Revised **Universal Soil Loss** Equation

Objectives

Provide an overview of the RUSLE equation and its significance in soil conservation

Show how to put this information in the PFC1-1b

What is RUSLE?

Per USDA: "The Revised Universal Soil Loss Equation (RUSLE) predicts long-term, average-annual erosion by water for a broad range of farming, conservation, mining, construction, and forestry uses."

$R \times K \times LS \times C \times P = A$



For the purposes of PFC, use RUSLE, not RUSLE2 (or any other Russell)







R-Rainfall K-Soil erodibility LS-Length and steepness of slope **C-Crop management P-Conservation practices**

A = the average annual soil loss in tons per acre per year.



Rainfall



Soil Erodibility

The K factor represents how easily a particular soil can be eroded by water. It's determined by physical properties of the soil (particle size, organic matter content, structure, permeability).

Use the Web Soil Survey to determine your K factor.

Average Annual k Factors

RUSLE Version 1.04

Climatic Zo	ne	101B	(Moline, IL)	
	Current Kf		F	RUSLE Adjusted Kf
	0.02			0.02
	0.05			0.05
	0.1			0.08
	0.15			0.12
	0.17			0.15
	0.2			0.17
	0.24			0.2
	0.28			0.24
	0.32			0.26
	0.37			0.3
	0.43			0.35
	0.49			0.4
	0.55			0.46
	0.64			0.52

The RUSLE Adjusted k factors from this table are to be used only for hand calculations and the PFC ESC-1b prior to the use of other computerized version of RUSLE.

			Average Annual k Factors		
			RUSLE Version 1.04		
Climatic Z	one	105A	(Evansville, IN)		
	Current Kf			RUSLE Adjusted K	f
	0.02			0.02	
	0.05			0.05	
	0.1			0.1	
	0.15			0.15	
	0.17			0.17	
	0.2			0.2	
	0.24			0.24	
	0.28			0.28	
	0.32			0.32	
	0.37			0.37	
	0.43			0.43	
	0.49			0.49	
	0.55			0.55	
	0.64			0.64	

The RUSLE Adjusted k factors from this table are to be used only for hand calculations and the PFC ESC-1b prior to the use of other computerized version of RUSLE.

Slope length and steepness

LS is accounting for the effect of topography on erosion.

The longer the slope the greater the potential for erosion.

The steeper the slope, the greater the potential for erosion

Percent																	
Slope	<3	6	9	12	15	25	50	75	100	150	200	250	300	400	600	800	1000
0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.5	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
1.0	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.15	0.16	0.16	0.17	0.17
2.0	0.2	0.2	0.2	0.2	0.2	0.21	0.23	0.25	0.26	0.27	0.28	0.29	0.3	0.31	0.33	0.34	0.35
3.0	0.26	0.26	0.26	0.26	0.26	0.29	0.33	0.36	0.38	0.4	0.43	0.44	0.46	0.48	0.52	0.55	0.57
4.0	0.33	0.33	0.33	0.33	0.33	0.36	0.43	0.46	0.5	0.54	0.58	0.51	0.63	0.67	0.74	0.78	0.82
5.0	0.38	0.38	0.38	0.38	0.38	0.44	0.52	0.57	0.62	0.68	0.73	0.78	0.81	0.87	0.97	1.04	1.1
6.0	0.44	0.44	0.44	0.44	0.44	0.5	0.61	0.68	0.74	0.83	0.9	0.95	1	1.08	1.21	1.31	1.4
8.0	0.54	0.54	0.54	0.54	0.54	0.64	0.79	0.9	0.99	1.12	1.23	1.32	1.4	1.53	1.74	1.91	2.05
10.0	0.6	0.63	0.65	0.66	0.68	0.81	1.03	1.19	1.31	1.51	1.67	1.8	1.92	2.13	2.45	2.71	2.93
12.0	0.61	0.7	0.75	0.8	0.83	1.01	1.31	1.52	1.69	1.97	2.2	2.39	2.56	2.85	3.32	3.7	4.02
14.0	0.63	0.76	0.85	0.92	0.98	1.2	1.58	1.85	2.08	2.44	2.73	2.99	3.21	3.6	4.23	4.74	5.18
16.0	0.65	0.82	0.94	1.04	1.12	1.38	1.85	2.18	2.46	2.91	3.28	3.6	3.88	4.37	5.17	5.82	6.39
20.0	0.68	0.93	1.11	1.26	1.39	1.74	2.37	2.84	3.22	3.85	4.38	4.83	5.24	5.95	7.13	8.1	8.94
25.0	0.73	1.05	1.3	1.51	1.7	2.17	3	3.63	4.16	5.03	5.76	6.39	6.96	7.97	9.65	11.04	12.26
30.0	0.77	1.16	1.48	1.75	2	2.57	3.6	4.4	5.06	6.18	7.11	7.94	8.68	9.99	12.19	14.04	15.66
40.0	0.85	1.36	1.79	2.17	2.53	3.3	4.73	5.84	6.78	8.37	9.71	10.91	11.99	13.92	17.19	19.96	22.41
50.0	0.91	1.52	2.06	2.54	3	3.95	5.74	7.14	8.33	10.37	12.11	13.65	15.06	17.59	21.88	25.55	28.82
60.0	0.97	1.67	2.29	2.86	3.41	4.52	6.63	8.29	9.72	12.16	14.26	16.13	17.84	20.92	26.17	30.68	34.71

