Analysis Results - Random Forest

importance_mean
regression
-0.049195407240279376
0.029871252312131835
7.227790583210812
0.20577973815024153
e model performs worse than simply predicting the mean target value. Results are unreliable; check for leakage, too few samples, or an uns
URE_FORESTAREA', 'PASTURE_WETLANDAREA', 'MEAN_ENV_PH', 'MEAN_ENV_SOILP', 'PASTURE_BIOMASS_PREDICTED', 'PAS
6811594204, 29.623623188405794, 31.54144927536232, 29.182318840579708, 29.00391304347826, 31.94869565217391]}
0.297099123243609
0.09748497647985915
0.07717718824639073
0.07436756446964302
0.060205453163516984
0.044022583061062596
0.042402240894671706
0.042148254086189336
0.0420373551673736
0.03968214746327248
0.038715323049728266
0.03668013380728157
0.03224295775625763
0.02504417504337099
0.01560470843002075
0.01238069239128823
0.009980051463642775
0.0066845295182884155
0.006040542264532825

Pre-Modeling Statistics

Feature	Pearson r	Pearson FDR	Spearman rho	Spearman FDR	ANOVA F	ANOVA FDR	Sig
MEAN_PC_SHOOTMASS	0.7414	0.0550	0.5263	0.5670	12.2050	0.0550	No
MEAN_RC_SHOOTMASS	0.5022	0.3327	0.4000	0.5670	3.3721	0.3327	No
MEAN_PC_HEIGHT	0.5215	0.3327	0.3544	0.5670	3.7351	0.3327	No
MEAN_ENV_SOILOC	0.1793	0.9621	0.3474	0.5670	0.3322	0.9621	No
MEAN_ENV_SOILMOIS	0.1431	0.9621	0.1860	0.9721	0.2091	0.9621	No
MEAN_ENV_SOILTN	0.2084	0.9621	0.3544	0.5670	0.4540	0.9621	No
MEAN_COVER_TOTAL_JUL	0.5775	0.3119	0.3965	0.5670	5.0047	0.3119	No
MEAN_COVER_SHANNON_JUL	-0.0670	0.9621	-0.0947	0.9927	0.0451	0.9621	No
MEAN_PC_WOODMASS	-0.4277	0.4490	-0.3509	0.5670	2.2393	0.4490	No
PLOT_COUNT	-0.0412	0.9621	-0.0242	0.9927	0.0170	0.9621	No
PASTURE_TOTALAREA	-0.0154	0.9621	0.0386	0.9927	0.0024	0.9621	No
PASTURE_FORESTAREA	0.1155	0.9621	0.0386	0.9927	0.1352	0.9621	No
PASTURE_WETLANDAREA	0.0861	0.9621	0.0772	0.9927	0.0747	0.9621	No
MEAN_ENV_PH	-0.4910	0.3327	-0.3684	0.5670	3.1760	0.3327	No
MEAN_ENV_SOILP	0.0278	0.9621	0.0000	1.0000	0.0077	0.9621	No
ASTURE_BIOMASS_PREDICTED	-0.2480	0.9228	-0.1544	0.9927	0.6551	0.9228	No
PASTURE_HA	-0.2723	0.9228	-0.3123	0.6138	0.8009	0.9228	No
CF_NUMBER	0.9959	0.0000	0.9930	0.0000	1224.9963	0.0000	Yes
SR_NUMBER	0.0723	0.9621	0.0782	0.9927	0.0525	0.9621	No

Permutation Importance

Feature	Mean	SD
CF_NUMBER	0.3776	0.2402
MEAN_ENV_SOILTN	0.3282	0.0149
PASTURE_HA	0.2403	0.1183
MEAN_ENV_SOILOC	0.1988	0.0757
MEAN_COVER_TOTAL_JUL	0.1326	0.0675
MEAN_RC_SHOOTMASS	0.1305	0.1049
MEAN_ENV_SOILMOIS	0.0882	0.1146
MEAN_PC_SHOOTMASS	0.0848	0.0056
MEAN_ENV_SOILP	0.0598	0.0180
MEAN_PC_HEIGHT	0.0261	0.0197

PASTURE_BIOMASS_PREDICTED	0.0137	0.0000
SR_NUMBER	0.0041	0.0068
MEAN_ENV_PH	-0.0044	0.0015
PASTURE_FORESTAREA	-0.0196	0.0233
MEAN_COVER_SHANNON_JUL	-0.0279	0.0316
PASTURE_TOTALAREA	-0.0378	0.0538
PLOT_COUNT	-0.0490	0.0555
MEAN_PC_WOODMASS	-0.0560	0.0252
PASTURE_WETLANDAREA	-0.1805	0.1198

SHAP Values

Feature	Mean |Abs|
CF_NUMBER	1.5668
MEAN_ENV_PH	0.5475
PASTURE_FORESTAREA	0.3528
MEAN_ENV_SOILTN	0.3429
MEAN_RC_SHOOTMASS	0.3050
MEAN_PC_SHOOTMASS	0.2653
MEAN_PC_WOODMASS	0.2287
MEAN_ENV_SOILMOIS	0.2250
MEAN_COVER_TOTAL_JUL	0.1733
PASTURE_WETLANDAREA	0.1630
PASTURE_HA	0.1630
MEAN_PC_HEIGHT	0.1122
SR_NUMBER	0.1109
MEAN_ENV_SOILOC	0.1089
PASTURE_BIOMASS_PREDICTED	0.0998
MEAN_COVER_SHANNON_JUL	0.0854
MEAN_ENV_SOILP	0.0696
PASTURE_TOTALAREA	0.0581
PLOT_COUNT	0.0100

Per-Split Model Metrics

Split	R^2	MSE
	-0.0791	7.4336
	-0.0193	7.0220
Mean ± SD	**-0.0492 ± 0.0299**	**7.2278 ± 0.2058**