

USE OF PRE-PROJECT CONDITION FOR UPLIFT CREDIT BASELINE

Finding

To facilitate more uplift actions within the CCS, flexibility to align uplift and stewardship term limits and consistent compensation are needed. Credit baseline is the basis from which credits are calculated in the NV CCS. Currently, all credit projects are assigned a credit baseline based on the regional standard site-scale habitat quality. This approach rewards past management that has maintained good habitat, but inhibits management that is attempting to improve habitat below the regional baseline.

Improvement Recommendation

- Uplift credits utilize pre-project conditions instead of regional baseline. Regional baseline will continue to be used for stewardship credit projects.

Summary

The CCS currently uses a regional baseline to calculate credits awarded resulting in uplift actions. Only functional acres that exceed the regional baseline are made available for sale. Under current policy, uplift credits are not awarded if the uplift actions do not result in meeting baseline. This presents a disincentive for landowners to engage in uplift activities. Replacing the regional standard baseline with pre-project condition for uplift projects will ensure that all habitat improvement measured by the HQT will result in credits generated. The regional standard credit baseline will still apply to stewardship credits.

Specific Improvement Recommendation

This improvement will necessitate several changes to the CCS manual sections 2.3.3 and 2.3.4. Language insertions and changes proposed below:

Modify section 2.3.3:

Site-scale – Anticipated site-scale post-project habitat function (area-weighted average across all map units using maximum seasonal habitat function associated to each map unit) determined using the HQT must be greater than or equal to the **assigned credit baseline** plus 10% (area-weighted average across all map units using the relevant seasonal habitat type regional standard habitat function). See [Section 2.3.4: Calculating Credit Baseline Habitat Function](#) for site-scale regional standard habitat functions **and credit baseline for uplift**. See figure 14 for additional detail on calculating area-weighted averages.

Insert into section 2.3.4:

Credit Baseline for Uplift

Credits generated from stewardship projects will be subject to the regional standard baseline, however credits generated subsequent to the signing of a management plan (uplift credits) will use the stewardship project's condition at the time of initial verification as baseline. Calculating uplift credits in

this manner will allow for the possibility of credits generated from 0 function up to any function measured by the HQT for any appropriate seasonal type.

Rationale Supporting Recommendation Details

The HQT currently uses a combination of site-scale regional standards and local-scale habitat function to determine a minimum baseline for all habitat types to determine credits available within the CCS. The site-scale regional standard credit baselines are different for each habitat type (Breeding, Late Brood-Rearing, Winter) and for WAFWA Management Zones III, IV, and V. The local-scale habitat function is determined through a GIS analysis of factors surrounding the project area. The baseline habitat function is determined by multiplying these two factors. For example, if the site-scale regional standard credit baseline is thirty percent (30%), and the local scale habitat function is sixty percent (60%), the baseline habitat function is $0.30 \times 0.60 = 0.18$, eighteen percent (18%). Eighteen percent then is multiplied by the total acres involved with the project, and the result is baseline functional acres. For example, if 1,000 acres are involved in the project, baseline functional acres will equal 180 ($1,000 \times 0.18 = 180$). Current functional acres are calculated in the same manner with the current site-scale habitat quality in place of the regional standard credit baseline value. Credits available for sale is equal to current functional acres less baseline functional acres. If a map unit’s current functional acres do not exceed baseline functional acres, there will be no credits calculated for that map unit.

This system works well for stewardship projects where program requirements in addition to current management are minimal, and the emphasis is on maintaining high-quality habitat for long periods of time. For Credit Projects where the emphasis is on improvement of habitat and significant efforts may be required to achieve any improvements, this regional baseline approach causes several problems:

1. In areas where the habitat is below the regional standard credit baseline habitat function, improvements need to exceed baseline before they can result in credits. If habitat improvements do not exceed baseline, no credits will be calculated in spite of habitat being improved. In cases where habitat is far below baseline, required actions to exceed baseline may be too daunting. Using the pre-project condition as credit baseline for these Credit Projects will allow for the full amount of functional gain to be awarded. See figure 1.

