

# **Evaluation of the Oregon Conservation Reserve Enhancement Program (CREP)**

## **Tier 1 Assessment Summary Report**

**March 6, 2017**

The Oregon Watershed Enhancement Board (OWEB) initiated Tier 1 of the Draft CREP Study Design (Fetcho 2015) in January 2014 to use the information that is readily available to characterize existing CREP projects. Staff from federal, state, and local agencies administers the CREP Program in Oregon. A select group of staff who are familiar with the program were contacted via email and telephone and asked a series of questions to understand what types of information are stored in the contract files and Farm Services Agency (FSA) database. These staff are referred to as “CREP partners,” and are associated with a variety of agencies and represent various levels of roles and responsibilities in administering the CREP Program in Oregon. Localized staff that work with landowners in the CREP Program is typically organized at the county level although some locations have staff that is responsible for more than one county. This document refers to these distinct CREP geographic administrative units as “CREP Districts”. Each “district” spans a distinct geographical area and is administered by a mixture of agencies that implement the CREP Program.

CREP partners that were contacted included the FSA County Executive Directors, CREP Techs, an Oregon State University (OSU) professor familiar with CREP, the Oregon Department of Forestry (ODF) Incentives Field Support Coordinator, a Natural Resources Conservation District (NRCS) District Conservationist, and a Soil and Water Conservation District (SWCD) Assistant Manager.

The initial Draft CREP Study Design (2015) contained an exhaustive list of existing information to be compiled for the Tier 1 Assessment. This process was designed to characterize the CREP contracts statewide that are currently enrolled from the inception of the program to March 2016 and establish a sampling universe from which Tier 2 sample sites will be selected. Below is a summary of the responses received from the CREP partners that explain what information is tracked, where it is stored and how this information would be used to generate the metrics that are in listed in Tier 1 of the Draft CREP Study Design (2015). Based on the information compiled during the interview phase of this study, 13 of the 22 metrics that OWEB was interested in compiling were deemed to be of high value to include in the Tier 1 assessment.

**Table 1. Summary of metrics (including data availability and spatial scale) and potential value for Tier 1 Assessment.**

<b>Metric</b>	<b>Data Availability and Scale</b>	<b>Value to Tier 1</b>
Total number of CREP contracts enrolled	Yes, Statewide over life of CREP	High; reflects progress of CREP in Oregon and identify sampling sites
Number of CREP contracts enrolled by year	Yes, Statewide	High; indicates spatial and temporal progress made
Total acres enrolled in each Conservation Practice by year	Yes, Statewide	High; informs stratification of sampling sites and selection of appropriate sampling protocols. Necessary to compare to regional enrollment targets in the 2004 CREP Agreement
# of contracts re-enrolled after contract expiration	This data is not consistently entered in the FSA database. Individual contract files may contain this data, but may be difficult to compile at state scale	High; gauges long-term success of program
# of contracts terminated	This data is not consistently entered in the FSA database. Individual contract files may contain this data, but may be difficult to compile at state scale	High; gauges success of program administration and level of landowner satisfaction
% of contracts inspected	A Practice Incentive Payment (PIP) is made when all of the conservation practices are implemented according to specification and is documented in the FSA database. Individual contract files contain more specific data on inspections; varies by district; may be difficult to compile at state scale	High; gauges level of field inspection to determine adherence to contract terms and program requirements. This information can provide valuable feedback to the landowner in an adaptive management approach
Amount of water leased for instream flow benefits by year	FSA does not track this in their database. Individual contract files may contain this information. Oregon Water Resources Department (OWRD) tracks quantity of water leased where it has been permanently protected through their administrative	High; gauges CREP's multiple benefits to fish and wildlife, in addition to improving riparian condition and function

