

## Forest Ecology

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**From:** Ruth Yanai <[rdyanai@syr.edu](mailto:rdyanai@syr.edu)>  
**Sent:** Tuesday, March 15, 2011 9:25 PM  
**To:** Forest Ecology  
**Subject:** Fwd: NEPA information required to complete your request to add surface nutrients to BEF/Saco RD plots

Begin forwarded message:

**From:** Ruth Yanai <[rdyanai@syr.edu](mailto:rdyanai@syr.edu)>  
**Date:** March 12, 2011 12:34:47 AM EST  
**To:** Terry Fifield <[tfifield@fs.fed.us](mailto:tfifield@fs.fed.us)>  
**Cc:** Matt Vadeboncoeur <[matt.v0123@gmail.com](mailto:matt.v0123@gmail.com)>, Corrie Blodgett <[corrie.blodgett@gmail.com](mailto:corrie.blodgett@gmail.com)>, Tim Fahey <[tjf5@cornell.edu](mailto:tjf5@cornell.edu)>, Melany Fisk <[fiskmc@muohio.edu](mailto:fiskmc@muohio.edu)>, Joel Blum <[jdblum@umich.edu](mailto:jdblum@umich.edu)>, Christy Goodale <[clg33@cornell.edu](mailto:clg33@cornell.edu)>, Mariko Yamasaki <[myamasaki@fs.fed.us](mailto:myamasaki@fs.fed.us)>  
**Subject:** Re: NEPA information required to complete your request to add surface nutrients to BEF/Saco RD plots

Thanks, Terry. I think we would be very interested if we saw anything anthropogenic, because we assume that we are looking at undisturbed profiles, and interpret weathering rates, etc, on this basis. We will contact you if we do plan to undertake any excavation more serious than a 2" PVC core, and maybe we will learn something new! Thanks again for your help. --Ruth

On Mar 11, 2011, at 3:50 PM, Terry Fifield wrote:

You're welcome Ruth! I'm glad I can occasionally do something promptly. I am not always this efficient. To give you an idea of where the cultural resources concern might kick in for future projects. The 2" diameter probes are generally not a concern. The 50 X 50 cm test pits and the trenches likely are. If they were placed in a cultural site you might be destroying depositional context that would bear on the relative dating of cultural layers as well as displacing artifacts. So, if your research design includes that scale of excavation it would be advisable to involve an archaeologist and run the effects determination by the State Historic Preservation Officer. On recognizing artifacts; you are likely right in the case of prehistoric artifacts. In this part of the world the most common prehistoric artifacts are pieces of chipped quartz, the fragments generated during stone tool manufacture and repair. If you're not used to looking at them you probably would just toss them away. I'm sure your folks would recognize historic artifacts. The issue there is that they might not appreciate the historic value of glass, ceramic, and metal fragments or see them as significant. There is a grey area between trash and historic archaeology. If you have questions please feel free to give me a call.

Terry Fifield  
Heritage Program Leader & Tribal Liaison  
White Mountain National Forest  
71 White Mountain Drive  
Campton, NH 03223  
(603) 536-6239  
(603) 536-3685 (fax)

Ruth Yanai <[rdyanai@syr.edu](mailto:rdyanai@syr.edu)>

To Terry Fifield <[tfifield@fs.fed.us](mailto:tfifield@fs.fed.us)>

03/11/2011 03:15 PM

cc Heather Engelman <[forestecology@esf.edu](mailto:forestecology@esf.edu)>  
Subject Re: NEPA information required to complete your request to add surface nutrients to  
BEF/Saco RD plots

Thanks, Terry. We do plan to collect soil samples. We will use a 2" PVC pipe to get samples for roots, to a depth of 30 cm, one time, 3-5 years after treatment. Also, we routinely collect surface soils (forest floor and upper mineral soil) in small amounts for laboratory analyses.

We did some much more destructive sampling under the previous project! We dug soil pits that were 0.5 m<sup>2</sup> in area, into the C horizon. We trenched plots (I forget how big--2 m<sup>2</sup>?) to be able to measure soil respiration without tree roots in the plot. The permission letter for that project was good through 2010. I'm not sure why we didn't have to do the NEPA thing, maybe because we weren't adding nutrients at that time.

Let me know if you think the future sampling we propose constitutes "significant excavation or ground disturbance."

By the way, we never found any artifacts when we dug the big pits. We wouldn't have known what to look for, but if anything that we dug up didn't go through a 6 mm screen, we would have noticed it.

Thanks again. "Thank you for your prompt attention to this matter." You were much more prompt than I was, I should have taken care of this last fall!

x Ruth

On Mar 11, 2011, at 10:15 AM, Terry Fifield wrote:

Thank you Matt! The link you sent works fine for me.

