trees each year. That is also the equivalent of over seven-and-a-half acres of deforestation each year by the federal appellate courts before getting into any calculations of appellate records or multiple-party briefs.

By way of another example, in my own backyard, the mid-level New Jersey appellate courts are likewise using up hundreds of trees each year. According to its midlevel court’s website, there are 7,000 appeals filed in 2009.
New Jersey each year. Each set of briefs for a case may have a maximum of 175 pages not including the record. Parties must produce a minimum of eight copies (five for the court, two for opposing party, and one for the filing party). Even if every brief in New Jersey was filed using the allowed double-sided printing, there would still be, conservatively, 4.9 millions of pages produced annually, or almost 600 trees per year. That total is probably closer to 1,200 trees used each year (a whole acre) based on the conversations I have had with a few appellate attorneys and appellate judges, who tell me that double-sided briefs are still relatively disfavored. Again, when you add back multiple-party briefs and appellate records and transcripts, the true amount of deforestation gets much higher.

Of course, not every state’s appellate docket is as crowded. At the other end of the spectrum, in Wyoming, which has no formal intermediate appellate court, the Wyoming Supreme Court published only 159 appellate opinions in 2008. The court rules in that state allow a total of 175 pages between the principal and reply briefs. Parties must produce a minimum of nine copies (seven for the court, one for opposing party, and one for the filing party). Using the same calculations, Wyoming used over 250,000 sheets of paper in 2008, or thirty trees. Although several state appellate systems are probably higher in paper consumption than New Jersey’s, most are probably somewhere in between that state’s and Wyoming’s. Putting everything together, the number of trees and acres of forest that you imagined several paragraphs ago should be morphing into an image of a wasteland of stumps. That is how I came up with this section’s beginning paragraph’s rough total numbers.

Paper production also involves a great deal of energy consumption, when you add up the costs of logging, transportation, and the conversion of wood pulp to paper product. A 2002 study and report, repeated for re-release in 2010, calculated that the paper industry is the fourth highest source of carbon dioxide emissions. For example, when I ran the federal brief paper usage numbers through the “paper calculator,” it registered a

22 Wyo. R. App. Proc. 1.01(a)(1); 7.05(a)(1); 7.06.
net energy use of 10,254 million BTUs, and 2,017,570 lbs. CO₂ equivalent of greenhouse gases.\textsuperscript{24}

The water footprint statistics of papermaking are likely to also leave you awash in surprise. Water is used in the papermaking process to create pulp, to wash out contaminants, and to again wash the pulp after it has been bleached.\textsuperscript{25} According to one resource, it takes approximately 10 liters of water (2.6 gallons) to create a piece of paper.\textsuperscript{26} Given the issues surrounding potable water, it seems short-sighted for attorneys to not stop and re-strategize document design. Moreover, according to the most recent statistics published by the Office of Waste in the United States Environmental Protection Agency, paper products make up the largest component of municipal solid wastes.\textsuperscript{27}

B. The solution: flexible-design spending plans.

I do not pretend or intend to have all of the answers or to explain every option that could reduce our overall environmental footprint of legal briefs.\textsuperscript{28} Rather, I am offering three simple ways that attorneys and court systems could reduce overall paper usage by revamping court rules and the document design of briefs. I have not tried to include the rules of every court in the country, but only to model a few calculations that I encourage

\textsuperscript{24} Env'tl. Def. Fund, supra n. 12. I have not included these calculations for the other jurisdictions I looked at, but you get the point. There's a substantial pollution effect of paper production. In light of that fact, I hope that any law professor or dean who chances upon this article might want to reconsider the production of the glossy law school promotional materials. The kind of paper coating involved with high gloss paper involves more pollutants and is less recoverable than uncoated papers. See The Paper Task Force, Paper Task Force Recommendations for Purchasing and Using Environmentally Preferable Paper, ch. 5 at 43, 57 (1995, but updated Jan. 27, 2010) (available at http://www.edf.org/documents/1685_chapter5.pdf) (accessed Mar. 15, 2010). The Paper Task Force is a corporate partnership of Duke University, Environmental Defense Fund, Johnson & Johnson's, Prudential Insurance Company of America and Time, Inc.

\textsuperscript{25} See generally Thompson, supra n. 12 (describing paper making processes throughout the book).


\textsuperscript{28} For example, I am not going to talk about dual-column printing, which would also result in a more readable line length. But most of the science that I explained in \textit{Painting With Print} also translates into shorter documents. See Robbins, supra n. 5.
you to repeat in your own jurisdiction.\footnote{Let’s face it: when I included those in the last article, the Appendix was out of date within a year of publication. Rather, I am justifying the omission by offering up a timeless pedagogical technique. Explain the concept, demonstrate an example, and then assign the group to do the same thing with their own facts.}{29} I have organized these three methods in descending order of impact.

