Mike, Mike, Forbes, Alan, Milo & Tom,

Ah, plot 14-89. I fear we may be looking at the tip of the proverbial iceberg. At the risk of alienating just about everyone, I think I shall describe this as I see it, as we do need to confront these issues some time. What I do here we will adopt for the CVS website, but we can always change it that proves important. There are two intertwined issues here: the NVC/NCNH types recognized and the assignment of plots to NVC types. In short, given the scientific rigor and published status of Wiser’s work, why are we not accepting either her community types or her assignment of plots to community types?

To start with the context of the email that got this going , Wiser classified 14-89 as "Calamagrostis cainii-Rhododendron carolinianum outcrop community" along with 77, 78, 79, 80, 81, 82, 83, 84, 85, & 86. All are from Mt. Le Conte, except 89 from Charlie’s Bunion on the Swain/Sevier line. On the NatureServe site this type is synonymized with 7278 = Saxifraga michauxii - Carex misera - Calamagrostis cainii Herbaceous Vegetation, a Le Conte endemic with probably one occurrence on the NC line (if we trust Wiser, which I do). Forbes assigned most of the above plots to 7279 (except 83=7877 and 89=3948), whereas I think they should all be assigned to 7278 as per Wiser’s earlier decision.

Looking more broadly at Wiser's plots (see attached spreadsheet), there is remarkably little correspondence between Wiser's types and where they are currently assigned. I worry about this as Wiser put considerable effort into her work, it is published in a mainline journal (JVS 7:703-722), and no one has in any systematic fashion challenged it. By this logic, Susan's work has priority and we should all accept it until someone demonstrates in a public way why this would not be desirable.

Let us first look at the current (at least as known to me) draft of the 4th approximation. I see 7 high-elevation rock outcrop types plus one seep type and one bald type that appear to fit the Wiser types to some extent. However, only one (4279) of these refers to Wiser in the text and NONE of them have the comprehensive species lists or descriptions such as those that characterize Wiser’s publication. This is not really acceptable. At a minimum (a very small minimum, unlikely to be broadly acceptable to the community), the proposed types need to reference the published Wiser types, and if they are not viewed as synonyms, this needs to be explained. I looked on NatureServe's site and I did find some (but not comprehensive) Wiser synonymy, which I embed below, denoted as NS.

**HIGH ELEVATION ROCKY SUMMIT (TYPIC SUBTYPE).**

Saxifraga michauxii - Carex misera - Danthonia spicata - Krigia montana Herbaceous Vegetation (CEGL004279).

NS: Wiser's Deschampsia flexuosa / Angelica triquinata outcrop community (29 plots).

NS: Wiser's Paronychia argyrocoma / Polypodium appalachianum outcrop community (23 plots).

Wiser's split here is principally one of rock type with the Paronychia type attributed to amphibolite and metabasalt north of Grandfather Mt., and the Deschampsia type to other substrates and places. 4279 should probably be split, so we shall do this within the CVS hierarchy for the present \_ I here refer to them as 4279A and 4279B

Wiser’s Aronia arbutifolia – Kalmia latifolia outcrop community (11 plots) appears transitional between 4279 and 3951 (see below). If we do not accept Wiser’s type, we should at least divide this set of plots between the two types for purposes of synonymy. I here refer to this type as 3279C.

Forbes assigned all of these to 3814 (11 plots; Kalmia latifolia - Rhododendron catawbiense - (Gaylussacia baccata, Pieris floribunda, Vaccinium corymbosum) Shrubland), except for two plots (assigned by Forbes to 4293) that should be moved to Wiser’s Chelone oblique – Oxypolis rigidior wet outcrop community because of an original assignment error in our database (see below). I think 3814 to be inappropriate as Wiser did not sample true shrublands. Forbes, please go through these 11 plots and attempt to assign them variously to 4279 or 3951.

In addition to Wiser plots , currently 4 CVS plots are tagged as belonging to 4279, and we need to divide them into A, B, and C. Here are my suggestions.

11-310 – 4074 fit 3, 4279A fit 2

11-316 fit = 4; A

11-361 fit = 3; A

11-383 fit = 4; A

Finally, Forbes assigned 6 plots Wiser assigned to Piea rubens – Leiophyllum to 4279; these should move back.

**HIGH ELEVATION ROCKY SUMMIT (HIGH PEAK SUBTYPE).**

Saxifraga michauxii – Carex misera - Oclemena acuminata - Solidago glomerata Herbaceous Vegetation (CEGL004277).

NS: Wiser's Aster acuminatus / Menziesia pilosa outcrop community (16 plots).

