

Natural Resources Conservation Service (USDA-NRCS) December 2012

Landuser _____ Assisted By _____
 Farm # _____ Field # _____ Soil Type _____ Date _____

Section 1. Phosphorus Loss Potential Due To Site and Transport

Site and Transport	Multiplier	LOW 1 Point	MEDIUM 2 Points	HIGH 3 Points	VERY HIGH 4 Points	VALUE
(See Definitions Pg 2)	-- M --	----- Phosphorus Loss Rating (PLR) -----				-- M x PLR --
Runoff Potential Soil Hydrologic Group	2	A	B	C	D	
Avg. Precipitation Inches/Year	2	<10	10 - 15	15 - 30	>30	
Slope Percent	2	0 - 4.9%	5 - 6.9%	7 - 11.9%	>12%	
Avg. Soil Erosion Tons/Acre-Year	3	<1 Ton	1 - 2 Ton	2.1 - 5 Ton	>5 Ton	
Potential to Affect Surface Water	3	1	2	3	4	
Section 1 (Site & Transport) Total Value =						

Section 2. Phosphorus Loss Potential Due To Management

Management	Multiplier	LOW 1 Point	MEDIUM 2 Points	HIGH 3 Points	VERY HIGH 4 Points	VALUE M x PLR
	-- M --	----- Phosphorus Loss Rating (PLR) -----				
Soil Test Phosphorus AK Extension Category	4	VL to Low	Medium	High	VH to Extr.H.	
Rate P₂O₅ Applied Lbs/Ac. Incl. Organic	1	< 60	61 - 120	121 - 180	> 180	
Method P Applied Above or Below Ground	1	Injected >2"	Incorporated <48 Hrs or Sprinkler	Surface Appl. & Incorporated >2 Days	Surface Applied & Not Incorporated	
Timing P Applied Month Applied	2	May - Sept.	Apr. or Oct. Winter Cover	Apr. or Oct. No Winter Cover	Nov. - March	
Section 2 (Management) Total Value =						

(Circle Rating Below) **Phosphorus Index Value (Section 1 + Section 2)**

Nutrient Management Plans Shall Be Based On:	Generalized Interpretation of P Index Does P Move From Field & Impact Waterbodies?	P Index Rating	Phosphorus Index Value
NITROGEN BASED Soil P Not A Risk Concern	Low potential that P moves from field & impacts waterbodies. May reduce risk by buffers, setbacks, etc.	Low	Less than 40
NITROGEN BASED Soil P Test To Observe Status	Medium potential that P moves from field & impacts waterbodies. May reduce risk by buffers, setbacks, etc.	Medium	41 - 55
PHOSPHORUS BASED Soil P Test Recommendation	High potential that P moves from field & impacts waterbodies. Nutrient Mgt. is needed in this field.	High	56 - 70
PHOSPHORUS BASED P Crop Removal Rates	Very High potential that P moves from field & impacts waterbodies. Nutrient Mgt. is essential in this field.	Very High	More than 70

Explanations for Section 1. P Loss Potential Due To Site and Transport

Soil Hydrologic Group: See NEH 210-630-7 for Dual Groups & Matrix

Group	Runoff When Wet	Water Transmission	Sand	Clay	Impenetrable	Water Table
A	Low	Freely	>90%	<10%	> 20"	> 24"
B	Moderate	Unimpeded	50-90%	10-20%	> 20"	> 24"
C	Moderately High	Some restricted	<50%	20-40%	> 20"	> 24"
D	High	Restricted to Very	<50%	>40%	< 20"	< 24"

Sources: Part 618 – Soil Properties and Qualities 618.35 Hydrologic Group

<http://soils.usda.gov/technical/handbook/contents/part618.html>

Title 210, National Engineering Handbook, Part 630, Chapter 7, Hydrologic Soil Groups

<http://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21422>

Average Precipitation

-1-	Find AK Precipitation in FOTG Section II, Climatic Data, Agricultural Applied Climate Info. System http://efotg.sc.egov.usda.gov/efotg_locator.aspx?map=AK
-2-	A secondary source of AK precipitation is the Western Regional Climate Center. http://www.wrcc.dri.edu/summary/lcdak08.html

Average Soil Erosion: Sum of RUSLE2 + WEPS

-1-	Calculate water erosion as predicted by the RUSLE2 computer model. http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm
-2-	Add to this the predicted soil erosion by wind, using the WEPS computer model. http://www.weru.ksu.edu/nrcs/wepsnrcs.html

Potential to Affect Surface Water

Low -1-	No direct discharge from the edge of the field into surface waterbodies, wetlands, or a karst or karst area (limestone area).
Medium -2-	Discharge is through a buffer that removes most nutrients, such as a filter strip, riparian buffer or constructed wetland.
High -3-	Direct discharge into a water body of EPA Category 3, 4 or 5. See 2006 IRG Page 46. http://www.epa.gov/owow/tmdl/2006IRG/report/2006irg-report.pdf See AK-DEC-DOW Impaired Waterbodies (Category 4 or 5): http://dec.alaska.gov/water/wqsar/map.html
Very High -4-	Direct discharge into a lake, karst or wild or scenic river. See AK FOTG Sect. I, Ref, 3. Or EPA Category 1 or 2, "Outstanding" or high value like Drinking Water Protection. http://dec.alaska.gov/eh/dw/DWP/protection_areas_map.html

Explanations for Section 2. P Loss Potential Due To Management

Soil Test Phosphorus

-1-	Use AK Soil Test Recommendation Guide Sheet for Area and crop type (Forages, Cereals, Potato, Veg.). AK FOTG Section I, Reference Lists, Tech Notes, Agronomy, Tech. Note 16. http://efotg.sc.egov.usda.gov/efotg_locator.aspx?map=AK
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Generalized Interpretation of P Index

-1-	Seek conservation assistance from Certified Planners of NRCS, SWCD and TSPs. NRCS Alaska: 907-761-7760. Alaska Assoc. Conservation Districts: 907-373-7923.
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