

Spring 2022

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We are currently planning to hold our annual conference Nov 14-15 in Denver and are accepting abstracts now. Details available here: [MSC Annual Conference](#)

Thanks again for your membership and participation; we look forward to seeing everyone again at events that are in the planning stages.



Photos from the November 16 MSC Annual Conference Break-out sessions.

Knowledge Spotlight

Back to the Basics of Seed Selection

By Jon Healy

The Italian philosopher Voltaire is credited with the quote “Don’t let perfect be the enemy of good”. When it comes to seed selection, this concept can often be forgotten. Striving for perfection is admirable but when it interferes with “good” the results can be far from..... well, perfect! Often, the “perfect” mix is attempting to replicate the vegetation that previously existed or to support wildlife or that is visually appealing. The specific requirements or goals of a project may dictate the use of challenging species. One shouldn’t shy away from using a species because it is challenging, the key is selecting a combination of reliable options to compliment the challenging species. Don’t give up on perfection but be sure to start the selection process with the basics.

Each site has its own goals and priorities but nearly every seeding project needs to stabilize soil, minimize weeds which are both achieved through quick establishment, support natural functions and provide visual appeal. From a construction revegetation standpoint preventing the need to rework eroded areas and closing permits are often the top priority. Minimizing weed pressure through seed selection can reduce life cycle costs and future efforts. Natural functions can be storm water management, wildlife habitat, soil health, etc.... Visual appeal can mean different things to different people and can depend on the setting.

Quick establishment of vegetation can be one of the most effective ways to minimize weeds and stabilize soil. This can be achieved through the use of quick growing perennial species or including a nurse crop in the permanent seed mix. Annual nurse crops such as small grains, millets, and annual grasses. A good nurse crop will provide quick growth that prevents erosion, minimizes weeds and does not compete with permanent species. Beyond these, there are several other functions a nurse crop provides that can have a positive impact on the success of the permanent vegetation. A nurse crop can loosen compacted soils, allow water to infiltration and storage, help regulate soil temperatures through the shade they provide and add organic matter to the soil. All of these improve growing conditions for the permanent vegetation. Most common nurse crops are relatively inexpensive and require no additional effort when included in the permanent seed mix and can act as a filler to allow the permanent mix to be distributed more evenly. Suppressing weeds and minimizing erosion through the use of quick establishing species is not only the most inexpensive method, it can also be one of the most effective methods.

Supporting natural functions varies from one site to another and can include filtering or slowing stormwater, providing habitat for wildlife and improving soil. Criteria for selecting well suited species depends on the needs and goals of the project but can include moisture or soil type preferences, root structures, appeal to wildlife or sun or shade tolerance. When selecting seed it is important to consider what natural functions are needed and selections are made based on the criteria specific to the site.

Visual appeal is relative to the general expectations for the site. A private industrial site may require a simple grass mix with the goals being low cost and low maintenance. On the other hand a city park or town square may have a goal of manicured turf grass accented with plots of colorful wildflowers. While the level of visual appeal may vary by site, the factors to consider on most sites can include plant height, bloom period and maintenance requirements among others.

Some of the factors that are well intentioned but can end up as “the enemy of good” are selecting species that are difficult to establish, not well suited to the region, not well suited to the function, and highly specific origin requirements. These factors are frequently specified on sensitive sites, and they are noble efforts to undertake. The problem is not in the undertaking,

it is in the execution. When using challenging species, it is good practice to include species that are easier to establish to offset failures and/or slow establishment.

Challenging species may be slow growing or simply inherently have a low probability of success. For example, many of the woody plants commonly found in the mountain states such as sagebrush or Winterfat can be challenging both in their speed of establishment and probability of success. The same can be said for a variety of wildflowers and wetland species. Many of these challenging species are ecologically important and should be considered for use although used wisely.