Forbes various assigned these to 3951 (12 plots), 3818 (2), 4279 (1) and 4524 (1), and none were assigned to 4277. The 3951 group especially worries me as Leiophyllum was not a prevalent species in this Wiser type. Forbes, please let me know if you see any reason why these should not all be moved to 4277. Forbes did assign a bunch of plots into 4277, mostly from the Deschampsia flexuosa-Angelica triquinata outcrop community (4279A), but also 8 Wiser assigned by her to the Picea rubens-Leiophyllum buxifolium outcrop community. I think they should move back.

**HIGH-ELEVATION ROCKY SUMMIT (LE CONTE SUBTYPE) ??**.
Saxifraga michauxii - Carex misera - Calamagrostis cainii Herbaceous Vegetation (CEGL004278)

NS: Wiser’s Calamagrostis cainii – Rhododendron carolinianum (12 plots), largely endemic to Mt. LeConte TN, but with one occurrence at Charlie’s Bunion on the Sevier / Swain County line in GSMNP.

Forbes assigned 10 of the 11 Le Conte plots to 4279 and one to 7877. They should probably all return to 4278.

Three other plots are currently assigned to this type. We need to adjust the fit.

40-4-91, fit = 5

40-4-146, fit = 3

40-4-151, fit = 3

**HIGH ELEVATION ROCKY SUMMIT (LITTLE BLUESTEM BASIC SUBTYPE).**

Schizachyrium scoparium - Saxifraga michauxii - Coreopsis major Herbaceous Vegetation (CEGL004074).

NS: Wiser's Coreopsis major / Schizachyrium scoparium outcrop community (15 plots).

Forbes assigned these to 4074 (9 plots), 4283 (1 plot) and 4279 (5 plots). Plot 73 assigned by Forbes to 4283 has rather much Selaginella (cover 7) and Houstonia longifolia (cover 5) and no Schizachyrium and no Coreopsis major, which suggests to me a much better fit with 4074 than 4283. Let’s leave them all in 4074.

Currently 41-5-587 is also assigned to this type. This seems a good fit

**HIGH ELEVATION ROCKY SUMMIT (NINEBARK BASIC SUBTYPE).**

Physocarpus opulifolius /Campanula divaricata - Tradescantia subaspera - (Packera plattensis) Sparse Vegetation (CEGL004759)

This type is attributed in NCHP to amphibolite cliffs, so there might be some overlap with our 4297B. We have no plots assigned to this type. NCNP notes “This … community type is presently not clearly defined and may not warrant treating as a separate subtype.” We have no plots assigned to 4759, and we have no plots with Physocarpus.

Forbes needs to obtain whatever EOs NCHP has so that we might attempt to sample some of these to determine their distinctiveness. If there are no EOs, we should simple write off this type, or fold it into 4297B.

Meanwhile, in the absence of evidence that this is real, let’s omit it from the CVS site.

**HIGH ELEVATION GRANITIC DOME (TYPIC SUBTYPE)**

Selaginella tortipila - Krigia montana - Houstonia longifolia Herbaceous Vegetation (CEGL004283)

NS: Wiser's Selaginella tortipila / Carex umbellata outcrop community (27 plots).

Forbes variously assigned these 27 Wiser plots to 4283 (24) & 4279 (3). The 3 Wiser plots currently assigned to 4279 should be reconsidered (66, 97, 109) and probably reassigned to 4283.

**HIGH ELEVATION GRANITIC DOME (HIGH PEAK LICHEN SUBTYPE)**

Lasallia papulosa - Umbilicaria caroliniana Nonvascular Vegetation (CEGL004386)

NS: no Wiser types (0 plots).

Currently only one plot is assigned to this type: 5-5-316. It appears moderately appropriate. I doubt the validity of basing a type on only one plot.

Forbes needs to obtain whatever EOs NCHP has so that we might attempt to sample some of these to determine their distinctiveness. If there are no EOs, we should simple write off this type.

**HIGH ELEVATION MAFIC GLADE.**

(Kalmia latifolia, Physocarpus opulifolius) / Schizachyrium scoparium - Thalictrum revolutum -

Sibbaldiopsis tridentata Shrub Herbaceous Vegetation (CEGL004238).

NS: no Wiser types (3 plots).

Currently 3 plots are assigned to this type. They need a bit of adjusting as follows

41-1-577 fit = 3

41-5-575 fit = 3

41-5-587 fit = 4

Forbes should obtain additional NCNP Eos so that we can visit them and assess the distinctiveness of this type.

**HIGH-ELEVATION WET ROCK OUTCROP ??**

**A new home for** Wiser’s Chelone oblique – Oxypolis rigidior wet outcrop community (4 plots). I think we need to create this placeholder for Wiser’s 4 plots (only two on the spreadsheet; plots 62 and 63 need to be migrated into this group in the original Wiser classification – a job for Michael).