1. **Double the page use: halve the volume.**

The easiest fix for reducing the sheets of pages would be to simply require double-sided printing of briefs. Reading double-sided books and magazines does not pose a problem for us. Neither, then, should reading briefs. That would reduce paper consumption by almost one-half.\footnote{It probably would not be a perfect halving because there will be times when a document would need to start a section on a new sheet for some legitimate reason. But the number would certainly get close to a 50\% reduction. That’s huge.}{30} Although not all printers have double-sided printing capabilities, most copiers do.

Of course, several local rules permit double-sided printing, including, anecdotally, courtesy copies in some federal District Courts. Kudos are due to those jurisdictions whose court rules have language that allows double-sided printing for at least some documents. For example, Maine allows the appendices to be double-sided.\footnote{Me. R. App. Proc. 8(f).}{31} California allows double-sided printing at the appellate levels and by discretion at the trial and municipal levels.\footnote{Cal. R. Ct. 8.204(b)(4). The California Bar Association’s Environmental Section website also involves a paper use reduction project and explains the several court rules involved with double-sided printing, St. B. Cal., Environmental Law Section, http://www.calbar.ca.gov/state/calbar/calbar_generic.jsp;path Attorney Resources; path Sections; path Environmental Law; path Paper Reduction Project Duplex-Printed Documents (accessed Apr. 1, 2010).}{32} New Jersey also permits double-sided printing of briefs.\footnote{N.J. Ct. R. 2:6–10. As I mentioned earlier, the appellate attorneys and judges I have spoken with report that this option is exercised only infrequently.}{33} The Court of Appeals for the Armed Services amended its rule in 2007 and now allows double-sided production of appendices and requires it when an appendix exceeds 100 pages.\footnote{U.S. Ct. App. Armed Forces R. 24(f)(2), 10 U.S.C. foll. § 867.}{34}

Further, although it would be impossible to enforce compliance, an associated big-ticket method for reducing the environmental footprint of legal briefs involves switching from new paper to recycled paper. Recycled paper does not completely eliminate the need to use new trees in the process but would clearly decrease it.\footnote{Conservatree, supra n. 10.}{35}
2. Compression therapy: condense the line spacing.

Many jurisdictions require attorneys to use double spacing in their briefs, regardless of font sizes or whether the writer is relying on word counts. Double spacing was not even the industry standard during the days of typesetting when printers placed strips of lead between the lines of text. Rather, double spacing seems to be popular as a tool for teachers making interlinear comments on student papers but is not something that one sees in widespread commercial use.36

Moving to even 1.5 spacing would reduce paper usage anywhere from 20–25% of pages, depending on the font and depending on other aspects to the brief such as headings and the use of footnotes.37 The previous paragraph was set in double spacing. This paragraph, however, is set in 1.5 spacing. Do you see the difference? A 1.5 spaced layout would also improve the readability of the document.38 Although 1.5 spacing of 12-point Times New Roman is 18-points, which is a bit more than the optimal readability spacing of 14.4 points,39 a court rule also needs to be comprehensible by a layperson. Most word processing programs have an easy-to-use setting of 1.5 spacing, which still saves us a significant amount of natural resources.

3. It’s the count, not the font size, that matters.

Allowing attorneys to submit briefs based solely on word counts will also allow a reduction in paper usage. This suggestion is actually a two-parter:

36 One of those truisms that defies a pinpoint citation. Think back: it was in school that we began to use double spacing. It is certainly not the standard in any book or magazine. Open one up and see for yourself.

37 The straight math suggests 25%. When I ran a test on this article the end result was a bit less than 25% reduction. I am sure that has something to do with the headings, footnotes, etc. That’s why I went a bit conservative on my estimates of actual paper reduction. No matter what, the savings would still be tangible.

38 The optimal spacing varies with font size and line length. But for the font and paper size that we use in brief writing, the 120% calculation is what will lead to greatest reader comprehension. Miles A. Tinker, Legibility of Print 88–107 (Iowa St. U. Press 1964); see also Linda L. Lohr, Creating Graphics for Learning and Performance: Lessons in Visual Literacy 96 (Merrill Prentice Hall 2003).

39 Here’s how I calculated that. For 1.5 spacing: 12 points x 1.5 = 18 points of spacing. For optimal readability spacing: 12 points x 120% = 14.4 points of spacing.
merely moving to word counts will not necessarily help unless the rule change simultaneously eliminates the specification of any font, font family, or font size.

