

# Conservation Measurement Tool

## Conservation Performance Scoring for 2015-1

**The Conservation Measurement Tool (CMT) evaluates CSP applications using a point based system to measure a relative environmental benefit. The tool evaluates both existing and proposed (i.e., additional) activities. The tool's algorithm is designed for equity in order to score an applicant's current and planned environmental performance and to generate conservation performance points to be used for stewardship threshold evaluation, ranking and payment purposes. Below is an explanation of the key CMT scoring principals:**

- All scoring for the relative environmental benefit impact is measured by question, enhancement and/or conservation practice responses. Each measure is rooted in a proxy to the Conservation Practice Physical Effects (CPPE) scoring tables using the -5 to +5 scoring system.
- Each question, enhancement and/or practice is scored against 8 macro priority resource concerns (PRC). Each macro PRC is further partitioned into 28 micro PRCs. (The macro and micro PRCs are a subset of the total number of resource concerns that NRCS considers when doing conservation planning.) The chosen PRCs are considered to best represent the significant resource issues on working lands and are readily quantifiable.
- The tool is size neutral. Operations of similar composition, despite their size, have the potential to score a like number of points.
- The scoring methodology utilized by CMT involves scores for determining a stewardship threshold evaluation, a ranking score, an annual payment, and a supplemental payment (where applicable).
- Each land use is evaluated separately against the respective land use macro PRC stewardship thresholds.
- The ranking score represents an operation's composite evaluation.

The following is an explanation of the payment point scoring methodology used in CMT.

### **A. Stewardship Threshold (ST) Evaluation and Conservation Performance Ranking Score**

Below is an explanation of variables that impact the CMT ST evaluation and ranking score.

#### **1) Existing Activity Points**

- *Weighting*
  - Cropland and pastureland micro PRC score totals for each rotation or mixture are weighted based on the acreage each rotation or mixture contributes to the total acreage for that land use.
  - Rangeland is weighted only on the land use acreage since it is not divided into rotations or mixtures.
  - Forest land is treated separately and simply totaled by micro PRC.
  - Air quality and energy points are proportioned over each eligible land use as weighted by the acreage in each eligible land use.
  - Water points are proportioned over each eligible land use selected that has water as weighted by the acreage in each eligible land use.

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- *Size Neutral Normalization*
  - For multiple land use applications, the total points for each micro PRC are multiplied by the percentage of that land use to the total number of acres.
  - Forest land is totaled up separately as it will be evaluated independently from any other land use.

The sum of the micro PRCs, after weighting and normalization, becomes the ranking existing activity points (rEAP).

- *Potential Maximum Points*
  - Predetermined inventory questions automatically factor into an applicant's potential existing activity point (pEAP) score.
  - Select inventory questions answered "Yes" by the applicant are added to the applicant's pEAP for the respective land use.
- *Stewardship Threshold Evaluation*
  - By each land use for each macro PRC, the product of rEAP divided by pEAP multiplied by 100 (EAP) is compared to the defined stewardship threshold.
  - By each land use, the PRCs met at time of application and by the end of the contract are evaluated to determine if an applicant meets the minimum level of eligibility for the program.
  - The stewardship thresholds were established using the CMT on a number of sample farms that had been evaluated by professional conservationists for the level of conservation on the farm. The threshold values were matched to farms that were judged to be meeting but not exceeding a good level of conservation stewardship.

### 2) **Additional Activity Points (enhancements, conservation practices, and resource conserving crop rotations)**

- *Weighting*
  - Points are weighted within a macro PRC regardless of the land use. This ensures, for any given effect for an activity, the effect will represent a truer reflection of the designated benefit garnered by the activity toward the macro PRC.
- *Years of Generated Benefits*
  - The actual Additional Activity Points (aAAP) is determined for each land use by the number of years scheduled, the percentage of the total applicable amount that is scheduled, and the percentage of the total land use amount scheduled.
  - Applicants can schedule enhancements and resource-conserving crop rotations starting in years 1 through 3 of their contract period.
  - Applicants can schedule conservation practices during years 1 through 5 of their contract period.
  - Applicants schedule the amount of the additional activity they plan to install. The earlier in the contract period and the greater the amount of the additional

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activity they schedule, the greater the number of conservation performance points accrued.

- *Size Neutral Normalization*
  - For multiple land use applications, the total points for each micro PRC are multiplied by the percentage of that land use to the total number of acres.
  - Forest land is totaled up separately as it will be evaluated independently from any other land use.

The sum of the micro PRCs, after weighting, generated benefit determination and normalization, becomes the ranking additional activity points (rAAP).

- *Adjusted by the Potential Maximum Points*
  - Predetermined activities automatically factor into an applicant's potential additional activity point (pAAP) score.
  - Responses to operation baseline data questions other points additions to the pAAP.
  - The overall pAAP is the average points for all additional activities triggered times a multiplier for each land use. The multipliers are used to account for the different number of activities available for each land use.

### 3) Ranking Factors

The conservation performance ranking score is used to determine the priority of funding for an applicant. Applicants will be funded starting with the highest score and working down the list until acres are exhausted.