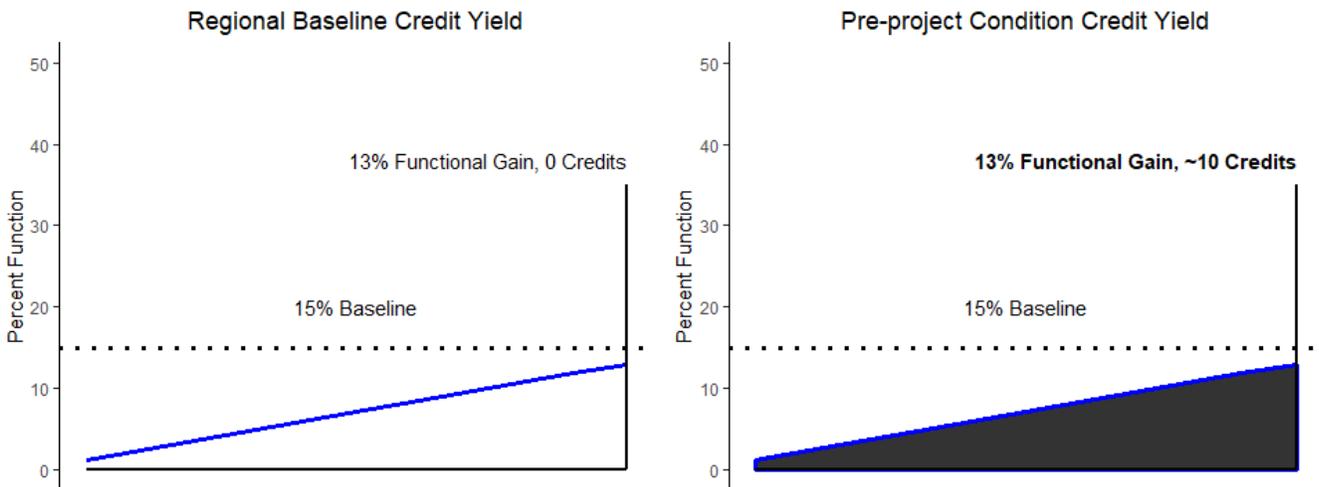


Figure 1. 13% functional gain under two different scenarios (regional baseline and pre-project condition as baseline). This scenario represents uplift in an area with 0% functional habitat. Uplift may also be achieved in areas that have some function, but still do not meet baseline.

A scenario in which this is demonstrated is upland seeding actions targeting depauperate areas. Due to the variability in success and quantification of seeding actions, the end result is uncertain. Factors contributing to the success of seeding efforts are too numerous to summarize here, however good planning will likely result in some amount of success (Pilliod et al. 2016). Increasing total shrub cover by 10% in a 120 acre map unit which has poor sagebrush cover (<10%) could result in a 13% functional gain which may equal 10 breeding functional acres. Using NRCS conservative cost estimates of aerial seeding of \$98/acre (approx. \$11,000 total per year), uplift costs could possibly be recouped. Without a change to baseline this functional gain would not exceed baseline, and the resulting functional acres would be zero, entirely precluding a cost recoupment.

2. In situations where baseline is exceeded by planned efforts, but only by a minimal amount, baseline functional acres are still subtracted leaving minimal credit value. See figure 2.