	process.	
Miles of stream or acres planted	Yes, individual contract files contain this data in acres, not in miles. Conservation Plan and FSA database has the buffer size in acres, but does not distinguish between total area planted and area enrolled in CREP. Spatial data in GIS can be used to calculate miles of stream enrolled in CREP for each contract; may be difficult to compile at state scale	High; common metric to report accomplishments at various scales
Miles of fencing installed or percent of contracts that have fencing component	FSA does not track miles or feet of fencing in their database. Contracts contain this information, but would have to be converted to miles; may be difficult to compile at state scale	High; common metric to report accomplishments at various scales.
# of acres, stream miles and landowners enrolled in the cumulative impact incentive bonus option	This data is not consistently entered in the FSA database. Individual contract files may contain this data, but may be difficult to compile at state scale	High; this bonus payment is unique to Oregon and can help determine how widespread this bonus is. This metric reflects program's ability to connect several CREP buffers in a contiguous length of stream.
# of watering facilities, pipelines and livestock crossings installed	Yes, Individual Conservation Plan and invoices in contract files contain this information, but may be difficult to compile at state scale	Low; common metric to report accomplishments at various scales and reflects management techniques to protect stream buffers from livestock
# of plants	Yes, Conservation Plan and invoices in contract files contain this information, but may be difficult to compile at state scale	Low; common metric to report accomplishments at various scales, but does not reflect current conditions
Plant density	Yes, Conservation Plan in individual contract files contain this information, but may be difficult to compile at state scale	High; comparison of plant densities before and after project is implemented will help inform success and condition of planting projects. Can also help in interpretation of Tier 2 Study results
Survival and growth rates	No, individual contract files may contain some of this data; varies by district; may	High; survival and growth rates will help inform success of planting projects