Slope Length (feet)

Table 1 Values for topographic factor, LS, for RANGELAND, PASTURELAND, FORRESTLAND, LONG TERM NO-TILL CROPLAND* and other consolidated soil conditions with cover (low rill to interrill erosion ratio)

* Long Term No-Till Cropland= cropland where continuous no-till has been used five (5) or more years

NRCS-IL FOTG Erosion Prediction

Section 1

Table 2; Values for topographic factor, LS, for ROW-CROPPED agricultural and other moderately consolidated soil conditions with little to moderate cover (moderate rill to interril erosion ratio)

Percent																	
Slope	<3	6	9	12	15	25	50	75	100	150	200	250	300	400	600	800	1000
0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06
0.5	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.1	0.1	0.1	0.1
1.0	0.11	0.11	0.11	0.11	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.17	0.17	0.18	0.19	0.2	0.2
2.0	0.17	0.17	0.17	0.17	0.17	0.19	0.22	0.25	0.27	0.29	0.31	0.33	0.35	0.37	0.41	0.44	0.47
3.0	0.22	0.22	0.22	0.22	0.22	0.25	0.32	0.36	0.39	0.44	0.48	0.52	0.55	0.6	0.68	0.75	0.8
4.0	0.26	0.26	0.26	0.26	0.26	0.31	0.4	0.47	0.52	0.6	0.67	0.72	0.77	0.86	0.99	1.1	1.19
5.0	0.3	0.3	0.3	0.3	0.3	0.37	0.49	0.58	0.65	0.76	0.85	0.93	1.01	1.13	1.33	1.49	1.63
6.0	0.34	0.34	0.34	0.34	0.34	0.43	0.58	0.69	0.78	0.93	1.05	1.16	1.25	1.42	1.69	1.91	2.11
8.0	0.42	0.42	0.42	0.42	0.42	0.53	0.74	0.91	1.04	1.26	1.45	1.62	1.77	2.03	2.47	2.83	3.15
10.0	0.46	0.48	0.5	0.51	0.52	0.67	0.97	1.19	1.38	1.71	1.98	2.22	2.44	2.84	3.5	4.06	4.56
12.0	0.47	0.53	0.58	0.61	0.64	0.84	1.23	1.53	1.79	2.23	2.61	2.95	3.26	3.81	4.75	5.56	6.28
14.0	0.48	0.58	0.65	0.7	0.75	1	1.48	1.86	2.19	2.76	3.25	3.69	4.09	4.82	6.07	7.15	8.11
16.0	0.49	0.63	0.72	0.79	0.85	1.15	1.73	2.2	2.6	3.3	3.9	4.45	4.95	5.86	7.43	8.79	10.02
20.0	0.52	0.71	0.85	0.96	1.06	1.45	2.22	2.85	3.4	4.36	5.21	5.97	6.68	7.97	10.23	12.2	13.99
25.0	0.56	0.8	1	1.16	1.3	1.81	2.82	3.65	4.39	5.69	6.83	7.88	8.86	10.65	13.8	16.58	19.13
30.0	0.59	0.89	1.13	1.34	1.53	2.15	3.39	4.42	5.34	6.98	8.43	9.76	11.01	13.3	17.37	20.99	24.31
40.0	0.65	1.05	1.38	1.68	1.95	2.77	4.45	5.87	7.14	9.43	11.47	13.37	15.14	18.43	24.32	29.6	34.48
50.0	0.71	1.18	1.59	1.97	2.32	3.32	5.4	7.17	8.78	11.66	14.26	16.67	18.94	23.17	30.78	37.65	44.02
60.0	0.76	1.3	1.78	2.23	2.65	3.81	6.24	8.33	10.23	13.65	16.76	19.64	22.36	27.45	36.63	44.96	52.7

Slope Length (feet)

NRCS-IL FOTG Erosion Prediction

Section 1

Crop Management Factor

The C factor looks at the type of cover on the soil and how effective it is at keeping the soil in place.

[RUSLE C Factors Zone 101B]

	0-15	16-30	31-50	51-75	76-100	N/A	
CC	0.2	0.13	0.09	0.06	0.02	0	Corn after Corn
CR	0.29	0.19	0.14	0.05	0.02	0	Corn after Soybeans row
CD	0.29	0.18	0.1	0.05	0.02	0	Corn after Soybeans drill
CB	0.29	0.19	0.14	0.05	0.02	0	Corn after Soybeans unspecified
CG	0.22	0.13	0.08	0.03	0.02	0	Corn after Small grains
CH	0.15	0.12	0.1	0.02	0.02	0	Corn after Hay
CF	0.24	0.14	0.08	0.03	0.03	0	Corn after Fallow
CX	0.29	0.19	0.14	0.05	0.02	0	Corn after Specialty crop
CZ	0.1	0.06	0.04	0.03	0.01	0	Corn after CRP
C/	0	0	0	0	0	0	Corn after N/A
CV	0.22	0.13	0.08	0.03	0.02	0	Corn after Cover crop
	0-15	16-30	31-50	51-75	76-100	N/A	
RC	0.2	0.12	0.08	0.06	0.02	0	Soybeans row after Corn
RR	0.31	0.2	0.08	0.06	0.04	0	Soybeans row after Soybeans row
RD	0.31	0.2	0.08	0.06	0.04	0	Soybeans row after Soybeans drill
RB	0.31	0.2	0.08	0.06	0.04	0	Soybeans row after Soybeans unspecified
RG	0.23	0.14	0.09	0.04	0.03	0	Soybeans row after Small grains
RH	0.15	0.1	0.07	0.03	0.02	0	Soybeans row after Hay
RF	0.19	0 1 2	0.4	0.05	0.04	0	Covine and revue offer Follows
	0.10	0.12	0.1	0.05	0.04	0	Soypeans row after Fallow
RX	0.18	0.12	0.1	0.05	0.04 0.04	0	Soybeans row after Specialty crop
RX RZ	0.18 0.31 0.15	0.12 0.2 0.14	0.1 0.08 0.09	0.05 0.06 0.05	0.04 0.04 0.01	0 0	Soybeans row after Specialty crop Soybeans row after CRP
RX RZ R/	0.18 0.31 0.15 0	0.12 0.2 0.14 0	0.1 0.08 0.09 0	0.05 0.06 0.05 0	0.04 0.04 0.01 0	0 0 0	Soybeans row after Fallow Soybeans row after Specialty crop Soybeans row after CRP Soybeans row after N/A