Ruth,  
I have compared these plot locations to the locations of recorded historic and prehistoric sites in the Bartlett Experimental Forest. I found NO instances where your study plots are on or near known historic or prehistoric sites. I am assuming that your research involves only application of the compounds (nitrogen and phosphates) noted in your earlier email and observations (perhaps collections) of plants in the study plots. I'm assuming there is no significant excavation or ground disturbance involved. That being the case it is my opinion that your project has no potential to adversely affect cultural resources in the study area (area of potential effects - the plots). There is no need to conduct formal consultation with the NH State Historic Preservation Officer as this is not considered an undertaking for the purposes of cultural resources. Please use this email string as documentation of your compliance with the requirement to address potential affects to cultural resources.

Thanks for checking! Good luck with the research!

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Matt Vadeboncoeur <[matt.v0123@gmail.com](mailto:matt.v0123@gmail.com)>

03/11/2011 09:48 AM

To Ruth Yanai <[rdyanai@syr.edu](mailto:rdyanai@syr.edu)>  
cc Terry Fifield <[tfifield@fs.fed.us](mailto:tfifield@fs.fed.us)>  
Subject Re: NEPA information required to complete your request to add surface nutrients to BEF/Saco RD plots

Terry - would you rather have GIS files or a PDF map of the sites?

Or is this enough?

[http://maps.google.com/maps/ms?source=s\\_q&hl=en&geocode=&aq=&ie=UTF8&hq=&t=h&msa=0&msid=201680550793739308370.00048f59e0e1041e141e2&z=11](http://maps.google.com/maps/ms?source=s_q&hl=en&geocode=&aq=&ie=UTF8&hq=&t=h&msa=0&msid=201680550793739308370.00048f59e0e1041e141e2&z=11)

JB is in the Pemi ranger district.

I've done fairly extensive work with agricultural land-use history in the region (with Steve Hamburg and Anne Rhoads) and I'm not aware of any historic properties in the vicinity of any of our sites (based on the 1860 Walling county maps; 1890 Hurd's Atlas of NH). I also know the sites quite well and can vouch for the fact that they show no obvious signs of any historical land-use other than commercial cutting. This was one of our site-selection criteria. ... I'll be interested to see what you "dig up".

-- matt

At 12:14 AM 3/11/2011, Ruth Yanai wrote:

Hi Terry,

I'm copying Matt Vadeboncoeur, who can send you maps. He even has the plots on the maps to scale (50 m by 50 m) (except for the ones that are 40 m by 40 m). Matt, I hope you know whether JB is in the Saco district. Does she mean only that we don't have to get permission for Hubbard Brook? We have permission there through the RAC.

Thanks,

x Ruth

On Mar 7, 2011, at 9:00 AM, Terry Fifield wrote:

Good Morning Ruth,

Thanks for checking in on this. The process should be pretty painless from my perspective.

From the Native American religious and cultural sites perspective I think your project is not an "undertaking" in that it has no potential to affect the values associated with those types of sites. I don't think there is a need to conduct Tribal consultation for this project. From the historic properties point of view (in National Historic Preservation Act language "historic property" = significant historic or prehistoric site) there is a potential for effect. Archaeologists use nitrogen (urea) and phosphate concentrations in soils as indicators of human or animal presence and activity on sites. So, if your study plot is on an historic property and you alter the levels of nitrogen or phosphates in the soils you could affect the archaeological interpretation of any soils analysis that might be done. So, the question is are your study plots on historic properties. Given the scope and scale of your project I consider this a fairly minor

concern. If you can send me a map of the locations and sizes of your plots I will compare them to our site and survey atlases and let you know if there is a potential conflict. If you are not on known historic properties and you are outside high sensitivity areas for cultural resources (generally flood terraces and known cultural sites) we can likely consider your project as not an undertaking for the purposes of cultural resources and forgoe formal consultation with NH SHPO.

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Ruth Yanai <[rdyanai@svr.edu](mailto:rdyanai@svr.edu)>

03/06/2011 09:46 PM

To

[tfifield@fs.fed.us](mailto:tfifield@fs.fed.us)

cc  
Subject

Fwd: NEPA information required to complete your request to add surface nutrients to BEF/Saco RD plots

Hi Terry,

I am seeking permission to continue research in a series of sites in the Bartlett Experimental Forest (and annex area). We have been working in them since 2003, at which time we had permission through 2010. We are now preparing to add N and P, which is (I think) why we are going through NEPA this time.

I need your help to assess the possible effects of our work on

- (6) *American Indians and Alaska Native religious or cultural sites, and;*
- (7) *Archaeological sites, or historic properties or area*

How do we proceed? If we've been through our plots measuring every tree multiple times and we've never seen anything, can we be sure there's nothing there? Or does you or someone else have to look at them to see if you can find something there? Or do we say that adding nutrients to the sites and monitoring the forest response would pose no threat to the archeological value of the sites, whatever that value is?

Thanks for your advice, I'm sure you've done this before, and I haven't!