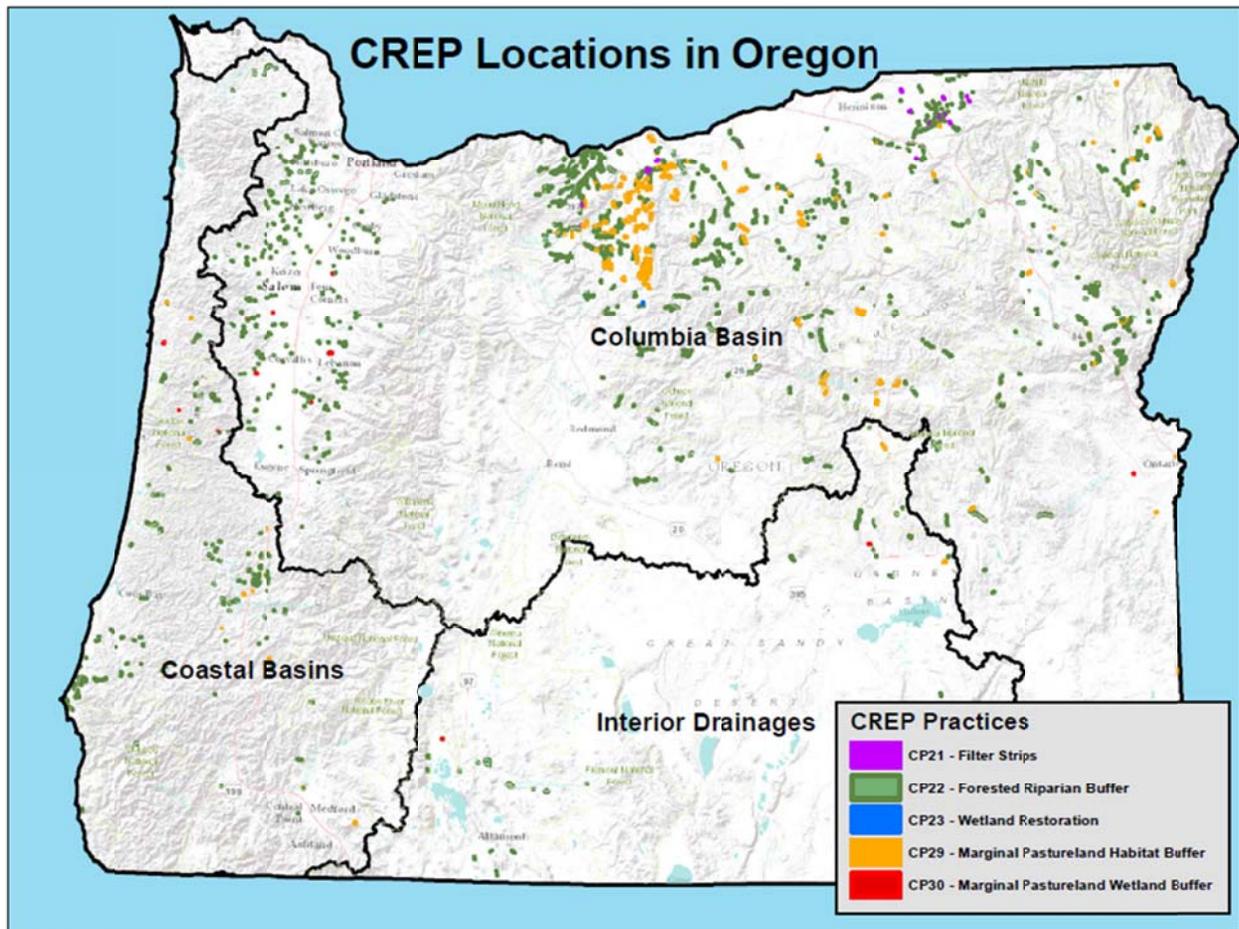
	be difficult to compile at state scale	
Buffer plant composition type (i.e., grasses, forbs, shrubs, conifer or deciduous trees)	Yes, Conservation Plan in individual contract files contain this information, but may be difficult to compile at state scale	Low; metric to report dominant types of vegetation planted can help understand proportion of projects that strive to plant diverse vegetative communities.
Common species planted for each composition type	Yes, Conservation Plan in individual contract files contain this information, but may be difficult to compile at state scale	Low; metric to report range of species planted at different geographic locations.
Buffer widths	No, FSA database contains buffer size in acres for each individual contract. Buffer width varies widely across a given CREP contract. Likely difficult to compile at state scale.	High; average buffer widths can help determine how effective CREP is at establishing significantly sized buffers.
# of CREP projects that performed site preparation methods	Yes, Conservation Plan in individual contract files contain this information; uncertain on level of detail; may be difficult to compile at state scale	Low; metric to provide additional information to help in interpretation of Tier 2 Study results
Site preparation and maintenance details	Yes, Conservation Plan in individual contract files contain this information; uncertain on level of detail may be difficult to compile at state scale	Low; metric to provide additional information to help in interpretation of Tier 2 Study results
Invasive plant information, related to site preparation and maintenance	Yes, Conservation Plan in individual contract files contain this information; uncertain on level of detail, which varies by district; may be difficult to compile at state scale	Low; this information alone has limited use, but may help in interpretation of Tier 2 Study results
# of projects that performed supplemental plantings	Uncertain; individual contract files may contain this data, which varies by district; may be difficult to compile at state scale	Low; metric to understand effort invested to ensure planting projects succeed and can help in interpretation of Tier 2 Study results
Inventory of existing monitoring sites located in the vicinity of CREP projects	No, district staff may have some of this information, but need additional source of information (e.g., state and	Low; not needed for Study Design; could help identify additional sources of information for other State of Oregon efforts or future

	federal agencies) to compile	OWEB studies
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During the Tier 1 assessment, OWEB coordinated with FSA and determined OWEB could compile five of the thirteen high value metrics utilizing spatial information that was provided under a data sharing agreement. The table below lists the five metrics that were compiled in this summary report.

