Supplementary Materials: Long-Term Post-Disturbance Forest Recovery in the Greater Yellowstone Ecosystem Analyzed Using Landsat Time Series Stack

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Table S1. Number of validation points for post-fire forest recovery in the study region, stratified by forest species, burn severity, and recovery status.

		Lodgepole Pine	Whitebark Pine	Douglas Fir	Engelmann Spruce/Subalpine Fir
Low severity	Recovered	50	0 [a]	50	7 [b]
	Non-recovered	50	23 [b]	50	0 [a]
Moderate severity	Recovered	50	2 [b]	6[b]	30
	Non-recovered	50	50	50	50
High severity	Recovered	50	50	50	50
	Non-recovered	50	50	50	50

[a] no available pixel; [b] including all available pixels.

Table S2. Number of sampling points and accuracy assessment for validating VCT post-fire and post-harvest recovery products for all forest species in the GYE. Map refers to the VCT predicted disturbance class.

Post-Fire Recovery Validation					
		Reference			
		Recovered (Tree Cover > 10%)	**Non-Recovered (Tree Cover ≤ 10%)**	**Row Total**	**User's Accuracy**
Map	Recovered	249	85	334	0.75
	Non-recovered	95	445	540	0.82
	Column total	344	530	874	
	Producer's Accuracy	0.59	0.90		
	Overall Accuracy		0.80		
Post-Harvest Recovery Validation					
		Reference			
		Recovered (Tree Cover > 10%)	**Non-Recovered (Tree Cover ≤ 10%)**	**Row Total**	**User's Accuracy**
Map	Recovered	97	3	100	0.97
	Non-recovered	42	58	100	0.58
	Column total	139	61	200	
	Producer's Accuracy	0.85	0.89		
	Overall Accuracy		0.86		

Table S3. Number of sampling points and validation accuracy of the VCT post-fire forest regrowth product for the four major forest species in YNP. Map refer to VCT predicted recovery class for each forest type.

Lodgepole Pine (72% of Area)					
		Reference			
		Recovered Cover > 10%	**Non-Recovered Cover ≤ 10%**	**Row Total**	**User's Accuracy**
Map	Recovered	138	9	147	0.94
	Non-recovered	36	131	167	0.78
	Column total	174	140	314	
	Producer's Accuracy	0.65	0.97		
	Overall Accuracy		0.83		
Whitebark Pine (15% of Area)					
		Reference			
		Recovered Cover > 10%	**Non-Recovered Cover ≤ 10%**	**Row Total**	**User's Accuracy**
Map	Recovered	9	42	51	0.18
	Non-recovered	10	111	121	0.92
	Column total	19	153	172	
	Producer's Accuracy	0.11	0.95		
	Overall Accuracy		0.88		
Douglas-fir (7.1% of Area)					
		Reference			
		Recovered Cover > 10%	**Non-Recovered Cover ≤ 10%**	**Row Total**	**User's Accuracy**
Map	Recovered	39	18	57	0.80
	Non-recovered	23	124	147	0.75
	Column total	62	142	204	
	Producer's Accuracy	0.47	0.93		
	Overall Accuracy		0.76		
Engelmann Spruce and Subalpine Fir (5.9% of Area)					
		Reference			
		Recovered Cover > 10%	**Non-Recovered Cover ≤ 10%**	**Row Total**	**User's Accuracy**
Map	Recovered	63	16	79	0.68
	Non-recovered	26	79	105	0.84
	Column total	89	95	184	
	Producer's Accuracy	0.18	0.98		
	Overall Accuracy		0.84		

Table S4. Maximum IFI (Integrated Forest Index) values and minimum NDVI (Normalized Difference of Vegetation Index) values used to determine forest recovery in GYE.

Path-Row	Maximum IFI	Minimum NDVI
p037r029	12.649	0.231
p037r030	9.759	0.206
p038r028	6.823	0.271
p038r029	7.00	0.357
p038r030	3.909	0.327
p038r031	4.967	0.205
p039r028	6.218	0.119
p039r029	6.218	0.119