Font sizing affects the amount of paper that we are using even if word counts are in play. The federal rules, for example, allow the submission of briefs with a word count but nevertheless also require a 14-point font.\textsuperscript{40} The larger size is taking up much more space, which translates into more paper and the depletion of more natural resources. Moreover, there is no strong argument that 14-point fonts benefit the readers even in a world where resources are unlimited. The readability studies of printed font hover around texts that were printed in something smaller, most commonly 11-point.\textsuperscript{41} The body of this article is written in 10-point Warnock, which is about the same visual size as 11-point Times New Roman. Does the court rule really need to be 14-point for printed text? That size is not really making it easier to read in print form.\textsuperscript{42}

Several jurisdictions also still allow or even require monospaced fonts. Those are, by definition, wider than a proportional-width font. For example, Courier New (the typewriter font) is approximately 30% wider at the same size font than Times New Roman (the default font most people still use, even if it is time to move away from it—which it is).\textsuperscript{43} That 30% width translates into 30% more paper usage, and by extrapolation, 30% more trees.\textsuperscript{44}

If you are a Courier-requiring judge reading this article, know also that you are spending several more hours each week reading briefs because Courier is that much slower on the eyes.\textsuperscript{45} A mono-spaced font therefore helps neither the reader nor the Earth.

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\textsuperscript{40} Fed. R. App. P. 32(a)(5)(A), 32(a)(7)(B). The word count exists, according to the commentary, to “level the playing field” for those typesfaces that have a smaller x-height.
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\textsuperscript{41} Tinker, supra n. 38, at 67–68. For more on the use of font sizing in legal briefs see also Robbins, supra n. 5, at 120–22.
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\textsuperscript{42} Contra Michael L. Bernard et al., Comparing the Effects of Text Size and Format on the Readability of Computer-Displayed Times New Roman and Arial Text, 59 Intl. J. Human-Computer Stud. 823 (2003) (concluding that onscreen readers preferred 12-point Times New Roman and Arial to smaller sizes). If everyone was moving to onscreen reading then the design recommendations would undoubtedly be completely different. Those readability studies are ongoing and will undoubtedly change as the technology does. That is another reason to consider eliminating all font requirements in the court rules.
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\textsuperscript{43} Not that you should be using Times New Roman. It’s like buying a generic brand of ice cream when other, better brands are available and are being sold at the same price. Boring, bland, and not even very good. But there are plenty of like-width fonts out there. See Derek H. Kiernan-Johnson, Telling Through Type: Typography and Narrative in Legal Briefs, 7 J. ALWD 87, 114–15 n. 149 (very nicely articulating the point that using Times New Roman is not a choice, but an absence of choice).
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\textsuperscript{44} See e.g. N.J. Ct. R. 2:6–10 (requiring Courier or Courier New, i.e., making it look like a typewriter document). The Court of Appeals for the Armed Forces also requires a monospaced font. U.S. Ct. of App. Armed Forces R. 24 (e); R. 37 (a). On the plus side for that court, any appendix that is over 100 pages in length must be double-sided. U.S. Ct. of App. Armed Forces R. 24 (f)(2).
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\textsuperscript{45} Tinker, supra n. 38, at 47–48 (finding that American Typewriter, a similar font, causes a 4.7% delay in reading) (cited in Robbins, supra n. 5, at 120). Disappointingly, although Painting With Print achieved some exciting readership among attorneys and judges from other parts of the country, the former chair of the New Jersey Civil Practice Committee wrote me
A change to court rules allowing attorneys to choose their own fonts and font sizes would not be the sea change that it appears at first blush. Attorneys are not terribly risk-loving, and their goal is to have their legal briefs read. So there is little likelihood that attorneys would submit a brief in wild or unreadable fonts. We may see some that attorneys have paid for and that are not part of a Microsoft bundle. Matthew Butterick’s *Typography for Lawyers* website has many suggestions. Moreover, another scholar has suggested that briefs should move away from uniformity as part of lawyering strategy. Factors that should be allowed room for consideration: law firm branding by type, the tone of the document, and the “matching” of the document’s design to the story of the client. Finally, as the technology continues to change, so will the conclusions about which fonts and sizes maximize readability.

**Conclusion**

I hope that this article feels like something of a no-brainer because I think that it is. We have some simple ways to cut back on the natural resources involved with the production of legal briefs. Changing our ways would not require sacrifices in the readability of those briefs and in fact could very well make the documents even easier to read. Adopting environmentally responsible court rules and attorney practices therefore would not only save us trees and water, they would also save us time and maybe even money.

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47 See Kiernan-Johnson, supra n. 43, at 114–21.

48 Id. at 97–99.

49 A final thank you to Marilyn Walter for her wonderful editing advice.