**Table 2. List of metrics compiled for CREP Evaluation, Tier 1 Assessment.**

<b>Metric</b>
1. Total number of CREP contracts enrolled
2. Number of CREP contracts enrolled by year
3. Total acres enrolled in each Conservation Practice by year
4. Amount of water leased for instream flow benefits by year
5. Miles of stream enrolled in CREP



**TIER I METRICS**

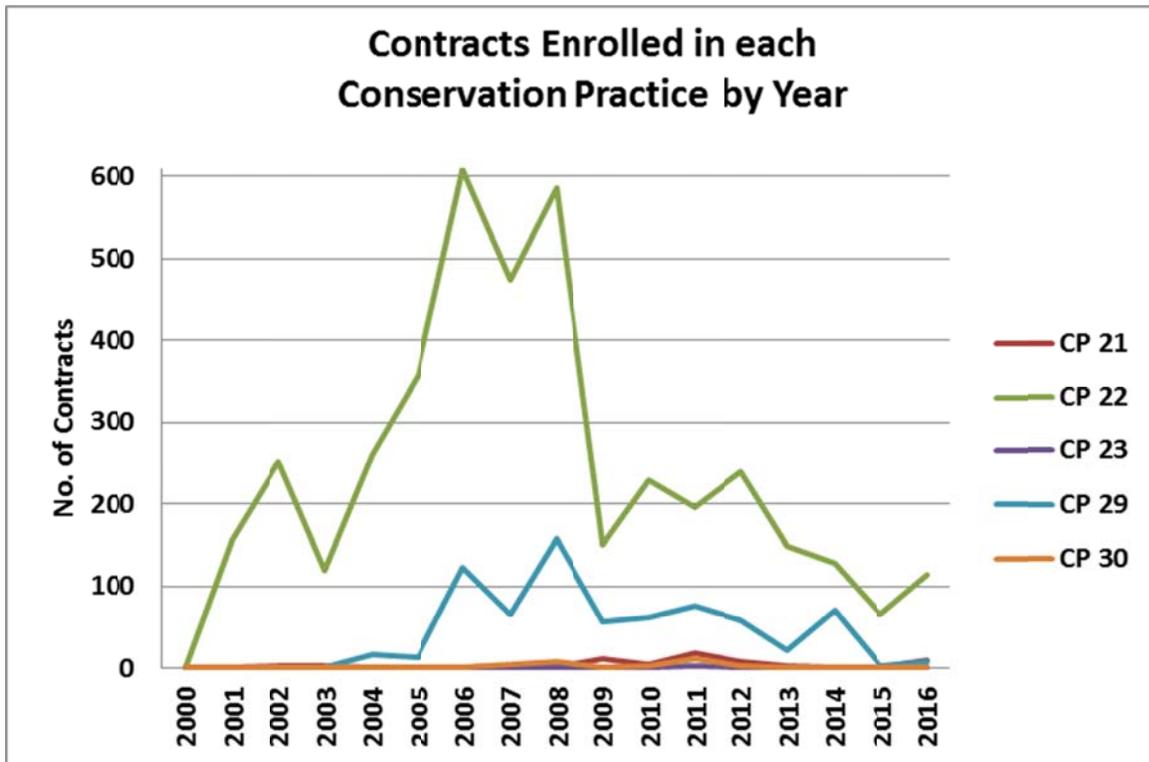
**1. Total number of CREP contracts currently enrolled:**

1,654 contracts are currently enrolled in CREP as of March 29, 2016 for a total of 41,756.9 acres.

Conservation Practice #	Conservation Practice Name	Acres
21	Filter Strips	284.6
22	Riparian Buffer	32,212.3
23	Wetland Restoration	117.4
29	Marginal Pastureland Wildlife Buffer	8,752.6
30	Marginal Pastureland Wetland Buffer	390.6
<b>TOTAL</b>		<b>41,756.9</b>