The performance ranking score is based on 5 factors:

1. The level of conservation treatment on all applicable priority resource concerns (APRC) at the time of application.
2. The degree to which the proposed conservation activities effectively increase conservation performance.
3. The number of APRCs proposed to be treated to meet or exceed stewardship thresholds by the end of the contract.
4. The extent to which other priority resource concerns (OPRC) will be addressed to meet or exceed stewardship thresholds by the end of the contract.
5. The extent to which PRCs will be addressed when transitioning from CRP to agricultural production.

Factor 1 is determined by the following process:

A = Sum of the macro APRC's micro rEAP for the agricultural enterprise in the application.

B = Sum of the macro APRC's micro pEAP for the agricultural enterprise in the application.

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Factor 1 score =  $(A/B) \times 1000$

Factor 2 is determined by the following process:

C = Sum of the macro PRC's micro rAAP for the agricultural enterprise in the application.

D = Sum of the macro PRC's micro pAAP for the agricultural enterprise in the application.

Factor 2 score =  $(C/D) \times 1000$

Factor 3 is determined by the following process:

E = Sum of the macro APRC's micro rEAP and rAAP for the agricultural enterprise in the application when the macro APRC's operational treatment level meets or exceeds the land use weighted macro operation threshold.

F = Sum of the macro APRC's micro pEAP and pAAP for the agricultural enterprise in the application when the macro APRC's operational treatment level meets or exceeds the land use weighted macro operation threshold.

Factor 3 score =  $(E/F) \times 1000$

Factor 4 is determined by the following process for each land use:

G = Sum of the macro OPRC's micro rEAP and rAAP for the agricultural enterprise in the application when the macro OPRC's operational treatment level meets or exceeds the land use weighted macro operation threshold.

H = Sum of the macro OPRC's micro pEAP and pAAP for the agricultural enterprise in the application when the macro OPRC's operational treatment level meets or exceeds the land use weighted macro operation threshold.

Factor 4 score =  $(G/H) \times 1000$

Factor 5 is determined by the following process:

I = Sum of the macro PRC's CRP acre weighted micro rEAP and rAAP for the agricultural enterprise in the application.

J = Sum of the macro PRC's CRP acres weighted micro pEAP and pAAP for the agricultural enterprise in the application.

Factor 5 score =  $(I/J) \times 1000$

Each ranking factor score is multiplied by a weighting factor. The weighting factors utilized are dependent on the presence or lack of CRP transitioning acres. The following table contains the weighting factors for each scenario.

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Table 1. Ranking factor weights, in percent.

Ranking Factor #	Without CRP trans acres (%)	With CRP trans acres (%)
1	5	4.995
2	40	39.995
3	30	30
4	25	25
5	0	0.01
Total	100	100

The final ranking score is the sum of the all weighted ranking factors.

The performance point matrix for existing activity questions and additional activities is available at [http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/financial/csp/?cid=nrcs143\\_008316s](http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/financial/csp/?cid=nrcs143_008316s).

The points are programmed in the CMT, along with all controls, filters, and algorithms.

### B. Annual Payment - Conservation Performance Payment Points

- Conservation performance payment points for each land use are the sum of the actual Existing Activity Points (aEAP) and the sum of the actual Additional Activity Points (aAAP).
  - “Actual” points are a ‘true’ point value (i.e., what is being done or will be done). A ‘true’ performance point is closely aligned with the CPPE scores assigned to each existing or additional activity metric.
- If an applicant has chosen to implement the Resource-Conserving Crop Rotation activity, the points associated with this activity are subtracted from the aAAP for cropland because this activity has a separate payment structure.

Below is an explanation of variables that impact the CMT payment.

#### 1) Existing Activity Points for Payment

- *Weighting*
  - Cropland and pastureland micro PRC score totals for each rotation or mixture are weighted based on the acreage each rotation or mixture contributes to the total acreage for that land use.
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  - Forest land is treated separately and simply totaled by micro PRCs concern.
  - Air quality and energy points are proportioned evenly over each eligible land use.
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#### 2) Additional Activity Points (enhancements, conservation practices, and resource conserving crop rotations)

- *Weighting*

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- Points are weighted within a macro PRC regardless of the land use. This ensures, for any given effect for an activity, the effect will represent a truer reflection of the designated benefit garnered by the activity toward the macro PRC.
- *Years of Generated Benefits*
  - The aAAP is determined for each land use by the number of years scheduled, the percentage of the total applicable amount scheduled, and the percentage of the total land use amount scheduled.
  - Applicants can schedule enhancements and resource-conserving crop rotations starting in years 1 through 3 of their contract period.
  - Applicants can schedule conservation practices during years 1 through 5 of their contract period.
  - Applicants schedule the amount of the additional activity they plan to install. The earlier in the contract period and the greater the amount of the additional activity they schedule, the greater the number of conservation performance points accrued.

### **C. Supplemental Payment - Conservation Performance Payment Points**

- Conservation performance payment points are not used for the supplemental payment.
- The supplemental payment is acre based at a flat rate per acre.