



# State of Nevada Sagebrush Ecosystem Program

## UPLIFT PACKET

August 2020

# PURPOSE

- Guide landowners in determining the best uplift option for them
  - Offering a selection of methods that can achieve what they want to see change
  - Giving additional resources for them to do additional research
  - Offer incentives to the uplift through examples
- To supplement the “Uplift Tool”

# GUIDANCE FOR USING THE CCS TO CALCULATE UPLIFT

- Walks the landowner through using the calculator to determine uplift opportunities
  - Will be updated with “How to use the Uplift Tool” once tool is completed

**Uplift in the CCS**  
Version 1.6

Strategies for consideration

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## Section 1: Forecasting

Forecasting uplift in the CCS is done very simply in the Habitat Quantification Tool. Once the initial habitat is quantified by a verifier, the project information is input into an excel spreadsheet which will summarize the vegetation data that is collected. Next to these summaries, there are separate areas for hypothetical numbers to be input in order to observe the change in function for greater sage grouse, and ultimately credits (see the picture below).

**Example:**  
Decreasing annual grass cover from 19% to 12% increases the score from 23% to 50% (columns 67, 68, and 69)

Map Unit Name	Current Pre-Modified Annual Grass Cover Score (%)	Projected Pre-Modified Annual Grass Cover Score (%)	Current Average Annual Grass Cover (%)	Projected Average Annual Grass Cover (%)	Current Annual Grass Cover Score	Projected Annual Grass Cover Score	Current Average Distance to Sagebrush (m)	Projected Average Distance to Sagebrush (m)	Current Distance to Sagebrush Score (%)	Projected Distance to Sagebrush Score (%)	Current Site-Specific Function (%)	Projected Site-Specific Function (%)
First Creek Disturbed Sagebrush	19%	12%	19%	12%	23%	50%	0.0	0.0	100%	100%	25%	25%
First Creek Meadow	60%	60%	10%	10%	10%	10%	0.0	0.0	100%	100%	25%	25%
First Creek Mountain Sage Mix	50%	50%	25%	25%	25%	25%	0.0	0.0	100%	100%	25%	25%
MFH Rig Sagebrush	50%	50%	85%	85%	85%	85%	0.0	0.0	100%	100%	25%	25%
MFH Disturbed Grassland Mix	50%	50%	20%	20%	20%	20%	0.0	0.0	100%	100%	25%	25%
MFH Disturbed Sagebrush	50%	50%	50%	50%	50%	50%	0.0	0.0	100%	100%	25%	25%
MFH Grassland Mix 2	60%	60%	60%	60%	60%	60%	0.0	0.0	100%	100%	25%	25%
SFU Meadow A	60%	60%	88%	88%	88%	88%	0.0	0.0	100%	100%	25%	25%
SFU Disturbed Sagebrush	60%	60%	60%	60%	60%	60%	0.0	0.0	100%	100%	25%	25%
SFU Grassland Mix 2	60%	60%	10%	10%	10%	10%	0.0	0.0	100%	100%	25%	25%
SFU Meadow B	70%	70%	0%	0%	0%	0%	207.5	207.5	24%	24%	25%	25%
SFU Meadow C	60%	60%	0%	0%	0%	0%	207.5	207.5	24%	24%	25%	25%
SFU Meadow D	60%	60%	6%	6%	6%	6%	207.5	207.5	24%	24%	25%	25%
Summit Mountain Disturbed Sagebrush	60%	60%	6%	6%	6%	6%	207.5	207.5	24%	24%	25%	25%
Summit Mountain Meadow	60%	60%	28%	28%	28%	28%	141.0	141.0	100%	100%	25%	25%
Spring Creek Rig Sagebrush	60%	60%	14%	14%	14%	14%	0.0	0.0	100%	100%	25%	25%
Spring Creek Rig Sagebrush Bottom	60%	60%	87%	87%	87%	87%	0.0	0.0	100%	100%	25%	25%
Spring Creek Disturbed Sagebrush	60%	60%	3%	3%	3%	3%	134.4	134.4	100%	100%	25%	25%
Spring Creek Disturbed Sagebrush 2	60%	60%	89%	89%	89%	89%	0.0	0.0	100%	100%	25%	25%
Spring Creek Grassland Mix	60%	60%	24%	24%	24%	24%	244.0	244.0	100%	100%	25%	25%
Spring Creek Meadow U	60%	60%	0%	0%	0%	0%	21.0	21.0	100%	100%	25%	25%
Thompson Creek Rig Sagebrush	60%	60%	10%	10%	10%	10%	0.0	0.0	100%	100%	25%	25%
Thompson Creek Disturbed Sagebrush	60%	60%	92%	92%	92%	92%	246.0	246.0	100%	100%	25%	25%

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## MEADOW / STREAM ENHANCEMENT METHODS

- **Beaver Dam Analogues**
  - A man-made structure designed to mimic the form and function of a natural beaver dam, to restore streams and floodplain habitat and increase water storage
- **Bedload/Sediment Management**
  - Restoring sediment in a stream or meadow can be necessary to reconnecting the floodplain and widen the meadow
  - Many of the techniques throughout this document that specifically slow down the water and help prevent erosion will increase sediment accumulation
  - Appropriate sediment accumulation in deeper and incised channels will allow for increased vegetation establishment on the new stream banks, eventually accumulating sediment and raising the water table

Stage I: Stable channel with full incision bank.

Stage II: Bed degrading, banks stable.

Stage III: Bed aggrading, banks unstable.

Stage IV: Bed aggrading, banks unstable.

Stage V: Fine aggradation, banks stable.

**A stream comes back to life**  
A stream channel that has been incised and degraded can be restored to a more natural state by using beaver dam analogues (BDAs). BDAs are man-made structures that mimic the form and function of a natural beaver dam.

**Restoring the reach**  
BDAs are designed to create a series of small, low-profile dams that slow down the water and trap sediment. This helps to build up the stream bed and create a more natural, meandering channel.

**Creating habitat**  
As the stream bed builds up, the water table rises, creating a more saturated floodplain. This allows for the establishment of native vegetation, which further stabilizes the banks and improves habitat for wildlife.

**For more information, see**  
• <http://www.aces.edu/natural-resources/water-resources/documents/13AUUrbanStreamMORPH.pdf>

Credit / Utah State University

Credit / Thompson, C.J., et al., A channel evolution model for subtropical macrochannel systems, Catena, Volume 139, April 2016, Pages 199-213

- Offers methods and resources in order to enhance a degraded riparian system

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### UPLIFT METHODS: INVASIVE ANNUAL GRASS TREATMENTS

**Perennial grasses**

- Bluestem wheatgrass
- Sandberg bluegrass
- Bottlebrush squirreltail

**Invasive annual grass**

- Cheatgrass

Credit: Jeremy Maestas and Maja Smith

- Invasive annual grass dominance represents an ecological threshold difficult to reverse.
- Research over the years indicate the most effective defense against invasive annual grasses are healthy native perennial grass communities.
- Attempted treatments need to have an integrated management strategy for re-establishing or strengthening existing perennials.

Charlie Clemente/Dan Hartman

Top Photo: Crested Wheatgrass vs. Cheatgrass invasion

Charlie Clemente/Dan Hartman

Bottom Photo: Bunchgrass suppressing Cheatgrass

- Offers methods and resources in order to enhance a degraded upland system

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- Comments, Questions, Suggestions?