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“VGS is the ultimate range monitoring software”

Volume 9, Issue 1

Inside this issue:

Episode 4.0: A NEW VGS
BY ANDREW BRISCHKE

It is a period of change. Rangeland professionals, striking from ranges across the West, have in their hands one of the best tools to come along in recent years. During the monitoring season, Del Despain updated our ultimate weapon, VGS, a computer program with enough customization to attack the variety of vegetation monitoring methods our rangelands require.

It was a dark time for data collection. For many years, our only option was paper and pencil. In 2008 the first VGS program was launched, but we could only use the software in a limited capacity. The monitoring lord Despain, obsessed with finding a better way to collect data, has dispatched countless lines of code to bring us into a new era of collecting vegetation data.

In 2015, Despain returned from his lair of code writing in an attempt to rescue his fellow rangeland professionals from the clutches of the vile paper and pencil and/or limited capacity software. Little do people know, there are many more customizable options that have been constructed to make VGS 4.0 even more powerful than the last version. When completed, this ultimate weapon will spell certain relief for the small band of rangeland, wildlife and other natural resource professionals struggling with data management.

So what’s new?
Well, in the galaxy of the VGS program there are a number of changes that make it more usable than the last version. For early adopters of the program, perhaps the biggest change is to the modularization of the program. In the beginning there were very specific and limited protocols that were available to the user. Now, with even more methods available, the user can construct a custom protocol using individual modules. For example, the only protocol available to use were with the 40 cm quadrat. Now the user can choose from the available methods or modules and adapt them to best fit a specific protocol. Additionally, if one is so inclined, methods such as pace frequency and utilization can be measured at the same time, either on the same field dialog, or on a different 'page' of the dialog.

The number of available methods is also an incredible improvement. No longer are we restricted to our typical ground cover, frequency, etc. protocols. Currently on my database, I have at least five different monitoring protocols. Ranging from the typical 40 cm frame methods, to line-intercept and belt density transects, and then two different utilization methods.

A new feature I intend to utilize more with VGS 4.0 is the “Portfolio” tab associated with the “site tab”. In dialog, the user can reference pictures or a sketch of the layout of the site. This is incredibly useful for comparing photographs in the field. In the picture (above), there are 3 different sampling periods that can be compared at the same time, side by side. A handy tool for interpreting pictures out in the field.
Reporting and the options available for reporting are also a great improvement in the newest version. Depending on what the user prefers, common names can be reported instead of scientific names. Species can be grouped into growth forms. Certain events or events across different sites can be performed (e.g. compare two different key areas on the same ecological site). For those statisticians out there, binomial comparison and t-tests can be reported instead of referring to tables on paper.

Don’t forget about the customizable lists under the setup menu. I use many of these lists often, particularly under the “Entry/Analysis List Manager.” Under this manager dialog I can change common names, change or add ground cover categories or change species groups for those pesky ‘unclassified’ species. I do a lot of work in these lists to generate a very clean and easy to interpret report.

Though there are many new custom options available, there are a few challenges for some users of this newer version.

So, what are the challenges/limitations?

The most challenging aspect of VGS 4.0 for new users that I’ve encountered is constructing protocols in the database. But fear not you must. If you recall the April 2014 issue of The Rimrock Report (available here: https://cals.arizona.edu/vbarv/rangeprogram/rimrock-report),

The VGS Support Web Site is a great tool to help guide users and answer many of the questions they may have (http://vgs.arizona.edu). In addition to the forums and support tickets, a new list of quick guide references will soon be added to the website. There are also plans for a comprehensive User’s Guide and possibly YouTube videos for reference. Standard protocols and entry lists will also be exported to the website where they can be downloaded and imported into the database. So stay tuned for those.
Quick Reference How To:

Set up a New Protocol

Point Ground Cover / Fetch / Frequency / Dry Weight Rank

The last challenge or limitation to VGS 4.0 is the ability to merge databases. For those that work intimately with the software program, we had this ability in Version 3.x. However, I know our monitoring lord Despain is currently working on the merging issue. The merging capability might even be ready for testing by the time this article is published.