This is somewhat related to4293 (=[Impatiens (capensis, pallida) - Monarda didyma - Rudbeckia laciniata var. humilis Herbaceous Vegetation](http://vegbank.org/get/std/commconcept/27864)), which is more a wetland type than an outcrop type. Forbes assigned all 4 of Wiser’s plots to this type, but they should migrate to our new placeholder type.

**HEATH BALD (SAND MYRTLE SUBTYPE)**  G1

High-elevation variant

 Leiophyllum buxifolium Dwarf-shrubland (CEGL003951).

NS: Wiser’s Picea rubens / Leiophyllum buxifolium outcrop community (18 plots).

In addition, Wiser’s Aronia arbutifolia – Kalmia latifolia outcrop community (now 4279C) appears absent from the NS synonymy, but is closely related in the abundance of Leiophyllum. It appears to be transitional between 3951 and 4279. We should recognize it until we have reason not to.

Forbes placed the plots Wiser assigned to 3951 into 4277 (8), 4279 (6), 4280 (1), 3951 (1) and 4980 (1). They need to be moved back into 3951.

Middle-elevation variant

Perhaps this NCNH type is where Hudsonia montana - Leiophyllum buxifolium Dwarf-shrubland (CEGL003948) fits, though it is not mentioned in the NCNH document. We need to decide whether to recognize this type.

**Now, how do we structure the CVS website for this stuff?
It’s a bit messed up.**

**I suggest we migrate to the following**

Montane rocky summit & granite dome vegetation.

Open, dry rock outcrop community

 High elevation

Dense, felsic rock.

Saxifraga michauxii - Carex misera - Danthonia spicata - Krigia montana Herbaceous Vegetation (CEGL004279A– in part), 29 plots.

=Wiser’s Deschampsia flexuosa / Angelica triquinata outcrop community.

Dense, mafic rock

Saxifraga michauxii - Carex misera - Danthonia spicata - Krigia montana Herbaceous Vegetation (CEGL004279B – in part), 23 plots.

=Wiser’s Paronychia argyrocoma / Polypodium appalachianum outcrop community .

 Fractured rock

Saxifraga michauxii – Carex misera - Oclemena acuminata - Solidago glomerata Herbaceous Vegetation (CEGL004277), 16 plots.

=Wiser's Aster acuminatus / Menziesia pilosa outcrop community.

Anakeesta Slate

Saxifraga michauxii - Carex misera - Calamagrostis cainii Herbaceous Vegetation (CEGL004278), 12 plots.

= Wiser’s Calamagrostis cainii – Rhododendron carolinianum.

 Middle elevation

 Perennial seepage, basic rock

Schizachyrium scoparium - Saxifraga michauxii - Coreopsis major Herbaceous Vegetation (CEGL004074), 15 plots.

=Wiser's Coreopsis major / Schizachyrium scoparium outcrop community

 Glade on mafic rock, known only from Bluff Mountain

Kalmia latifolia, Physocarpus opulifolius) / Schizachyrium scoparium - Thalictrum revolutum - Sibbaldiopsis tridentata Shrub Herbaceous Vegetation (CEGL004238), 3 plots.

= No Wiser equivalent.

 Granite domes south of Asheville

Selaginella tortipila - Krigia montana - Houstonia longifolia Herbaceous Vegetation (CEGL004283), 27 plots.

= Wiser's Selaginella tortipila / Carex umbellata outcrop community.

Largely devoid of higher plants; lichen dominance; north of Asheville

Lasallia papulosa - Umbilicaria caroliniana Nonvascular Vegetation (CEGL004386), 0 plots.

= No Wiser equivalent.

Open, wet rock outcrop community

 Wiser’s Chelone oblique – Oxypolis rigidior wet outcrop community, 4 plots.

Dwarf shrub bald on rock outcrops

 High elevation, scattered dwarf Leiophyllum

Saxifraga michauxii - Carex misera - Danthonia spicata - Krigia montana Herbaceous Vegetation (CEGL004279C – in part), 11 plots.

= Wiser’s Aronia arbutifolia – Kalmia latifolia outcrop community.

Middle elevation, dense dwarf Leiophyllum

 Leiophyllum buxifolium Dwarf-shrubland (CEGL003951), 18 plots.

= Wiser’s Picea rubens / Leiophyllum buxifolium outcrop community.

Middle elevation , vicinity of Linville Gorge, with Hudsonia montana

 Hudsonia montana - Leiophyllum buxifolium Dwarf-shrubland (CEGL003948).

 = No Wiser equivalents; see Newell.