[RUSLE C Factors Zone 101B]

	0-15	16-30	31-50	51-75	76-100	N/A	
DC	0.2	0.12	0.08	0.06	0.02	0	Soybeans drill after Corn
DR	0.31	0.2	0.08	0.06	0.04	0	Soybeans drill after Soybeans row
DD	0.31	0.2	0.08	0.06	0.04		Soybeans drill after Soybeans drill
DB	0.31	0.2	0.08	0.06	0.04	0	Soybeans drill after Soybeans unspecified
DG	0.23	0.14	0.09	0.04	0.03	0	Soybeans drill after Small grains
DH	0.15	0.1	0.07	0.03	0.02	0	Soybeans drill after Hay
DF	0.18	0.12	0.1	0.05	0.04	0	Soybeans drill after Fallow
DX	0.31	0.2	0.08	0.06	0.04	0	Soybeans drill after Specialty crop
DZ	0.15	0.14	0.09	0.05	0.01	0	Soybeans drill after CRP
D/	0	0	0	0	0	0	Soybeans drill after N/A
DV	0.23	0.14	0.09	0.04	0.03	0	Soybeans drill after Cover crop
	0-15	16-30	31-50	51-75	76-100	N/A	
GC	0.05	0.03	0.02	0.01	0.01	0.02	Small grains after Corn
GR	0.08	0.05	0.03	0.02	0.02	0.03	Small grains after Soybeans row
GD	0.08	0.05	0.03	0.02	0.02	0.03	Small grains after Soybeans drill
GB	0.08	0.05	0.03	0.02	0.02	0.03	Small grains after Soybeans unspecified
GG	0.08	0.05	0.04	0.02	0.02	0.04	Small grains after Small grains
GH	0.06	0.04	0.03	0.01	0.01	0.03	Small grains after Hay
GF	0.08	0.05	0.03	0.02	0.02	0.03	Small grains after Fallow
GX	0.08	0.05	0.03	0.02	0.02	0.03	Small grains after Specialty crop
GZ	0.05	0.03	0.02	0.01	0.01	0.02	Small grains after CRP
G/	0	0	0	0	0	0	Small grains after N/A
GV	0.06	0.04	0.03	0.01	0.01	0.03	Small grains after Cover crop

[RUSLE C Factors Zone 101B]

	0-15	16-30	31-50	51-75	76-100	N/A	
HC	0.1	0.06	0.04	0.03	0.02	0.002	Hay after Corn
HR	0.14	0.09	0.04	0.03	0.02	0.002	Hay after Soybeans row
HD	0.14	0.09	0.04	0.03	0.02	0.002	
HB	0.14	0.09	0.04	0.03	0.02	0.002	Hay after Soybeans unspecified
HG	0.14	0.09	0.04	0.03	0.02	0.002	Hay after Small grains
HH	0.05	0.01	0.01	0.01	0.01	0.002	Hay after Hay
HF	0.08	0.06	0.04	0.03	0.02	0.002	Hay after Fallow
HX	0.14	0.09	0.04	0.03	0.02	0.002	Hay after Specialty crop
HZ	0.05	0.05	0.05	0.05	0.01	0.002	Hay after CRP
H/	0	0	0	0	0	0.002	Hay after N/A
HV	0.06	0.04	0.03	0.01	0.01	0.002	Hay after Cover crop
	0-15	16-30	31-50	51-75	76-100	N/A	
FC	0.03	0.03	0.03	0.03	0.03	0.002	Fallow after Corn
FR	0.03	0.03	0.03	0.03	0.03	0.002	Fallow after Soybeans row
FD	0.03	0.03	0.03	0.03	0.03	0.002	Fallow after Soybeans drill
FB	0.03	0.03	0.03	0.03	0.02	0.000	Follow, ofter Souheene upenceified
FG		0.00	0.00	0.05	0.03	0.002	Fallow after Soybeans unspecified
	0.03	0.03	0.03	0.03	0.03	0.002	Fallow after Small grains
FH	0.03 0.03	0.03	0.03 0.03	0.03 0.03	0.03 0.03 0.03	0.002 0.002 0.002	Fallow after Soybeans unspecified Fallow after Small grains Fallow after Hay
FH FF	0.03 0.03 0.03	0.03 0.03 0.03	0.03 0.03 0.03	0.03 0.03 0.03	0.03 0.03 0.03 0.03	0.002 0.002 0.002 0.002	Fallow after Soybeans unspecified Fallow after Small grains Fallow after Hay Fallow after Fallow
FH FF FX	0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03	0.002 0.002 0.002 0.002 0.002	Fallow after Soybeans unspecified Fallow after Small grains Fallow after Hay Fallow after Fallow Fallow after Specialty crop
FH FF FX FZ	0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03	0.002 0.002 0.002 0.002 0.002 0.002	Fallow after Soybeans unspecified Fallow after Small grains Fallow after Hay Fallow after Fallow Fallow after Specialty crop Fallow after CRP
FH FF FX FZ F/	0.03 0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03 0.03	0.03 0.03 0.03 0.03 0.03 0.03 0.03	0.002 0.002 0.002 0.002 0.002 0.002 0.002	Fallow after Soybeans unspecified Fallow after Small grains Fallow after Hay Fallow after Fallow Fallow after Specialty crop Fallow after CRP Fallow after N/A

