

**Fahn, Patrick J.**

---

**From:** Craycroft, Stephen [scraycroft@ensr.aecom.com]  
**Sent:** Monday, May 05, 2008 11:46 AM  
**To:** Fahn, Patrick J.  
**Cc:** Todd Kranda; Buster Gray; Stuart, Dennis  
**Subject:** FW: ND Native Growth Area Sampling Method  
**Attachments:** ND Forested Area Sampling Plan.doc

Good morning:

Below is the U.S. Forest Service Research Station person's concurrence/comment on the approach outlined in Keystone's Tree and Shrub Sampling Plan.

Correspondence from the ND State Forester was provided in the Affidavit package.

I will provide feedback on the distribution of sampling locations shortly.

Best Regards,

Steve Craycroft  
ENSR  
Keystone Project Environmental Liaison  
816-880-4881 (o)  
970-219-0184 (c)

-----Original Message-----

**From:** Mark Hansen [mailto:mhansen01@fs.fed.us]  
**Sent:** Monday, May 05, 2008 11:24 AM  
**To:** Craycroft, Stephen  
**Subject:** Re: ND Native Growth Area Sampling Method

Stephen,

I read the Keystone's Tree and Shrub Sampling Plan for Native Growth Areas.

It is technically sound and the sampling design that it outlines should produce an estimate of the per acre number of trees and shrubs that will be cleared in the project.

My only comment is that you might clarify the next to the last sentence in the plan. That sentence now reads "If the area of trees and shrubs actually cleared differs from the area originally calculated, an updated estimate of trees and shrubs will be determined at the end of the project. "

It would be clearer it was expanded to something like the following to clarify that the updated estimates would be based on the original sample plots and not require any additional sampling, simply an **adjustment to the area estimates:**

**438 PU-06-421** Filed: 5/5/2008 Pages: 3  
Email re: Comments by U.S. Forest Service on  
Keystone Tree and Shrub Sampling Plan

"If the area of trees and shrubs actually cleared (as determined in the construction of the pipeline) differs from the area originally calculated (using the aerial photography in the planning stage), an updated estimate of trees and shrubs will be determined at the end of the project (based on the revised area measurements and the sample based per acre numbers). "

Thank you for the opportunity to review this plan.

Dr. Mark H. Hansen  
USDA, Forest Service  
Northern Research Station  
1992 Folwell Ave. St. Paul, MN 55108  
Voice (651) 649 5148  
Fax (651) 649 5140  
Cell (651) 214 2305  
Email [mhansen01@fs.fed.us](mailto:mhansen01@fs.fed.us)

"Craycroft,

Stephen"

To <[scraycroft@ensr.aecom.com](mailto:scraycroft@ensr.aecom.com)> <[mhansen01@fs.fed.us](mailto:mhansen01@fs.fed.us)>

cc 05/02/2008 01:47

Subject PM

ND Native Growth Area Sampling  
Method

Hi Mark:

Attached is Keystone's Tree and Shrub Sampling Plan for estimating the numbers of trees and shrubs that will be cleared from forested (woodlot) areas along the project route.

When we last discussed our sampling approach, we had planned to include windrows and shelterbelts in the sampling area; however, currently we plan to do a 100% inventory of the shelterbelts and tree lines and apply the attached sampling methodology to the forested areas only.

Would you mind reviewing this Plan and providing your concurrence on this inventory approach?

Please feel free to call me with any questions or comments.

Best Regards,

Steve Craycroft  
ENSR  
Keystone Project Environmental Liaison  
816-880-4881 (o)  
970-219-0184 (c)(See attached file: ND Forested Area Sampling Plan.doc)