And for those of us that have the help of 3 or more people in the field, a special tip. I often have two people reading different transects at the same time while I record (to save a little time). I simply jump back and forth from transect to transect in the software (instead of recording on two different devices). If you jump from transect to transect (and don’t push the forward arrow until after the jump), the program will remember the last quadrat that was sampled when you left the previous transect.

Overall, I am extremely pleased with the results of VGS 4.0, and I get angry when I have to go back to the vile clutches of paper and pencil. Don’t be afraid to open the program up and explore a little. Sometimes that is the best way to learn a new program. Lastly, please use the VGS Website to see if other users have encountered the same issues and check if there are any solutions, or if you’ve found a solution to someone else’s issue.
Chris's Hot Topic of Range: Navigating the Wilderness

“Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity”  ~ John Muir

What do you think of when you think “wilderness”? The great outdoors? Grand vistas that extend as far as the eye can see? Your backyard? The Merriam-Webster dictionary defines it several ways, including a tract of uncultivated land uninhabited by humans, an empty pathless area or region, or a part of a garden devoted to wild growth. Not a bad definition really, but “wilderness” is one of those nebulous terms that can mean a wide variety of things to many people. In fact whenever the public, news reports, or websites like Wikipedia talk about the wilderness they are often referring to an idea that has no specific definition. The term can be used for vast isolated open area in Alaska, or for a few overgrown acres in the shadow of Los Angeles. This can be problematic for public land managers since “wilderness” is a very technical and specific type of landscape with strict rules defining it and unique strategies for managing it.

Why does knowing the technical definition of wilderness matter? Well public lands make up over 40% of Arizona’s land mass, mostly divided between the Forest Service and Bureau of Land Management. Of that public land, 14.5% is federally designated wilderness (Figure 2). That is 4.5 million acres and it ranks Arizona as fourth in the nation for amount of wilderness; behind Alaska, California, and Idaho. When you are talking
about managing wilderness you are not talking about a vague notion of the outdoors, you are talking about a
specific type of public land that covers a significant percent of this state.

So what is the federal definition of wilderness? It is
any land designated by congress to be part of the
National Wilderness Preservation System (NWPS) as
defined by the 1964 Act, “To establish a National
Wilderness Preservation System for the permanent
good of the whole people, and for other purposes.”
The name is a bit long winded, but Section 1 of the
act states that we can refer to it as “The Wilderness
Act”. The NWPS isn’t its own agency and doesn’t
have a budget, it is just a list of regulations designed
to provide maximum protection to public land. If
public lands were a cake, the wilderness designation
would be an added layer of frosting. Everything
about the ‘basic’ structure of the original cake is the
same, nothing there is changed, but there is now a
new layer to consider. This is important since
Wilderness areas are located in four different
agencies; The Forest Service, Fish and Wildlife
Service, Bureau of Land Management, and the
National Parks System. These agencies manage land
differently with their own unique mission statements
(Table 1). The Wilderness designation doesn’t change those mission statements; it is simply a new layer of
regulations on top of their existing mission.

Table 1: Federal Agency Mission Statements

<table>
<thead>
<tr>
<th>Agency</th>
<th>Mission Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Service</td>
<td>To sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.</td>
</tr>
<tr>
<td>Bureau of Land Management</td>
<td>To sustain the health, diversity, and productivity of America’s public lands for the use and enjoyment of present and future generations.</td>
</tr>
<tr>
<td>Fish and Wildlife Service</td>
<td>Working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.</td>
</tr>
<tr>
<td>National Parks</td>
<td>Preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations.</td>
</tr>
</tbody>
</table>
Chris's Hot Topic of Range: Navigating the Wilderness...continued

That’s the technical definition of wilderness. The legal definition is found in Section 2c of the Wilderness Act and states:

“A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.”