[RUSLE C Factors Zone 101B]

	0-15	16-30	31-50	51-75	76-100	N/A	
XC	0.24	0.15	0.11	0.09	0.04	0	Specialty crop after Corn
XR	0.33	0.22	0.18	0.05	0.04	0	Specialty crop after Soybeans row
XD	0.33	0.22	0.18	0.05	0.04	0	Specialty crop after Soybeans drill
XB	0.33	0.22	0.18	0.05	0.04	0	Specialty crop after Soybeans unspecified
XG	0.25	0.15	0.09	0.03	0.02	0	Specialty crop after Small grains
XH	0.2	0.12	0.08	0.03	0.02	0	Specialty crop after Hay
XF	0.2	0.15	0.09	0.03	0.02	0	Specialty crop after Fallow
XX	0.31	0.2	0.15	0.1	0.08	0	Specialty crop after Specialty crop
XZ	0.15	0.14	0.09	0.05	0.01	0	Specialty crop after CRP
Х/	0	0	0	0	0	0	Specialty crop after N/A
XV	0.23	0.14	0.09	0.04	0.03	0	Specialty crop after Cover crop
	0-15	16-30	31-50	51-75	76-100	N/A	
ZC	<mark>0-15</mark> 0.03	<mark>16-30</mark> 0.03	<mark>31-50</mark> 0.03	<mark>51-75</mark> 0.03	76-100 0.03	<mark>N/A</mark> 0.002	CRP after Corn
ZC ZR	<mark>0-15</mark> 0.03 0.03	<mark>16-30</mark> 0.03 0.03	<mark>31-50</mark> 0.03 0.03	<mark>51-75</mark> 0.03 0.03	76-100 0.03 0.03	N/A 0.002 0.002	CRP after Corn CRP after Soybeans row
ZC ZR ZD	0-15 0.03 0.03 0.03	16-30 0.03 0.03 0.03	31-50 0.03 0.03 0.03	51-75 0.03 0.03 0.03	76-100 0.03 0.03 0.03	N/A 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill
ZC ZR ZD ZB	0-15 0.03 0.03 0.03 0.03	16-30 0.03 0.03 0.03 0.03	31-50 0.03 0.03 0.03 0.03	51-75 0.03 0.03 0.03 0.03 0.03	76-100 0.03 0.03 0.03 0.03	N/A 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified
ZC ZR ZD ZB ZG	0-15 0.03 0.03 0.03 0.03 0.03	16-30 0.03 0.03 0.03 0.03 0.03 0.03	31-50 0.03 0.03 0.03 0.03 0.03 0.03	51-75 0.03 0.03 0.03 0.03 0.03 0.03	76-100 0.03 0.03 0.03 0.03 0.03	N/A 0.002 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified CRP after Small grains
ZC ZR ZD ZB ZG ZH	0-15 0.03 0.03 0.03 0.03 0.03 0.03	16-30 0.03 0.03 0.03 0.03 0.03 0.03 0.03	31-50 0.03 0.03 0.03 0.03 0.03 0.03 0.03	51-75 0.03 0.03 0.03 0.03 0.03 0.03 0.03	76-100 0.03 0.03 0.03 0.03 0.03 0.03	N/A 0.002 0.002 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified CRP after Small grains CRP after Hay
ZC ZR ZD ZB ZG ZH ZF	0-15 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	16-30 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	31-50 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.	51-75 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	76-100 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	N/A 0.002 0.002 0.002 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified CRP after Small grains CRP after Hay CRP after Fallow
ZC ZR ZD ZB ZG ZH ZF ZX	0-15 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	16-30 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	31-50 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.	51-75 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	76-100 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	N/A 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified CRP after Small grains CRP after Hay CRP after Fallow CRP after Specialty crop
ZC ZR ZD ZB ZG ZH ZF ZX ZZ	0-15 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	16-30 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	31-50 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.	51-75 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	76-100 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	N/A 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified CRP after Small grains CRP after Hay CRP after Fallow CRP after Specialty crop CRP after CRP
ZC ZR ZD ZB ZG ZH ZF ZX ZZ Z/	0-15 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	16-30 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	31-50 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.	51-75 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.0	76-100 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0	N/A 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002	CRP after Corn CRP after Soybeans row CRP after Soybeans drill CRP after Soybeans unspecified CRP after Small grains CRP after Hay CRP after Fallow CRP after Specialty crop CRP after CRP CRP after N/A

Conservation practices

The P factor is the ratio of soil loss associated with a specific conservation practice to the corresponding loss with up and down slope tillage, which has a value of 1.