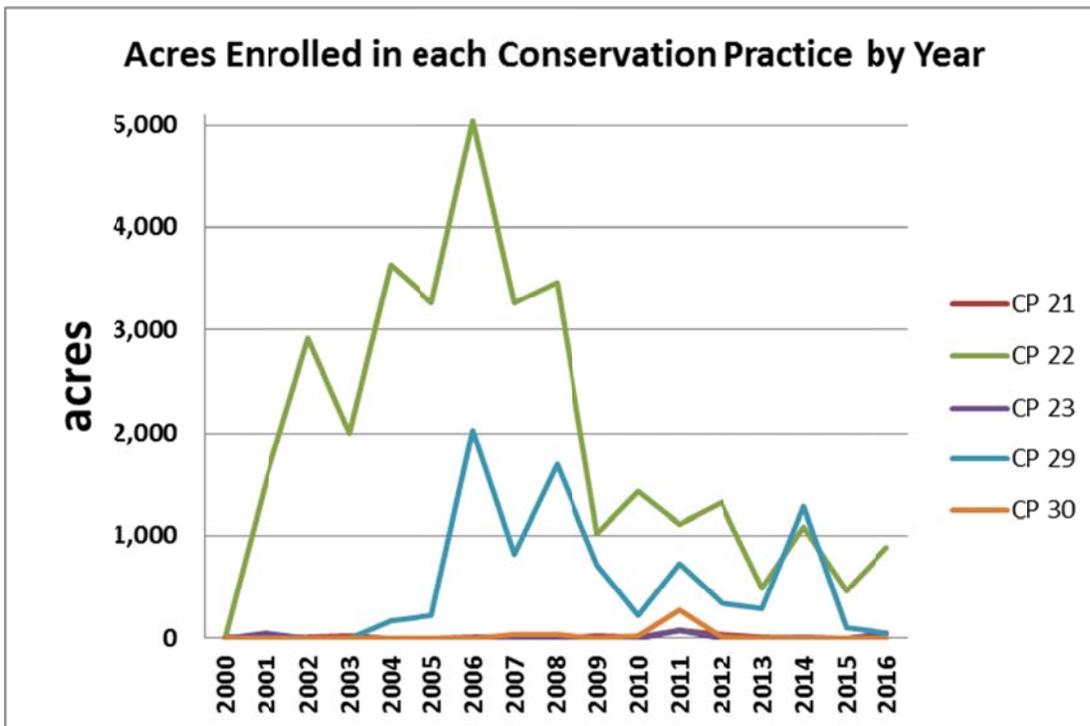
2. Number of contracts enrolled in each conservation practice by year:

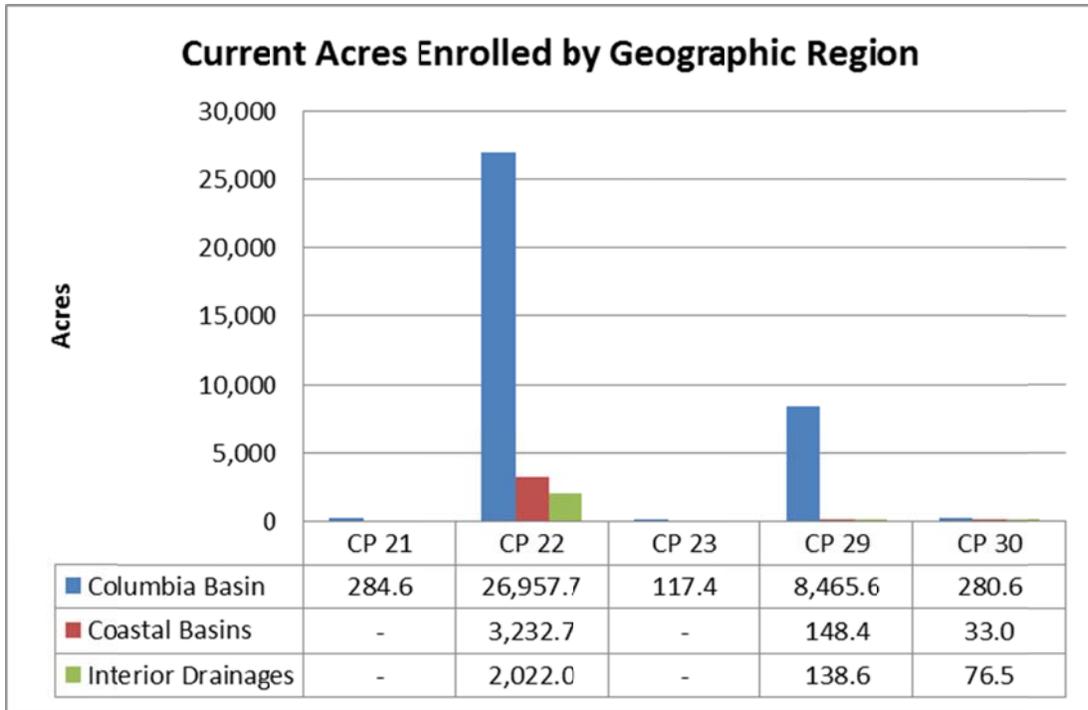
YEAR	CP 21	CP 22	CP 23	CP 29	CP 30
2000	1	0	0	0	0
2001	0	155	1	0	0
2002	2	251	0	0	0
2003	2	120	0	0	0
2004	0	261	0	16	0
2005	0	358	0	13	0
2006	1	608	0	123	0
2007	3	474	0	66	4
2008	0	585	0	157	7
2009	11	150	0	56	0
2010	4	229	1	62	3
2011	18	195	3	75	11
2012	8	240	0	59	2
2013	2	149	0	21	0
2014	0	128	1	70	0
2015	0	66	0	2	0
2016	9	114	1	7	0