There’s a lot to that legal definition. The key thing to know is that the prime directive of the Wilderness Act is to preserve “Wilderness Character.” Wilderness Character has five specific qualities; untrammeled, natural, undeveloped, solitude or primitive and unconfined recreation, and other features of value (Table 2). There’s been a lot written on the exact definition of untrammeled, but in general it is an area unhindered and free from modern human control or manipulation. “Natural” is also a term that can mean many things, but for this act it means the ecology is substantially free from the effects of modern civilization. That can be a bit confusing since untrammeled and natural are almost the same thing, but untrammeled is more localized while natural is focused on landscape ecosystems. Undeveloped and solitude are somewhat self-explanatory and “other features of value” refers to things like archeological sites.

Table 2: Wilderness Character

<table>
<thead>
<tr>
<th>Wilderness Character</th>
<th>Quality</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untrammeled-</td>
<td>Wilderness is essentially unhindered and free from modern human control or manipulation</td>
<td></td>
</tr>
<tr>
<td>Natural-</td>
<td>Wilderness ecological systems are substantially free from the effects of modern civilization</td>
<td></td>
</tr>
<tr>
<td>Undeveloped-</td>
<td>Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation</td>
<td></td>
</tr>
<tr>
<td>Solitude or Primitive and Unconfined Recreation -</td>
<td>Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreations</td>
<td></td>
</tr>
<tr>
<td>Other Features of Value -</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Archeological site</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Historic Buildings</td>
</tr>
</tbody>
</table>
At this point you might be thinking that this frosting layer is pretty dang thick. And yes, though the mission statement of the managing agency remains the same there is a long list of activities prohibited in wilderness areas. Prohibitions include roads, commercial enterprises, motor vehicles, motorized equipment, mechanical transport, structures, and installations. This is because Wilderness areas are specifically devoted to primitive recreation, scenic values, scientific research, educational value, and historical uses. One important bit of information that people forget is that wilderness is NOT a hands off approach to land management. Rather, wilderness is a very unique and specific management style. The five wilderness qualities are often in conflict and it is up to the managing agency to determine necessary actions with minimal impacts that would preserve wilderness character. Necessary and minimal are key terms here. That means every prohibited activity can still be approved in special situations. Say there’s an invasive species taking over the landscape, threatening the “natural” quality of the wilderness. If the agency determines it is necessary to take action, they would look to implement a management strategy with minimal impact to wilderness characteristics. They may consider hand pulling with garden tools, chemical spraying with vehicles, temporary roads, or maybe aerial spraying. These strategies all cause short term negative impacts to untrammeled, solitude, and undeveloped qualities while trying to promote long term nature quality. Hand pulling might sound like the obvious choice for minimal impacts, but the number of people needed and time it would take might extend negative impacts for longer than desired, thus aerial spray might be more minimal (Figure 3). These are the tradeoffs considered by agencies when determining management in wilderness areas.

Another thing to consider is the “for other purposes” part of the Wilderness Act’s official name. That was a compromise in the language of the law that grandfathered in ranching, logging, mining claims, and water rights. New claims and expansions of existing claims are not allowed, but pretty much anything that existed in an area before it was designated as wilderness is allowed after the wilderness designation. There can still be some interesting conflicts. For example the city of Tombstone had an issue when flooding damaged their water supply in the Coronado National Forest’s Miller Peak wilderness. The Forest Service decided that repairs were necessary, but the minimal impact judgement determined that the city could only use a bucket
brigade and hand tools; this after the city already rented heavy machinery for the project (Figure 4). Another conflict occurred with a rancher experiencing predation losses in the Santa Teresa wilderness in the Coronado National forest. In that situation it was determined that predator control was a pre-existing management tool prior to wilderness designation and thus permitted in the wilderness.

That’s the Wilderness Act in a nut shell. While there is a lot to navigating the do’s and don’ts and regulations of the Wilderness act, the thing to remember is that the entire point of wilderness areas is for people to enjoy a landscape that remains undisturbed from human influences (Untrammeled). There can be debate on whether or not Untrammeled is possible in this day and age, and there can be debate on if wilderness designations should even exist, but those are discussions for another day. Now that you know exactly what they are my recommendation is to enjoy them while you can. They are there for you and every now and then it is good to shake off our technology addicted civilization long enough to get a little lost in wilderness.