Ruth

Ruth D. Yanai, Professor web: <http://www.esf.edu/fnrm/faculty/yanai.htm>  
SUNY College of Environmental Science and Forestry, Syracuse, NY 13210  
phone: 315 470-6955 fax: 315 470-6954 e-mail: [rdyanai@syr.edu](mailto:rdyanai@syr.edu)

Begin forwarded message:

**From:** Mariko Yamasaki <[myamasaki@fs.fed.us](mailto:myamasaki@fs.fed.us)>

**Date:** October 29, 2010 2:26:28 PM EDT

**To:** Ruth D Yanai <[rdyanai@syr.edu](mailto:rdyanai@syr.edu)>

**Cc:** John Brissette <[jbrissette@fs.fed.us](mailto:jbrissette@fs.fed.us)>

**Subject: NEPA information required to complete your request to add surface nutrients to BEF/Saco RD plots**

Hi Ruth,

We've touched bases with the WMNF NEPA coordinator and understand that we need to only focus this exercise on the BEF/Saco RD plots. Thanks for your summary note regarding the proposed nutrient additions to your plots as copied from your note on 7/6/10 below:

*"The rates of N and P addition are 30 kg/ha/year of N and P, in the form of urea and monosodium phosphate. The plots are 50 m by 50 m, and in each stand, 2 get N and 2 get P (control, N, P, and N+P). So the amount of area being treated is 0.5 ha in each stand. The amount of N and P being added is thus 15 kg per year (or 33 lbs/year) at each stand.*

*To summarize the stands, there are 8 at Bartlett and 1 in the Saco Ranger District (all 9 of which we call "Bartlett"), and the 2 in the Pemi District, which we call "Jeffers Brook."*

*The younger site at Jeffers Brook is a little smaller than our other plots (30 by 30 instead of 50 by 50) but maybe we don't need to go into that. If we're approved for adding more, presumably we're good for adding less.*

*Thanks for taking this to the next step. I'll await your advice. I mentioned that I found our old permission letters and they were good to 2010, so I'll want to renew correspondence with all the relevant parties, and you can help me know what to say about NEPA when I request those letters again.*

*Do you think we have to go through this every 10 years? Our hope is to continue treatment beyond the current funding cycle (5 years) so if we can get approval for additions into the indefinite future, we would never have to ask again; it would just die out when funding or enthusiasm wanes. Maybe I'll retire in 10 years and it can be someone else's problem!*

*It was good to run into you and Bill this morning. I hope your meeting went well. "*

Attached is a copy of your BEF request to conduct research (surface nutrient addition experiment).

To meet the intent of the NEPA categorical exclusion, we need you and your colleagues to prepare a short document that describes the proposed project; location (admin. units, county(s), and state); length of study; number and timing of nutrient applications; and then review the status of the seven extraordinary circumstances (as stipulated in FSH1909.15\_30.4 as listed below) in which you evaluate your proposed project and its possible

effects on the following seven items:

- (1) *Federally listed T and E species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species;*
- (2) *Floodplains, wetlands, or municipal watersheds;*
- (3) *Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas;*
- (4) *Inventoried roadless areas or potential wilderness areas;*
- (5) *Research natural areas;*
- (6) *American Indians and Alaska Native religious or cultural sites, and;*
- (7) *Archaeological sites, or historic properties or area*

Here is the link to the current federally listed T and E species and Regional Forester sensitive species that you'll need to examine:

[http://www.fs.fed.us/r9/wildlife/tes/docs/fed\\_list\\_animals\\_plants.pdf](http://www.fs.fed.us/r9/wildlife/tes/docs/fed_list_animals_plants.pdf)  
[http://www.fs.fed.us/r9/wildlife/tes/docs/White\\_Mountain\\_041508.pdf](http://www.fs.fed.us/r9/wildlife/tes/docs/White_Mountain_041508.pdf)

I am attaching a form that might help you organize your efforts with these species for item (1). I took the liberty of filling out the mammals, birds, herps, and insects section for BEF. You'll need to complete the plant section for your study areas. Your plant inventories will surely provide the necessary confirmation of presence/absence of these Regional Forester sensitive plants.

If your plots fall outside of floodplains, inventoried roadless areas, congressionally designated areas, or research natural areas -- you are in luck and need to note these items as not applicable. As you know, the experimental forest provides a water source for the town of Bartlett (item 2), so some communications on your part to the Bartlett Water District describing your proposed project and requesting an opinion on the effect of your proposed application would be in order. You can locate the information to address items (3-5) in the WMNF 2005 Forest Plan that can be downloaded from their website.

For items (6) and (7) you will need to make arrangements to consult with the Forest Archaeologist. His name is Terry Fifield and can be reached at: [tfifield@fs.fed.us](mailto:tfifield@fs.fed.us)

Ultimately you are examining your proposed nutrient additions and sampling activity against a set of resource conditions to determine if extraordinary circumstances exist to warrant further NEPA analysis. Hopefully there will be few if any to sort out.

Good luck and let me know if you have questions.

Mariko

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Mariko Yamasaki, Silviculture/Wildlife Team Leader

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\*\*\*\*\*[attachment "BE table.docx" deleted by Terry Fifield/R9/USDAFS] [attachment "BEF 2010 Yanai et al.doc" deleted by Terry Fifield/R9/USDAFS]