3. Number of acres enrolled in each conservation practice by year:

YEAR	CP 21	CP 22	CP 23	CP 29	CP 30
2000	10.3	0.0	0.0	0.0	0.0
2001	0.0	1,537.0	50.4	0.0	0.0
2002	5.7	2,923.1	0.0	0.0	0.0
2003	24.9	2,004.0	0.0	0.0	0.0
2004	0.0	3,635.7	0.0	169.1	0.0
2005	0.0	3,267.3	0.0	223.9	0.0
2006	10.0	5,037.9	0.0	2,020.9	0.0
2007	16.3	3,261.9	0.0	820.8	43.0
2008	0.0	3,454.2	0.0	1,701.4	34.9
2009	29.5	1,015.6	0.0	710.8	0.0
2010	16.7	1,424.3	2.7	217.1	27.2
2011	70.2	1,114.8	70.3	727.5	277.2
2012	36.1	1,323.5	0.0	347.9	7.8
2013	7.1	482.3	0.0	286.3	0.0
2014	0.0	1,084.2	4.4	1,284.4	0.0
2015	0.0	459.3	0.0	102.1	0.0
2016	53.0	890.7	39.9	48.3	0.0





**4. Amount of water leased for instream flow benefits by year.**

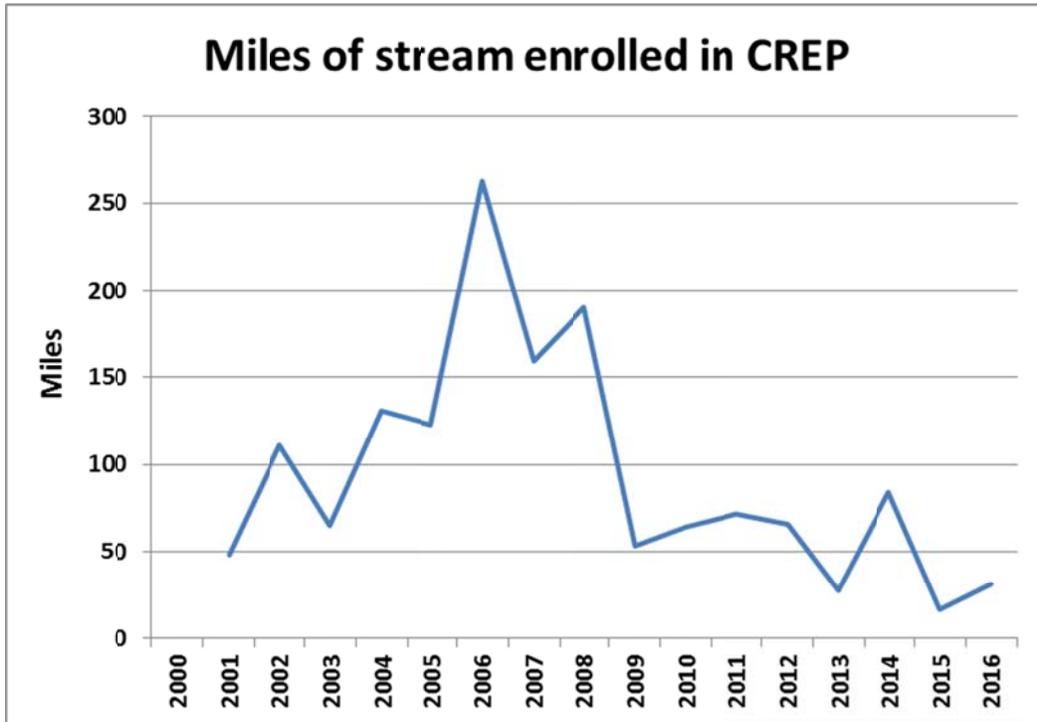
YEAR	CFS
2009	60.7
2010	61.1
2011	56.0
2012	47.6
2013	36.8
2014	40.2
2015	39.9
2016	39.8