References: http://www.wilderness.net/ was the primary resource for this article.
Hey Rangers,

As some of you already know, this will be my last “Hot Topic of Range.” I was offered a job for the NRCS in Nevada and I will be moving there at the beginning of this year. It is a big move as far as my career, but it is also a bittersweet move. I love working here at the V Bar V. The job is exciting and fun and I couldn’t ask to work with better people. When I first came here my only ranch experience was a season at Philmont Scout Ranch. I knew ecology and I knew plants, but there was a bit of a learning curve when it came to animal science. Bopper Cannon, Keith Cannon, Debbie Pearson, and Dave Schafer were patient with me and today I’m proficient working cows. My only regret is that I can’t stick around to razz the new kid a little more. ;)

The Range Program side of things has progressed nicely. We’ve grown big enough for more staff and we’ve spread our program across Arizona. I thoroughly enjoyed the diversity of the job; Monitoring vegetation in Yuma one day and teaching a workshop in Flagstaff the next. Doug Tolleson is a great person to work for and I’ve enjoyed working with the two Lisa’s and the Master Gardeners.

I’ve traveled the world with dozens of seasonal jobs, so I know that it is a very rare treat to work with the quality and caliber of people that exist here at the V Bar V. It was my pleasure to be a part of it all. I’ll miss this place and hope to visit as often as I can.
Learning Diagnostic Characteristics of Plants by Field Journal Sketching

Introduction

First, let us begin by agreeing that field journaling is not to be confused with writing about our deepest, darkest secrets and love interests in a diary. No, field journaling is a centuries old technique for recording what we observe of the natural world on paper. Field journaling is a beneficial activity for natural resources professions, such as rangeland management and ranching, because it serves as a way to record scientific evidence of what you observe in the field, and it helps you to reference and remember what you have learned. For example, let’s say you’re new to Arizona and want to learn about the different plant species in your area: recording observations of the different species of interest in a field journal can be a great help in remembering and recognizing them going forward.

Field journaling can take many forms based on the preference of the journalist. Some people prefer simply to write notes as either longer narratives or as bulleted points; some prefer making sketches of their observations; and some people prefer some combination of both. Here, we’ll focus on a combination strategy, using both sketches and bulleted notes to record an observation.

Why use sketches in a field journal?

Prior to the invention of cameras, all scientific inquiry required the use of drawings to record visual images of field observations. Sketching in particular requires careful observation and can increase your specific knowledge of the subject to help you better remember its characteristics. Field journal sketching is therefore a very useful tool for improving your plant identification skills.

So you’re not an artist? That’s okay! Field sketches do not have to be perfect representations of what you see or idealized images of what we expect. Anybody can learn to sketch simple but helpful images. Here, I’ll show you a few different sketching techniques. We’ll use the example of Arizona cottontop (*Digitaria californica*) as our observational and learning subject.

Supplies needed

In simplest form, field journaling requires only paper and a writing utensil, such as a pencil or pen. Your field journal can consist of a bunch of loose sheets of paper that you put in a folder or paper clip together, or you can purchase a small journal with blank pages (pocket sized is preferred by many people). It’s
Plant of the “Week”...continued

up to you whether or not you want to assemble an advanced set of field journaling tools. The following supplies can also be used for field journaling and are all about personal preferences: dark to light colored pencil set, graphite stick, eraser, fine-point sharpie, colored pencils, water color pens or paint, hand lens for observing small details of plants, or binoculars for observing subjects at a distance (e.g. birds or taller parts of plants).

What parts of the plant to sketch?

Remember, this is your field journal, so you can sketch whichever parts of the plant you want to record and remember for later. One place to start is to make a rough sketch of the whole plant and its surroundings. On another page or a different part of the same page, zoom in to a specific part of the plant and create an enlarged sketch of that plant part to detail a particular characteristic of the plant and to supplement your original sketch of the whole plant. Consider sketching close-ups of seeds, seed pods, leaf and flower arrangements, bark texture, vein patterns, and hairs. Sometimes it’s the details of these specific characteristics that can distinguish one plant species from another, such as the presence of solitary hairs along the leaf margin of a perennial grass species which may otherwise look exactly the same as other species during the dormant season when characteristic seed heads and colors disappear.