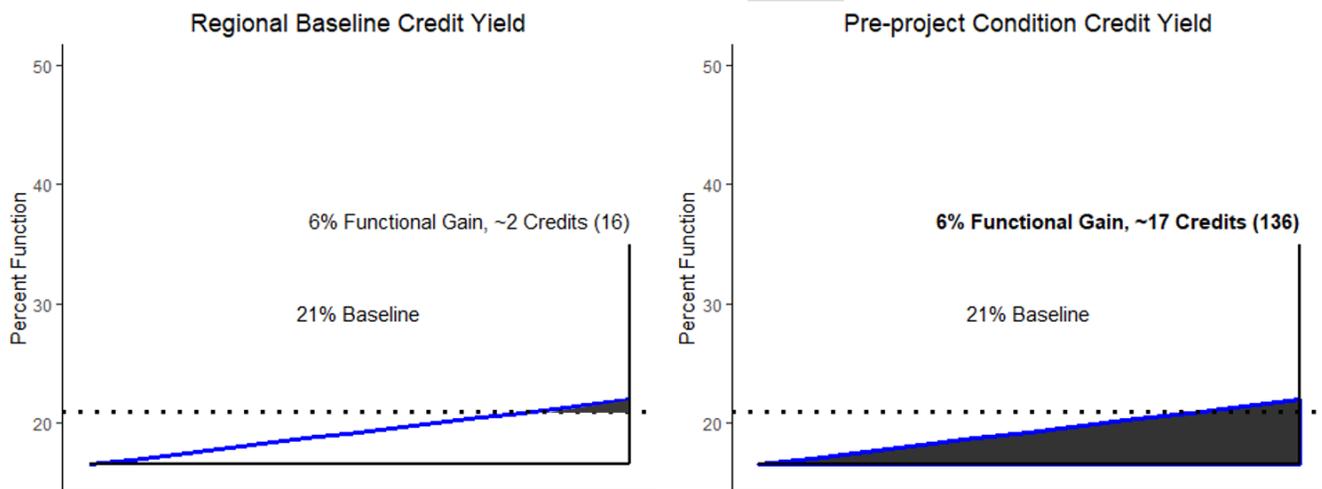


Figure 2. 6% functional gain under two different scenarios (regional baseline and pre-project condition as baseline). Numbers in parentheses represent credits after the application of a meadow multiplier.

A scenario in which this is demonstrated is degraded meadow habitats. For example, increasing forb diversity and cover for a 30 acre map unit containing meadow habitat below baseline may result in functional acres that exceed baseline, but depending on the success and initial effort it may exceed baseline by only a small amount. After baseline functional acres are subtracted, the possibly minimal amount of credits available may not be worth the effort. If baseline function was subtracted leaving 2 uplift credits then subjected to the meadow multiplier would be 2 credits X 8 = 16 credits. Using NRCS conservative cost estimates of native seeding efforts of \$117/acre (approx. \$3,500 total per year), this might not sufficiently recoup the cost of treatment and maintenance. The factors which may affect success and credit yield are too numerous to summarize here, and the uncertainty around credit market values make a cost benefit analysis difficult. However, with the proposed changes the full functional gain would be 17 credits X 8 = 136 credits and this may be sufficient to motivate action. If the action takes place in an upland environment where the importance multiplier is not present, the difference between the two credit awards (15 credits) may not be motivational enough. In a meadow environment where the importance multiplier is present and the difference between credit generation is higher (120) this improvement may result in reduced risk of action and thus additional action.

3. Areas which have sufficient sagebrush cover but are dominated by invasive annual grass are often calculated as winter habitat which does not incorporate invasive annual grass. If efforts are made to reduce invasive grass in these areas and improve habitat functionality for breeding or late brood-rearing habitat, the resulting functional acre may not result in credits generated because the area is evaluated as winter habitat. To generate habitat function in addition to the already existing winter function, the functional acre gain must exceed the difference between current winter habitat quality and the regional standard credit baseline for winter habitat.

This consequence of the regional baseline does not provide the motivation needed to use invasive annual grass reductions as habitat improvement. Using pre-project condition as the baseline for credit calculations will ensure that the full value of habitat gained when invasive grasses are reduced. See figure 3.