For our purposes, the P-factor will only ever change if the operation is utilizing terracing or contouring.

P does not consider improved tillage practices. These are accounted for in the C-factor.

P factor when no conservation practice has been applied = 1

Why does any of this matter?

We need proof that the conservation practice is helping to keep soil on the landscape!

SWCD employee keeping soil on the landscape

How do you show proof? The PFC1-1b of course!

T Value: Tolerable Soil Loss

For all Illinois land: 1 to 5 tons per acre per year

For cropland alone: Generally, 3 to 5 tons per acre per year

"The maximum amount of soil loss in tons per acre per year, that can be tolerated and still permit a high level of crop productivity to be sustained economically and indefinitely"

The erosion rate must be less than the Tlevel!

Erosion rate > T: soil loss exceeds sustainable threshold :(Degradation of soil quality, reduced crop yields over time

Erosion rate < T: the amount of soil being lost is within the tolerance threshold. Yay! :) Soil erosion isn't causing significant harm to crop growth or yield potential

			PFC-1		Fiscal Ye	ear 0	Approval Yes		No	_
		artnere F	or Concervation		PFC		Date	e Approved:		
		armers r	or conservation		SPECIAL		Star	rt/End Date:		
	A	pplicatio	n/Payment Form				Amen	dment Date:		
		VE	RSION 24.0		INTEREST		STAR Forn	n		
SWCD:		0	Application No.	0		. Appli	cation Date:	_		
Name:	: \$\$`	APPLICA	NT D	Check box of per	son to be paid Name: Address:	t		IER 🗆		
tity S	tate Zin				City State	Zin				
Phone	state, zap.				Phone:	- cop.				
Project	GPS Coord. (dec./ deg.)	Farm, Tract, Field ID	12.4	lot LUC	1/4	Ree	TWP	Range	D.M
ID	Latitude / L	ongitude	ex. F123, T4, FID5	1240	Igit HOC	Sec.	Jec.	N or S	E or W	P.00
T										
		4	Application/Section			1		Payment Se	ction	
(A)	(B)	, <u> </u>	(C)	(D)	(E)	(F)	(G)	(H)		0
Project	Practice	P	ractice Components	Estimated	Average	Estimated	Installed	Total	Actu	al Cost
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		1				I		ExG=H		
		Maintain se	oil loss below T.		0.00	0.00		-		
					#N/A	#N/A		#N/A		
					#N/A	#N/A		#N/A		
		-			#N/A	#N/A		#N/A	-	
				-	#N/A	#N/A		#N/A		
				0	#N/A	#N/A		#N/A		
				0	#N/A	#NVA		#PN/A		
-				0	#N/Δ	#N/A		#N/Δ		
				0	#N/A	#N/A		#N/A		
		•		0	#N/A	#N/A		#N/A		
Totals						#N/A		#N/A	\$	
Project	ID 01 \$		75%	\$ -			<u>s</u> -	75%	\$	
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Project	ID 02 \$		75%	s -			s -	75%	\$	
	Estim	ated Cost X	Cost-Share % -	Estimated Payme	nt	Average Cost or	Actual Cost X	Cost-Share %	Payment	Amoun
Project I	ID 03 <u>\$</u>		75%	<u>s</u>			<u>s -</u>	75%	\$	
	Estim	ated Cost X	Cost-Share % =	Estimated Payme	nt	Average Cost or	Actual Cost X	Cost-Share %	Payment	Amoun
	To	tal Estima	ted Payment	\$	-	Total P	ayment	\$		-
hereby	certify that the m	aterials, labor	and equipment listed above w	ere used in installing	the above-re	ferenced conse	vation projects	and no items or	costs lister	above
he actu	en included on an al cost not to exc	ed the average	e payment under this agreeme as cost on a per project basis.	and that I am entitle	er any other o d to no more t	han the stated p	ercentage of the	o ure payment a e lesser amount.	mount is ba	isea up
	Check Here if M	aximum Pavm	ent							
Uneck F	rayable to (Pleas	e mint)	Cost-Share Payment	Landowner Co	ntribution	Participants Co	mpletion Certif	ication	D	ate
			<u>s</u> -	\$0.0	0					
SWCD	CERTIFICA	TION			TECHNIC	AL CERTIFI	CATION			
The Dire	ectors of the	0		County SWCD,	I hereby cert	ify that the clair	nant did apply a	ill agreed upon j	projects an	d they a
certify t	that the receipts	and costs incu	irred are correct and that all if	ems listed were	installed prop	perty and adequ	ately according	to technical sp	ecifications	require
necessa	ary and authorize	đ.								
011105	Desired Obele	(Decision)		2-6-1	Taskalalas	de Oleventure	TT M.		Defe:	_
	J Duard Chall	nanvuesigi	ice (L	Jaie	reunicial	is signature	nue	(1	Date)	