A species that is highly successful and dependable in one region may be a weak or challenging choice in another. Choosing a species that is native to and proven to perform in the region is typically a safe option. Attempting to force a reliable low elevation grass to perform in high elevations or using a cool season grass in the south is likely to fail.

Neglecting to consider the intended function of a species can also contribute to failure. Cool season turf grass has very shallow root structures and would be a poor choice for a slope stabilization project. Upland grasses would not be suitable to reseeding a wetland area. It seems very basic but is often overlooked that to improve chances of success, the functionality of a species must be considered.

Seed origins refer to the location the seed was grown and collected. The intent of origin requirements is to take some of the guesswork out of the regional suitability mentioned above. The concept of origin requirements is sound and can help with selection of regionally suitable species. Highly specific origin requirements that specify seed be harvested from a specific eco region are also well intentioned but often cause unintended negative consequences. It makes sense that seed collected in the same eco region should be a good choice. Selecting seed based on highly specific origins limits the amount and quality of seed that will be available. Selecting seed based on species, varieties and potentially transition zone is a more reliable and "good" method than to strive for the "perfect" origin.

There are numerous variables that go in to determining the right seed mix. There are also many ways to decrease the chance of success. The key to effective seed selection is to start with the basics to ensure that the backbone of the mix is made up of species that are proven to function, quick to establish and are capable of performing in that location and environment. Once the backbone is established, challenging species can be considered and included as needed to meet requirements, create habitat or improve visual appeal. Using challenging species can be unavoidable or can be worth the risk to reap the reward but for long term success in selecting seed mixes, never let "perfect be the enemy of good"!

High Altitude Revegetation Society for Ecological Restoration-Rocky Mountain 2022 Conference April 12-14 at the Colorado State University's Lory Student Center.

IECA Mountain States Chapter Board Members Rachel Higgins and myself, Donald Crouse, tended a table and mingled with attendees and vendors during the HAR conference and attended presentations. I'm not an expert in this field of study but I use it almost every day in my professional and personal life.

Our environment is in the headlines a great deal of the time. Our communities are dependent on the environment's future ability to produce productive resources. This conference brought to light the studies and people that are taking an interest in understanding what our growing communities need to do to keep this at an appreciative return.

Who would have thought goats can be an alternate method of weed management which is currently an issue for restoration for a Highway project? Colorado Department of Transportation shed light on this issue and innovative solution. Now as I manage future restoration for highway and commercial projects this can be something I can present with a better cost approach.

There were many informative topics that can help us understand what is being done to protect and reclaim our environment as we grow. I feel that through the network of this community of experts I was able to meet I can get the help needed for the challenges ahead. Thanks HAR for starting a year of continued outreach to connect and the opportunity to educate those in our industry about IECA.

Montana Governor Signs SB 0358 to Eliminate Existing Numeric Standards for Polluted Water Discharges

Montana Governor Greg Gianforte recently signed Senate Bill 0358 requiring the Montana Department of Environmental Quality (MDEQ) to eliminate existing quantitative and numeric water quality nutrient standards (in place since 2014) and adopt new rules with narrative nutrient standards. The narrative nutrient standards will be developed with consultation from the Montana Nutrient Work Group. The new rules will: 1) Develop an adaptive management program for an incremental watershed approach; 2) Balance all factors impacting a water body; 3) Prioritize phosphorous; 4) Identify response variables affected by nutrients; 5) Consider options pertaining to point sources and impaired status of the receiving water body.

The MDEQ has been under lawsuit since 2018 by the Upper Missouri WaterKeeper (UMW) who contends that current MS4 permits are managed by the MDEQ with temporary water quality variances to allow cities to violate the pre-existing numeric State water quality standards. A proponent of SB 0358, The Montana League of Cities and Towns, argues Best Available Technologies allowing cities to meet the previous numeric standards are economically infeasible. Opponents to SB 0358, including UMW, contend that the new rules will greatly reduce enforceable water quality protection by the MDEQ. The USEPA has been petitioned to review the new Montana narrative standards for compliance with national standards.



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