Considerations for sketching

First, avoid wasting your own time and try not to agonize over every little detail of the plant. Often times a rough sketch can get the picture better than a detailed mural. Second, remember that plants may look very different during different seasons of the year and at different phenological stages; you may want to have different sketches or descriptions for different times of the year. Additionally, within a species, not every individual plant is identical to the next, so it is important not to get too focused on every detail of your specific subject. Instead, try to focus on general shapes and only get into detail where it really matters. Also keep in mind that sketching during windy conditions can be frustrating if your subject is moving around too much.

Taking notes and labeling your sketches

Taking notes with your sketches is a very useful way to interpret your drawing or point out specific details that will help you with plant identification and learning more about the species in general. Take a few minutes to jot down some notes next to your sketch, perhaps including the date, season, weather conditions, sizes/scale of drawings, colors that aren’t captured by your lead pencil, soil type, topographic location, other plants nearby, if fruits or flowers are present, and any other details you want to include\(^1\). It is also helpful to label different parts of your drawing or use arrows to point out particular characteristics.

If you don’t know the species you are sketching, you will especially want to add a few notes to supplement your sketch, which will help you identify the plant later. If you do know the species, be sure to label your sketch with a common or scientific name.
Plant of the “Week”...continued

Introduction to Arizona cottontop

Are you ready to try your own sketch yet? Hang in there! First, let’s learn a little background on our subject for the day, Arizona cottontop, or *Digitaria californica*.

Arizona cottontop is a warm-season, perennial bunchgrass native to Arizona. It is most abundant in the southern portion of the state at elevations ranging from 1000 to 6000 feet, and is more commonly found on clay, sand, or sandy loam soils rather than on shallow, stony, or cobbly soils. Although it is one of the most common desert grasses in Arizona, it is rarely found growing in pure stands. Arizona cottontop actively grows throughout the spring and summer and blooms in the late summer; however, when conditions are favorable, it can be seen blooming early in the spring. When green, Arizona cottontop is highly palatable forage for grazing animals, but can also provide important winter forage for livestock and wildlife because its foliage cures well and some stems even remain green into the cool season. Arizona cottontop usually produces a good seed crop, which is its primary form of reproduction.

Arizona cottontop can grow to about 4 feet tall, consisting of dark bluish-green stems and leaves which cure to a gray color during the dormant season. The stems include smooth purple internode segments which are exposed where the leaf sheaths separate from the tiller. The leaf blades are flat and narrow and the leaf sheath is covered with small hairs. The seedhead of Arizona cottontop is an open panicle, which is a branched inflorescence with flowers maturing from the bottom upwards. The seeds are densely paired along the panicle branches and are brown to dark purple in color when mature. The seeds are covered in white silky hairs which gives the seedhead its characteristic “cottony” appearance. When mature, the seeds drop from the seedhead, which makes the naked panicle resemble broom straw.

Let’s Get Drawing!

In the following sections, we will look at some different techniques for field journal sketching which are simple and easy for you to practice on your own. We will use some of the characteristics of Arizona cottontop described above to help us with our sketches.

Technique #1: blind contours

Contour drawing involves drawing the subject using one continuous line without lifting your drawing utensil, and is usually done quickly (anywhere from 15 seconds to 2 minutes). This technique is a good way to create a rough draft before taking a little more time to do the actual sketch. It also allows you to get an idea for the shape and general characteristics of the subject without agonizing over any details. As such, this is a good technique for creating a sketch of the entire plant. These types of drawings are usually a little messy, but they allow us to “overcome the habits or symbols we often revert to when drawing.”
Plant of the “Week”...continued

When performing a blind contour drawing, don’t look down at your paper while drawing – trust your hand-eye coordination. Start by taking 15-20 seconds to make a quick sketch without looking down at your paper, and then see how you did. Repeat this again on another page, but this time give yourself a full 60 seconds to complete a quick sketch of your subject. Repeat a third time with a full two minutes, and lift your pencil and look at your sketch while drawing if you feel the need to. How did you do? Do you feel that you have a better understanding of your subject now?