Step 2 Step 3	Application Number: Project DB: NRCS Practice Code: Practice Units: # Aeros Maintained < T Watershed Information Soil Technral Class T-Level Soil series (e.g., 152)	144gt 1000 001 001 00 #01 00 #01 00 00 00 00 00 00 00 00 00 00 00 00 0	64gt netiar 0 0 0 602 10 602 10 602 10 602 10 5070 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	0 #0	0.00
Step 2 Step 3	Application Number: Project Dati NRCS Practice Code: Practice Units: # Acress Maintained < T Watershed Information Soil Technal Class T-Level Soil series (e.g., 152)	001 0 e01 13 data Hac 071100010401 Sanda Harry sanda 3 20007 152	0 10 402 15070 15070	0 M3	10 #93 *
Step 2 Step 3	Project ID#: NRCS Practice Code: Practice: # Practice: # Acres Maintained < T Watershed Information Soil Testard Class T-Level Soil series (e.g., 152)	10 m01	ED #02	ID #03	10 #03 *
Step 2 Step 3	NRCS Practice Code: Practice: # Practice Units: # Acres Maintained < T Watershed Information Soil Textural Class T-Level Soil series (e.g., 152)	13-digit Huc (71100010401 Sanda barryanda 5 SteCyr 152	Total Ha zane 15070 V		×C
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Step 2 Step 3	Watershed Information Soil Textural Class T-Level Soil series (e.g., 152)	Sands, loamy sands 5 t/kC/pr 152	15978		
Step 3	Soil Textural Class T-Level Soil series (e.g., 152)	Sands, loamy sands 5 trac/yr 152	Ţ		
	T-Level Soil series (e.g., 152)	s t/ec/yr 152	•		
Step 4	Project Parameters				
RESU	LTS				
RESU	_ <u>15</u>	0.01	0.692	0.00	0.40
RESU	LTS Benefit	D.#1	0.602	D #03	0.40
RESU	LTS Benefit Acres reduced below T	D.#91	D #92	D #03	0.40
RESU	TS Benofit Acres includes below T Acres wirchdues scienteri	0.001	10 #2	0.803	10.463
RESU	LTS Banefit Acres induced balow T Acres Status	0.#1	D #92	D #83	0.00
RESU	IS Benefit Acres reduced below T Acres wreduced sedimetr I-Avet (tacky)	D #01	10.4%2	0.803	10 PK3
RESU	TS Benefit Acres reduced below T Acres wireduced sedment T-Level (tacky) Culty loss before (tyr)	10 201	10 #02	0 60	D #3
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RESU	TS Benefit Acres reduced below T Acres wireduced sediment (Level (tacky) (Level (tacky) (Level (tacky) (tacky) (Level (tacky) (tacky) (Level (tacky) (tacky) (Level (tacky) (tacky) (Level (tacky) (tacky) (Level (tacky) (tac		10.462		D 40
RESU	TS Benefit Acres reduced below T Acres wireduced sedment T-Level (tacky) Guly toss after (tyr) Guly toss after (tyr) Belet & mit before (tackyr) Sioli aneed (tyr) (tucky) Sioli aneed (tyr)	10.001	10 402		
<u>RESU</u>	LS Benefit Access reduced below T Access reduced below T Access reduced below T Access reduced by Table at all after (taby) Baset at all after (tab) Baset at all after (ta		10.4%2		D.P0
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RESU	LS Benefit Acres reduced below T Acres wireduced sediment 1-4-evel (tacky) Collify loss and reduction (tacky) Belet A mil after (tacky) Sed a sediction (thy) Practice units Sed a load reduction (thy) Practice settion (thy) Foad reduction (thy)	D.891	D #2		0.40
<u>RESU</u>	LS Banofit Acres induced action T Acres induced actions T Acres invalued actions T-Level (tackyr) Gully toss after (tyr) Sheet & nil before (tacyr) Sheet & nil before (tacyr) Shi as will (tyr) Sheet action (tyr) Practice units Sec. load reduction (tyr) N load reduction (byr)				0.75
<u>RESU</u>	TS Benefit Acres reduced below T Acres wirduced sediment T-Level (tacky) Guly toss before (tyy) Guly toss before (tyy) Cally toss before (tyy) The set of the typ) Tractice units Soil assed (tyy) Practice units Soil assed (tyy) Fload reduction (tyy)	D.601	D 492	0.60	

The PFC1-1b

The PFC-1

Enter your county information into the red outlined boxes below.