\*Compiled from OWRD records based on available information.

**5. Miles\* of stream enrolled in CREP**

YEAR	CREP Miles
2000	no data
2001	47.9
2002	111.2
2003	65.3
2004	131.0
2005	122.9
2006	262.6
2007	159.1
2008	189.9
2009	53.3
2010	64.3
2011	71.9
2012	65.9
2013	27.5
2014	84.2
2015	16.5
2016	31.7
TOTAL	1,505.2

\*Miles of stream calculation does not differentiate between one or both sides of stream enrolled in CREP.



## **Discussion:**

The CREP contract metrics listed above reflect spatial information received from FSA as of March 29, 2016. This information was helpful to learn how many total acres are enrolled in CREP (41,456.9 acres) and how that compares to the Program target of 100,000 acres that is described in the agreement that established CREP in Oregon. In addition, the summary of spatial information allowed us to compare the actual annual enrollments to the annual enrollment targets in the CREP agreement. With the exception of 2006, annual enrollments have not neared the CREP annual enrollment targets for Oregon. The annual enrollment targets are described below by region, for regional boundaries see map on page 6.

### **COASTAL BASINS:**

1,250 acres of riparian forest buffer.

1,000 acres of restored wetlands.

2,250 total acres of riparian forest, wetland, and wildlife buffers.

### **COLUMBIA BASIN:**

8,000 acres of riparian forest buffer and filter strips.

1,000 acres of restored wetlands.

9,000 total acres of riparian forest, wetland, and wildlife buffers.

### **INTERIOR DRAINAGES:**

3,500 acres of riparian forest buffer and filter strips.

1,000 acres of restored wetlands.

4,500 total acres of riparian forest, wetland, and wildlife buffers.

Based on the limited information available to characterize existing CREP projects, OWEB decided to perform a high-intensity assessment for Tier 2 as described in the Draft CREP Study Design (Fetcho 2015) and Technical Memos 1 and 2 (Stillwater 2016), to collect detailed field data to assess the development of riparian vegetation, fencing condition and the stability of streambanks to compare those sites to suitable control sites. In-depth field measurements were taken to examine vegetation structure, canopy cover, percent cover of invasive plant species, streambank erosion, fencing condition and presence of livestock within the CREP buffer. The Tier 2 results are described in the CREP Effectiveness Monitoring Final Report (Stillwater 2017).

## LITERATURE CITED

Fetcho, K. 2015. Evaluation of the Oregon Conservation Reserve Enhancement Program. Draft Study Design. Oregon Watershed Enhancement Board, Monitoring and Reporting Division, Salem, Oregon.

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Stillwater Sciences. 2016b. OWEB CREP effectiveness monitoring field methods and analyses. Prepared by Stillwater Sciences, Portland, Oregon for the Oregon Watershed Enhancement Board, Salem, Oregon.

Stillwater Sciences. 2017. OWEB CREP effectiveness monitoring results. Final Report. Prepared by Stillwater Sciences, Portland, Oregon for Oregon Watershed Enhancement Board, Salem, Oregon.