Here are my blind contour drawings of Arizona cottontop:

![15 seconds](image1)

![60 seconds](image2)

Technique #2: drawing outlines and simplified versions of shapes

An easy way to create drawings that are realistic and helpful but not so three dimensional that the sketch looks like it’s about to pop out of the page is to use simplified shapes. For example, in my series of drawings below, I used a single line of my pencil to represent a grass tiller and panicle. It is important to get the shape of the panicle and the direction and relative length of its branches as similar to your subject as possible especially since the seedhead is an important characteristic that distinguishes this species from others. See how my panicle branches are upright, close together, alternating sides, about the same length, and zig-zag?

I then took a couple minutes to add in seeds to each panicle branch. I did this by first creating a quick outline of a seed and quickly coloring it in darkly. When I had enough seeds drawn, I then added the “cotton” to the outside of the seeds by very lightly scribbling around the outside of the seeds; it is essentially impossible to represent actual white color on a white surface, so draw lightly to show the contrast between the dark seeds and the white hairs. I didn’t draw the entire plant for this drawing, but just kept it focused on a particular distinguishing characteristic (the seedhead) which helps me recognize it when I’m in the field. This technique is also useful for drawing shapes of leaves and even simple versions of vein patterns on leaves. Do you feel like you can use simple lines, scribbles, and coloring in the lines to create your own simple sketches in a field journal? The drawing I did below is actually my second attempt to sketch my Arizona cottontop specimen, so don’t feel as if you need to make your drawing perfect the first time around. Remember – it’s okay to use your eraser if needed.
Technique #3: representing textures

We can make our drawings look a little more realistic by adding a little texture to different features of our drawings. Texture can be represented by using a range of different color values (degree of darkness or lightness), which can be created using different techniques, including hatching and shading.

Hatches are parallel lines that are close together and create the impression of darkness or shadow. When drawing hatches, your pencil leaves the paper each time you draw a new line and empty space exists between hatches. See my drawing on the left of a section of a grass tiller which includes single hatches on the shadowed side to show texture.

Hatch patterns can be amplified, or darkened by adding cross hatches, which are perpendicular to the original hatching. See my drawing on the right where I have added some cross-hatching to the original.
Plant of the “Week”...continued

Shadows and texture can also be added to drawings using shading, which for me is easiest to create using a pencil. Shading is usually done to show shadows, which gives the sketch more of a three dimensional appearance; remember that shadows are created when light is absent, so think about the direction the sun is coming from when adding shading to particular parts of your sketch. When shading, I don’t lift my pencil from the page; rather, I move it back and forth or I move my pencil in circular motions until my shading is completely colored in. You can make your pencil lines move in different directions around your sketch to help emphasize shapes, such as roundness or squareness. Press harder with your pencil or use layers to create a darker shade, and gradually transition across your shape to a lighter shade. Remember that the whiteness of your page is the lightest you are able to shade, and it is okay to leave white space.

Example: My simple sketch of a ball

Here is my sketch of the same tiller from above, but with shading instead of hatching. To its right is another sketch of an Arizona cottontop tiller using shading technique. Note the nodes (or joints) on the tiller and the exposed dark purple internode just above the leaf sheath.
Plant of the “Week”...continued

Labeling your drawings

Now that you’ve created a few sketches of your own, don’t forget to label them! Labeling your drawings is an important way to communicate with yourself and to make sure you know what is going on in your sketch when you look at it later on. Labeling also helps you to remember specific characteristics of your species which will help you identify it in the field. I have labeled my sketches with the name of the plant and the date of the drawing. Other characteristics of the plant can be listed on the same page in bullets, or you can draw arrows that point to these characteristics on your sketch.

