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From: Robert Newhall <bob.newhall@usu.edu>
To: Ingrid Wieser <ingridwieser@utah.gov>
Date: 2/9/2010 1:45 PM
Subject: RE: White Oak site
Attachments: Ingrid.docx

Ingrid:

Attached is my response. Please feel free to contact me if more clarification is needed or other questions arise.

Sincerely,

Robert L. Newhall
Extension Specialist
Utah State University

-----Original Message-----
From: Ingrid Wieser [mailto:ingridwieser@utah.gov]
Sent: Monday, February 08, 2010 4:35 PM
To: Robert Newhall
Subject: White Oak site

Hi Bob-

Again, thanks for looking into this for me. Any suggestions are appreciated. Enter the following into google earth to see an aerial of the site:
N 39 40 01, W 111 11 13. It is the very noticeably barren area with a north and south facing slope divided by an intermittent stream. I have attached the soil report, a section of the specs from 2004 describing the revegetation work and plant list and photos of the site. The plants that are currently present at the site (mostly on the north facing slope) include: mountain snowberry, big sagebrush, silky lupine, white yarrow, woods rose, gooseberry/sticky currant(coming in from surrounding vegetation), Englemann aster, western wheatgrass, mountain brome. The south facing had some of these species but mostly mullein, stinging nettle, stickseed, and musk thistle. Some springs are present on the south facing slopes; the vegetation around the springs include aspens, willows, coneflower, mountain bluebell and gooseberry.
The site has significant water erosion damage and deep rills due to the significantly steep slopes. We will be doing some earthwork including redistributing topsoil that has moved down and creating terraces. The series of terraces will run perpendicular to the slope in order to establish some flat areas for water retention. The soil is generously pocked but the surface has a very hard crust which most likely is inhibiting plants from establishing. We will also be looking into some soil amendments such as manure.
Here are the plant species I have been considering for our next attempt:
Agropyron trichophorum,
Bromus inermis
Triticale
Leymus racemosus
Agropyron dasystachyum
Medicago sativa
Aster glaucodes
Sphaeralcea coccinea
penstemon venustus
Artemesia ludoviciana
Kochia prostrate
Rhus Trilobata
Clematis ligusticifolia
Arctostaphylos uva-ursi

Cornus sericea ssp. Sericea
symphoricarpos oreophilus
Ribes aureum
Rosa woodsii
Festuca rubra

Thanks again!

Ingrid Wieser
Environmental Scientist II
Division of Oil Gas & Mining
1594 W North Temple, Suite 1210
PO Box 145801
Salt Lake City, UT 84114-5801
801-538-5318
IngridWieser@utah.gov

Dear Ingrid:

My comments will be in red (easier to see). Part of my work (research & extension) here at USU is in soil and water conservation – they even let me teach an undergraduate class in it. Most of that work has been in association with range re-vegetation (post wildfire) and riparian restoration (Sevier River and Bear River watersheds). Not an expert, but have worked in the field for almost 30 years.

I will be sending you some materials that may be of interest to you about the site (snail mail).

Feel free to contact me with other questions (if any). Of course all this is arm-chair recommendations, perhaps a look on-site (after snowmelt) would be helpful – it is better to be there and see what is going on.

Sincerely,

Robert L. Newhall
Extension Specialist
Utah State University

Hi Bob-

Again, thanks for looking into this for me. Any suggestions are appreciated. Enter the following into google earth to see an aerial of the site:

N 39 40 01, W 111 11 13. It is the very noticeably barren area with a north and south facing slope divided by an intermittent stream. I have attached the soil report, looks okay would not recommend any fertilizer – fair amount of clay which may be causing the soil surface to seal and prevent seed germination and allow concentrated water flow (rill erosion). a section of the specs from 2004 describing the re-vegetation work and plant list and photos of the site. I liked your original seeding list – good balance of the grass/shrub species. Depending on the soil conditions at the time of seeding and the way it was seeded (broadcast and how covered) and the weather during the first 12 months it looks like the amount of vegetation on the NW slopes is beginning to grow (very slowly) (Google Earth View). I did not see any of the planted trees in any of the pics I looked at, could be because they were too small. Did any of the riparian planting occur? Again did not see evidence of the planting. Water quality issues with Whiskey creek (sediment and perhaps nutrient loading into Eccles creek). The plants that are currently present at the site (mostly on the north facing slope) include: mountain snowberry, big sagebrush, silky lupine, white yarrow, woods rose, gooseberry/sticky currant (coming in from surrounding vegetation), Englemann aster, western wheatgrass, mountain brome. The south facing had some of these species but mostly mullein, stinging nettle, stickseed, and musk thistle. Some springs are present on the south facing slopes; the vegetation around the springs includes aspens, willows, coneflower, mountain bluebell and gooseberry. I am assuming that the aspens, willows and other vegetation around the spring was not planted but came in from outside sources.

The site has significant water erosion damage and deep rills due to the significantly steep slopes. We will be doing some earthwork including redistributing topsoil that has moved down and creating terraces. The series of terraces will run perpendicular to the slope in order to establish some flat areas for water retention. Recommend not doing flat terraces but back facing terraces, so water runoff can be

captured and stored (hopefully to infiltrate into the soil). Calculations of the spacing between terraces and the amount of water the terraces can hold is important too because these can be overtopped and cause concentrated flow which is a constant threat for terraces. Use to work for the Soil Conservation Service (now the Natural Resources Conservation Service) prior to working for Utah State University. The soil is generously pocked but the surface has a very hard crust which most likely is inhibiting plants from establishing. If you are going to do some more work there the use of good composted material would be better than manure (Manure has lots of weed seeds in it along with other things you don't need up there). Also the use of clean straw and crimping it into the soil surface (2-3 inches) would also be useful in slowing down surface runoff and aiding in water infiltration (2-3 tons/acre). We will also be looking into some soil amendments such as manure. Here are the plant species I have been considering for our next attempt:

Agropyron trichophorum, - Variety: Tegmar. This is a good grass and will aid in the fight against surface erosion.

Bromus inermis – Variety: no preference. Not one of my favorite erosion control species – can be very aggressive to the extent of allowing not much else to establish. But, that can also be a good thing.

Triticale – Recommend a fall forage type not a grain type (don't use spring grain/forage types for this type of use; they will go to seed to quick and not provide much protection.)

Leymus racemosus – Variety: Volga. Again this is a good grass to have up there.

Agropyron dasystachyum – Variety: Critana. Much discussion about Thickspike and Streambank wheatgrasses (what belongs where). I have use Critana and think highly of it.

Medicago sativa – Recommend a creeping low-growing type or using an older type like Ranger or Ladak-65.

Aster glaucodes – Small amounts

Sphaeralcea coccinea – I like this one too.

penstemon venustus – Which ones – Blue Mountain?

Artemesia ludoviciana – Have not use this much.

Kochia prostrate – I like this for range rehab – great wildlife food (deer and elk).

Rhus Trilobata – Great plant would like to see it succeed.

Clematis ligusticifolia – have not use before.

Arctostaphylos uva-ursi – have not use before.

Cornus sericea ssp. Sericea – Good plant for the riparian area – would not use seed but dormant cuttings along with willow/cottonwood – container materials work well for fall planting of any of these.

symphoricarpos oreophilus – Again another good plant – seeding and transplanting on this one.

Ribes aureum – Again good plant – seeding and transplanting on this one.

Rosa woodsii – Again good plant – seeding and transplanting on this one.

Festuca rubra – Have not use this material.

Thanks again!

Ingrid Wieser
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