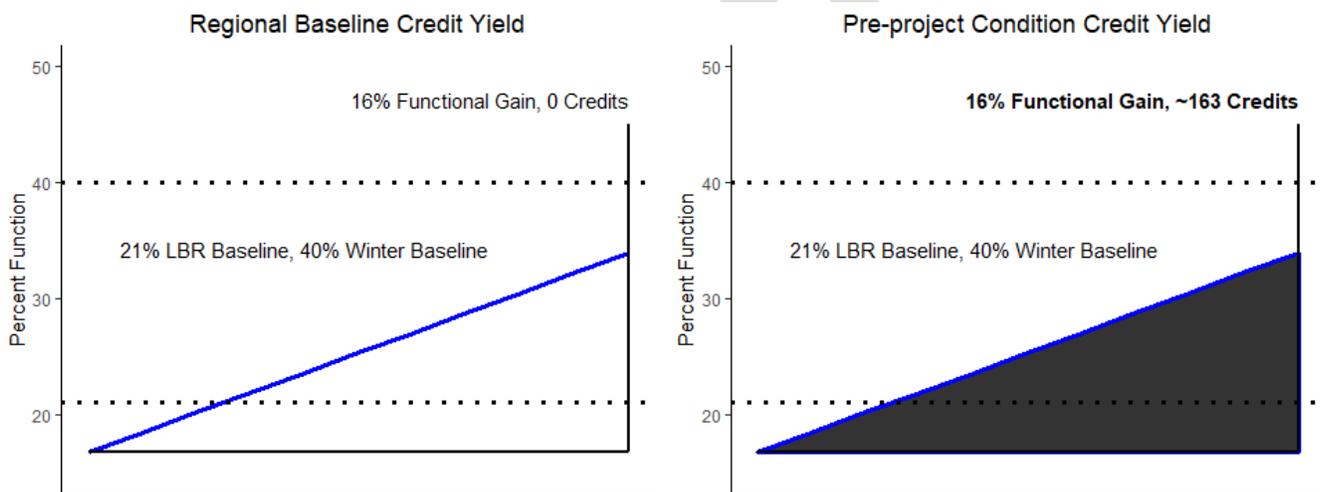


Figure 3. 16% functional gain in winter habitat under two scenarios (Regional Baseline and Pre-project condition). Under the regional baseline scenario the gain in late brood-rearing functional acres from invasive grass management does not exceed winter habitat functional acres which results in no credits.

In the above scenario an 800 acre map unit containing quality habitat results in winter habitat due to the negative impact invasive annual grasses have on all other habitat types. A 7% reduction in invasive annual grass cover (19% to 12%) could result in 152 Late Brood-rearing functional acres. According to conservative NRCS estimates, chemical treatment, targeted grazing and additional seeding may cost \$152/acre (\$137,336 total per year). Under the current CCS framework those additional functional acres would not exceed the winter functional acres and would not be awarded as credits. Using pre-project condition will ensure the value of habitat added is reflected in credits available.

Rationale Supporting Recommendation Details

This recommendation is aimed at providing a consistent way of awarding for actions that result in improvements to the sagebrush ecosystem. As many conversations regarding conservation occur around the state, a few common themes emerge. One theme is that Nevada needs more habitat improvements and a way to protect what is left. The regional baseline approach applied to uplift actions specifically, in many cases, results in habitat improvements with no resulting credits in the CCS. Using pre-project condition as a baseline for uplift credit

calculation will widen the scope of what the CCS accepts as improvement (any measurable improvement in the HQT) and improve incentives for Credit Developers to restore and enhance degraded habitats.

This improvement specifically affects Credit Projects that involve restoration and enhancement of degraded habitat (i.e., where site-scale habitat quality is less than the regional standard habitat quality), and may result in an increase in the prevalence of these projects in the CCS. The improvement may result in habitat enhancements that do not meet the regional baseline or minimum credit site eligibility requirements. These requirements were set initially to ensure that the CCS provided habitat that was readily available for use by the sage-grouse. As the SETT has worked with new and existing credit projects it has become clear that uplift activities are often either too risky (i.e., may not result in achieving baseline), too costly for the level of effort needed, or both. Consequently a lack of uplift activities are likely to continue without substantial changes. The SETT sees this improvement as a way of incentivizing actions in an ecologically responsible way when coupled with the continued minimum credit site eligibility requirements for stewardship projects. Overall habitat trend is an important consideration in the restoration of landscapes, and this improvement is a way to encourage and direct positive habitat trends. The SETT will evaluate the risk profile of each project before releasing credits early, and may require additional financial assurances if warranted. Perverse incentives have been considered in the development of the CCS, and while this improvement may increase the probability for that occurrence, the SETT will make reasonable attempts to ascertain recent land-uses during the past 10 years. Changing the baseline to pre-project conditions for uplift credits while keeping the regional baseline for stewardship credits provided the CCS with the ability to appropriately incentivize restoration without impacting the program's ability to produce net benefit for sage-grouse, especially in conjunction with the risk management tools discussed above.

References

Pilliod, D.S., Welty, J.L., and G.R. Toevs. 2017. Seventy-Five Years of Vegetation Treatments on Public Rangelands in the Great Basin of North America. *Rangelands*, 39 (1): 1-9