Concluding thoughts

Drawing does not come naturally to everybody, so be sure to make it your own! It may take a little extra practice or a few extra swipes of the eraser to perfect your drawing to your standards, but with practice, you’ll improve quickly. Practice drawing with the above techniques and experiment with them to learn how they can be used to represent different features. There are many other sketching techniques than the ones I have shown you here, so feel free to explore other options to help improve your drawings. Look at other people’s sketches and observe the techniques they’ve used to represent their subject. You can always learn something new from others. Happy field journaling!

References


See the Top Ten pictures for 2015

https://cals.arizona.edu/vbarv/rangeprogram/sites/cals.arizona.edu.vbarv.rangeprogram/files/Top%2010%20Pictures%202015%20%282%29.pdf
Lisa’s Class is Outside Today

Just a few weeks after stepping into the Range Rocks! Program Coordinator position here at the extension office, I was able to attend the Society for Range Management’s annual meeting in Sacramento. I was part of the K-12 Range Education group, made up of a variety of professionals who were dedicated to increasing range related educational activities in school programs across the United States. We discussed current range related curriculum and its applications, shared the importance of incorporating range education into state’s STEM standards, discussed how to increase the presence of range activities and lessons in mainstream schools and heard from several presenters.

One of the presenters, Dr. Jim Sartin, past president of the American Society of Animal Science (ASAS) and current Editor-in-Chief of the Journal of Animal Science, spoke about the animalsmart.org webpage, which provides animal science resources to educators from elementary to high school. Animal science is a STEM discipline that helps prepare students for high level science and math courses. Animal science is also a great way to bring biology, nutrition and genetics research to life.

As part of the animalsmart.org program, ASAS publishes the Jr. Animal Scientist (JrAS) magazine which allows elementary age students to learn about the animal world by exploring science careers and studying the lives of pets, farm animals and zoo animals. The JrAS was developed, in part, to help counter the increasing amount of false information large animal protection groups are sending to schools portraying the animal science industry as cruel and harmful. It’s important that kids have access to reliable, science-based information to make decisions from, especially in a school setting.

Dr. Sartin saw this meeting as an opportunity for the SRM to help promote rangeland education and proposed working with JrAS editors to create an issue featuring rangelands, with content provided by education and rangeland professionals who are part of the SRM K-12 group. Both the SRM and ASAS felt this was a win-win collaboration – ASAS would have an issue containing a new unique concept and the SRM group would be furthering their range education mission to students across North America.

In the following months a committee of K-12 range education professionals from California, Idaho, Arizona and Texas was formed. We shared ideas through several conference calls and e-mails to discuss topic ideas and delegated who was responsible for providing each content area. As you know, range science can be an incredibly broad subject area, and our challenge was to introduce kids to range topics in a fun and engaging way without overwhelming them with too much information. We chose to discuss why rangelands are important, who uses rangelands, who takes care of rangelands and the different types of rangelands found in North America. Additionally we included a short story about the day in the life of a little boy living on a ranch, a range word search and animal related jokes.

By the beginning of June everyone submitted their assigned content, all major editing was completed and we were ahead of schedule. Theresa Bechetti, Livestock and Natural Resources advisor at UC Davis Extension, and I then took on the job as co-editors in order to further streamline the process and communicate more efficiently with the JrAS editors. Theresa did a great job taking our group’s content and creating a rough draft in Publisher to allow for further editing by the JrAS group. We were limited to 7 pages, (including a front and back cover) and it was quite a challenge to fit everything in the allotted space.
Lisa’s Class is Outside Today....continued

We shared our rough draft with the SRM Board of Directors for feedback and comments, as our group was representing the SRM and we wanted to have their approval on the project. We were happy to hear they were very excited and supportive of our endeavor and pleased with the range-based content included in the issue.

After a few minor edits, and a collectively “held breath” by the group, we were all relieved to find the JrAS editors were quite happy with our rough draft content and there was very little editing to be done going forward. Kudos to the group for doing a great job! After a few minor tweaks and photo swaps later, we had our final rough draft and it looked great! The whole group was very pleased with the way it turned out and was even more excited to see it in print.