COUNTY Sangamon

1/4 SECTION

FISCAL YEAR

COUNTY CODE

COST SHARE RATE

FY23

75%

167

NE

NW

SE

sw

			PEC 1			Fiscal Ve	ar I		Approval Ver		No	_
	_		THOM .			PEC		-	Date	Approved:		
	Р	artners F	or Conservatio	n		SPECIAL		-	Star	t/End Date:		
	A	pplicatio	n/Payment For	n					Amen	dment Date:		
		VE	RSION 24.0			INTEREST			STAR Form	n		
SWCD.		0	Application No). O		•	/	Appli	cation Date:			
				Check br	ax of ne	rson to be na	id					
Name		AFFEIGA				Name:			LANDOWN			
Addre	SS:					Address:						
City s	State Zip					City State	Zip		-			
Phone						Phone:						
Project	GPS Coord. (c	dec.f deg.]	Farm, Tract, Fiel	d ID	12-d	iait HUC		14	Sec.	TWP	Range	P.M.
ID	Latitude / Lo	ingitude	ex. F123, T4, FID	5				Sec.		NorS	E or W	
		A	pplication/Sectio	n						Payment Se	ction	
(A)	(B)		(C)	(D	9	(E)	(F)		(G)	(H)	(0
Project	Practice	P	ractice Components	Estim	ated	Average	Estima	veq	Installed	Total	Actua	al Cost
ID	Code			Uni	ts	CostUnit	Cost Dx	E=F	Units	Avg. Cost		
										ExG=H		
-		Maintain	soil loss below T			0.00		0 00				
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						#N#A	#N#/	۸.	1	#N#A		
						#N#A	#N#/	۱.		#N#A		
						#N#A	#N#/	۱.		#N#A		
		•			0	#N#A	#N#/	Ň	i	#N#A		
		•			0	#N#A	#N#/	١		#N#A		
					0	#N#A	#N#/	٨	ſ	#N#A		
					0	#N#A	#N#/	۱.		#N#A		
					0	#N#A	#N#/	۹.		#N#A		
		•			0	#N#A	#N#/	٩		#N#A		
Totals							#N#/	۱.		#N#A	\$	
Project	ID 01 <u>\$</u>	· ·	75%	\$					<u>s -</u>	75%	\$	· ·
	Estimal	ed Cost X	Cost-Share %	 Estimate 	d Paym	ent	Average Co	et or	ActualCost X	Cost-Share%	Payment	Amount
Project	10 02 <u>\$</u>		102	3	-				3 -	19%	\$	
	Estimal	ed Cost X	Cost-Share %	= Estimate	d Paym	ent	Average Co	at or	Actual Cost X	Cost-Share %	Payment	Amount
Project	10 U3 <u>\$</u>		15% Cont Channelly	5					3 -	15%	<u>}</u>	
	Estima	ted Cost X	Lost-Share %	= Estimate	d Paym	ent	Average Co	2 or	Actual Cost X	Cost-Share %	Payment	Amount
	То	tal Estima	ted Payment	\$		-	Tot	al P	ayment	\$		-
l hereby	y certify that the r	materials, lab	or and equipment liste	d above were us	ed in in	stalling the a	bove-refe	rence	d conservation	projects and n	o items or	costs
listed a	bove have been i	ncluded on	another claim for paym	ent under this ag	greemer	nt or as a claim	m under a	ny ot	her cost-share	program. Lunc	ierstand th	ie .
-symer	k a nounk is base	su upon me i	scruer cost not to excee	u u le average co	oronial	nei bioleci ps	sors, and t	nati	an endeed to r	o more mari the	e okaren pe	centage
	Liheck Here if Ma	somum Pay	ment									
Check I	Payable to (Pleas	e Print)	Cost-Share Paym	ent Lando	wher Co	ntribution	Participa	nts C	ompletion Cert	ification	Di	ate
			\$		\$0.0	0						
SWCE	CERTIFICAT	ION				TECHNIC	AL CER	TIFI	CATION			
The Dir	rectors of the	0		County 5	SWCD,	I hereby cer	tify that th	e clai	mant did apply	all agreed upo	n projects	and they
certify	that the receipts	and costs in	curred are correct and	hat all items liste	d were	are installed	properly	anda	adequately acc	ording to techni	cal specif	cations
necess	ary and authorize	sd.				required.						
00000	Dened Obein	(Deele		(Data)		Technicis	ala Oina				(Dete)	
SVVCL	Doard Chain	nan/Desig	nee	(Date)		reconicia	rris sign	atun	e/ mile		(Date)	

Scroll to the right in the excel workbook!

	PFC-1		Fiscal Year	FY23	Approval Yes	Х	No
	Dentrone For Concernation		PFC	Х	Date	Approved:	1/23/2024
	Partners For Conservation		SPECIAL		Start	/End Date:	1/23/2024
	Application/Payment Form				Amend	Iment Date:	
	VERSION 24.0		INTEREST		STAR Form	1/23/2024	
SWCD: Sangamor	n Application No.	167	00456	Appli	cation Date:	2/2	21/2024
		Check box of p	erson to be paid		LANDOWNE	ER 🗆	
Name:	Homer Simpson		Name:		Same		
Address:	742 Evergreen Terrace		Address:		Same		
City, State, Zip:	Springfield, IL 60606		City,State, Zip	:	Same		
Phone:	215-000-0000		Phone:		Same		

Project	GPS Coord. (dec./ deg.)	Farm, Tract, Field ID	12-digit HUC		Sec.	TWP	Range	P.M.
ID	Latitude / Longitude	ex. F123, T4, FID5				N or S E or	E or W	
1	44.06312, -88.90784	F123, T4, FID3	71300060703	NW	5	4S	1W	3
2	44.90874, -88.74321	F432, T6, FID4	7 <mark>1</mark> 300070401	SE	7	6N	9E	3

Make sure your coordinates are in decimal degrees!

44.06312, -88.90784

		Application/Section		Payment Section			ection		
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	
Project	Practice	Practice Components	Estimated	Average	Estimated	Installed	Total	Actual Cost	
ID	Code		Units	Cost/Unit	Cost DxE=F	Units	Avg. Cost		
							ExG=H		
		Maintain soil loss below T.		0.00	0.00		-		
1	638	Water & Sediment Control Basin - Narro	550	3.01	1,655.50	550	1,655.50	1,438.00	
1		Water & Sediment Control Basin - Farm	275	6.94	1,908.50	275	1,908.50	1,728.00	
1		Underground Outlet 6 in Diameter Pipe	100	5.54	554.00	110	609.40	410.00	
1		Underground Outlet 8 in Diameter Pipe	200	8.70	1,740.00	225	1,957.50	1,475.00	
1		Critical Area Planting- Scenario #1	0.1	321.74	32.17	0.1	32.17	25.00	
1		Mulching Scenario #60 (Natural Materia	0.1	603.43	60.34	0.1	60.34	36.00	
2	340	Cover Crops - Scenario #1 Basic	22.7	53.33	1,210.59	22.7	1,210.59	1,467.83	
2		Mulch-till- Residue + Tillage Manageme	22.7	0.00	0.00	22.7	-		
		•	0	#N/A	#N/A		#N/A		
			0	#N/A	#N/A		#N/A		
Totals					#N/A		#N/A	\$ 6,579.83	
Project	ID 01 <u>\$</u>	5,950.52 <u>75%</u>	\$ 4,462.89			\$ 5,112.00	<u>75%</u>	\$ 3,834.00	
	Estimat	ted Cost X Cost-Share % =	Estimated Payme	ent	Average Cost or	Actual Cost X	Cost-Share%	Payment Amount	
Project	ID 02 \$	1,210.59 <u>75%</u>	\$ 907.94		\$ 1,210.59		<u>75%</u>	\$ 907.94	
Estimated Cost X Cost-Share % = Estimated Payment Average Cost or Actual Cost X Cost-Share % Pay						Payment Amount			
Project ID 03 \$ - 75% \$			<u>\$</u> -			<u>\$ -</u>	<u>75%</u>	\$-	
Estimated Cost X Cost-Share % = Estimated Payment Average Cost or Actual Cost X Cost-Share % Payment Amo						Payment Amount			
	Lounded out A Estimated Payment Average cost of Provide out A Cost-Shalle % Payment Annount								
Total Estimated Payment <u>\$ 5,370.83</u> Total Payment <u>\$ 4,741</u>						4,741.94			
I hereby	certify that the ma	terials, labor and equipment listed above wer	re used in installing	the above-re	ferenced conser	vation projects	and no items or	costs listed above	
have be	en included on and	other claim for payment under this agreement ed the average cost on a per project basis, a	t or as a claim und nd that I am entitle	er any other c d to no more t	ost-snare progra	m. I understan	d the payment a e lesser amount	mount is based upon	
- Check here it maximum Payment									
Check Payable to (Please Print) Cost-Share Payment Landowner Contribution Participants Completion Certification Date									
Homer Simpson <u>s</u> 4,741.94 <u>\$1,837.89</u> Homer Simpson 2/21/24									
SWCD CERTIFICATION TECHNICAL CERTIFICATION									
The Directors of the Somewhere Co. County SWCD, I hereby certify that the claimant did apply all agreed upon projects and they are									
certify that the receipts and costs incurred are correct and that all items listed were installed properly and adequately according to technical specifications required.									
m	s. Chairpe	rson 2/21/24		7am	my Techno	ician	2 21	24	
SWC	D Board Chairn	nan/Designee (Da	ate)	Techniciar	n's Signature/	Title	()	Date)	

The PFC1b

Illinois Department of Agriculture Bureau of Land and Water Resources 7/19/2019 Version 24.0 (FY24)

BENEFITS REPORT

Step 1 Applicant Name: SWCD:

Sangamon SWCD

Homer Simpson

3-digit code

167.00

Application Number:

Project ID#: ID #01 ID #02 ID #03 NRCS Practice Code: 638 340 WASCOB (#) -Practice: Cover crops (ac) -• 3 22.7 # Practice Units: 3 22.7 # Acres Maintained < T 12-digit HUC Total HU acres 071300060703 22131 Watershed Information •

5-digit number

00456

Step 3 Soil Textural Class T-Level Soil series (e.g., 152)

Step 2

Sands, loamy sands 5 t/ac/yr 152

Step 4 Project Parameters

ID #01: WASCOB (#)

					_		
RUSLE Factors	Area 1	Area 2	Area 3	Gully Dimensions	Area 1	Area 2	Area 3
Rainfall-Runoff (R)	185	185	185	Avg. width (ft)	2	2	2
Soil Erodibility (K)	0.37	0.37	0.37	Depth (ft)	1.5	1.5	1.5
Length-Slope (LS)	0.765	0.765	0.765	Length (ft)	75	100	125
Cover Mngmt (C)	0.08	0.08	0.08	No. of Years (>0)	5	5	5
Support Practice (P)	1	1	1	Soil N Conc (lb/lb soil)*	0.001	0.001	0.001
Other				Soil P Conc (lb/lb soil)*	0.0005	0.0005	0.0005
Drainage area (ac)	1.3	1.5	2.8	* indicates default value	•		

ID #02: Cover crops (ac)

RUSLE Factors	Constant	Before	After
Rainfall-Runoff (R)	185		
Soil Erodibility (K)	0.37		
Length-Slope (LS)	0.765		
Cover Mngmt (C)		0.11	0.088
Support Practice (P)	1		

<u>RESULTS</u>

	ID #01	ID #02	ID #03
Benefit	WASCOB (#)	Cover crops (ac)	
Acres reduced below T	22.7	22.7	
Acres w/reduced sediment	1.3	0.0	
T-Level (t/ac/yr)	5.0	5.0	
Gully loss before (t/yr)	9.9	0.0	
Gully loss after (t/yr)	0.0	0.0	
Sheet & rill before (t/ac/yr)	4.2	5.8	
Sheet & rill after (t/ac/yr)	4.2	4.6	
Soil saved (t/yr)	9.9	26.2	
Practice units	3.0	22.7	
Sed. load reduction (t/yr)	2.9	7.1	
N load reduction (lb/yr)	7	14	
P load reduction (lb/yr)	4	7	

Questions?