JrAS liked how the group was able to tie rangeland types and uses into the study of animal science and asked if we’d be interested in providing content for future installments in the upcoming year. What a compliment! Our group has already begun brainstorming possible topics for upcoming issues and we are considering range management careers as they relate to animal science, domestic animals that use rangelands and how people are connected to rangelands and how they are used. We’d like to build upon the general concepts presented in the first rangelands issue and present a more detailed view of rangeland topics.

A few weeks after the issue went to print, I received a very warm e-mail from Dr. John Taylor, immediate Past President of the Australian Rangeland Society and Non-Executive Director of the Primary Industries Education Foundation Australia, congratulating the group on a job well done. Dr. Taylor was impressed with the pictures, content and messages in the issue and shared it with his fellow Directors on the Primary Industries Education Foundation Australia (PIEFA), who then asked if it could be added to the PIEFA website “as it sets a new and higher standard in communicating the attractions of a career in ‘agriculture’ and the rangelands in particular.” Dr. Taylor explained “PIEFA’s mission is to inform students, teachers and the broader community about primary industries and the career opportunities they offer. ‘Primary industries’ includes intensive and extensive agriculture, forestry and fisheries, and the focus has been on teachers and incorporating ‘primary industry’ examples in the K-12 science, math, geography, etc. units of the Australian school curriculum.” The group was very excited to receive such high praise and hopes to continue involvement with PIEFA and Dr. Taylor in the future.

I am looking forward to meeting with the K-12 education group in Corpus Christi next month discuss how we can continue to promote rangeland education to students across the United States and get our next JrAS issue in the works. Additionally, I wanted to let you know that we created an official University of Arizona Range Rocks! facebook page! Please stop by and take a look at what Range Rocks! is up to in the upcoming months. I wish everyone a safe and happy New Year!
I usually don’t make New Years resolutions but if I did, this year’s would be:

1. Don’t lump 3-awns.
2. Learn the common and scientific names of plants I only know by the 4 letter code.
3. Work on my backlog of journal papers.

The holidays have come and gone and 2016 snuck up on us. I am reading about the blizzard in NM and TX and how many cattle were estimated killed (30 to 40 thousand), mostly on dairies. My heart goes out to those who lost animals and the huge problem they have now; disposing of the carcasses when things finally thaw out. It will be a mess. It makes me think of working on the agri-terrorism/homeland security project at A&M a few years back. One of the issues we tackled was what to do with all the dead animals if a ranch, feedlot, dairy, etc… broke with something like foot and mouth disease and had to be “de-populated”. It is not as easy as just burying or burning them. You can’t bury hundreds or thousands of cattle in a given watershed or on top of an aquifer for instance. And if you think we have a smoke management problem when a wildfire is burning through brush on the urban interface… just imagine if you had to burn dead animals on the outskirts of Phoenix. Another good reason to be prepared I guess. I hope some of the work we did helps this situation. On a somewhat lighter but related note, I am in Las Cruces as I write this section for the newsletter. Meeting with NMSU faculty and then heading to the Malpai Borderlands Science Conference in Portal AZ to talk about drought planning. Elk season was fun. Did a lot of glassing and hiking but saw only cows and spikes. Got out and rode an allotment (checking fence, etc…) over in the Bradshaws with John Kava and Iric Burden a few days ago. Six hours of busting brush, up and down switchbacks, lion tracks in the snow… perfect. For my money, in the saddle is the best way to see and get a feel for rangeland. You just travel at a different pace and frame of mind. You see more of what you need to see. Too bad that seems to be going by the wayside.

Congratulations to Chris Bernau on his new job with NRCS at the plant material center in Fallon NV. We will miss him but wish him all the best. He did a great job here and I am sure he will make hand up there in buckaroo country. I am looking forward to the AZ SRM meeting in Yuma and the national SRM meeting in Corpus Christi TX. We have a good symposium on VGS and a K12 committee meeting planned for Corpus. While there, I am also looking forward to visiting with the students in the high school youth forum, getting to see folks at the AZ and TX get togethers’ and of course the dance. Except I am usually more sore the day after the dance than I am from spending a day horseback. Getting old is not for sissies. Don’t forget to check out this years “top 10” pictures.

Till next time,

Doug