Supplemental Material

Sass et al. Predicted habitat suitability for the endangered White-breasted Thrasher *Ramphocinclus brachyurus* in Saint Lucia.

Figure S1. White-breasted Thrasher Saint Lucian Mandelé range (white outline) before (A) and after (B) resort construction in the south of the range. Map imagery: Google, © 2016 DigitalGlobe (images captured, October 2000 for (A) and February 2010 for (B)).

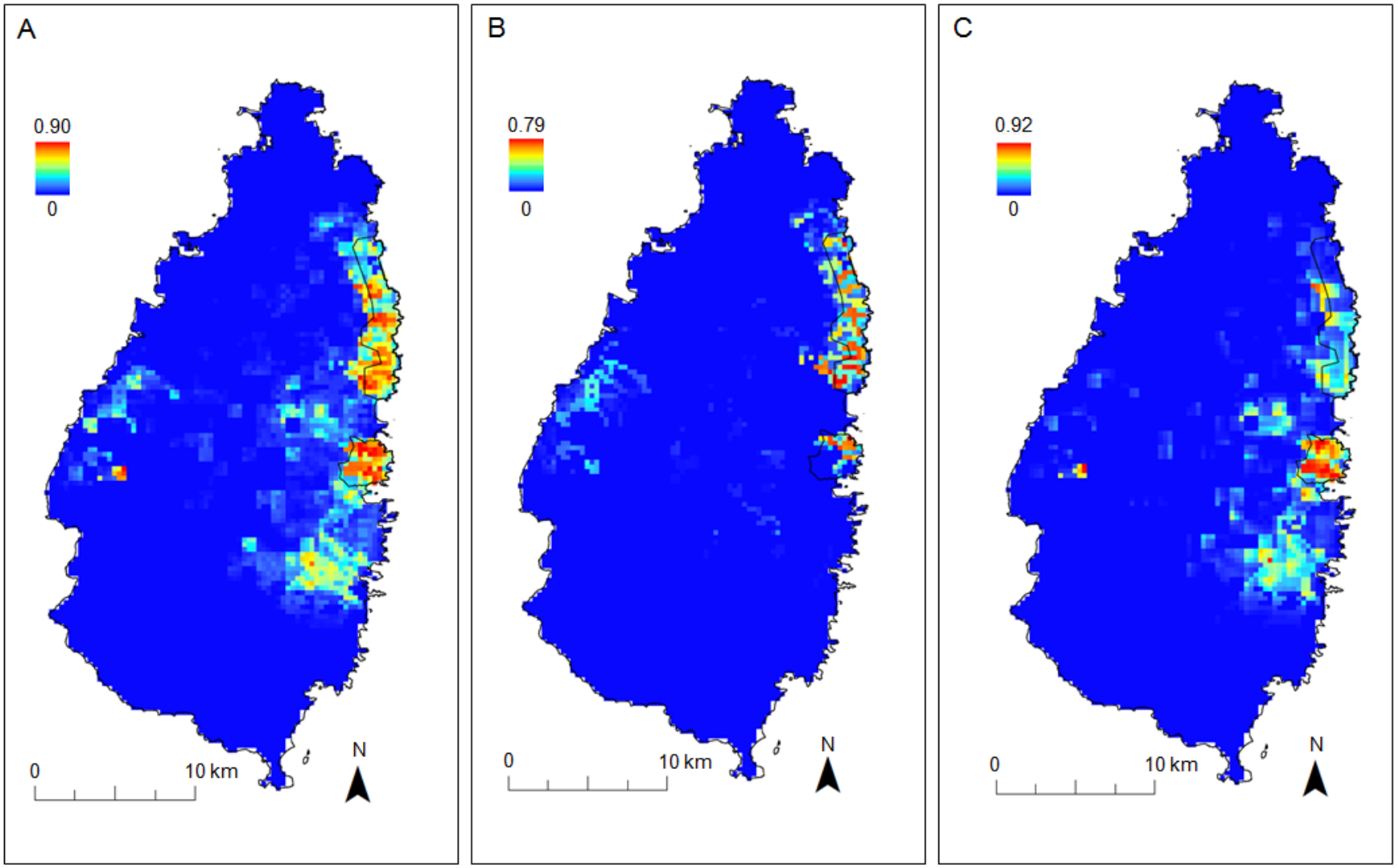

Figure S2. Best habitat suitability models for the White-breasted Thrasher in Saint Lucia run without mammal coverages in model development. Each pixel represents the predicted suitability of that site, ranging from low (blue) to high (red) suitability. (A) Full range model. (B) Iyanola-trained model: presence points from the Iyanola range were used as training data and presence points from the Mandelé range used as test data. (C) Mandelé-trained model: presence points from the Mandelé range were used as training data and presence points from the Iyanola range as test data.

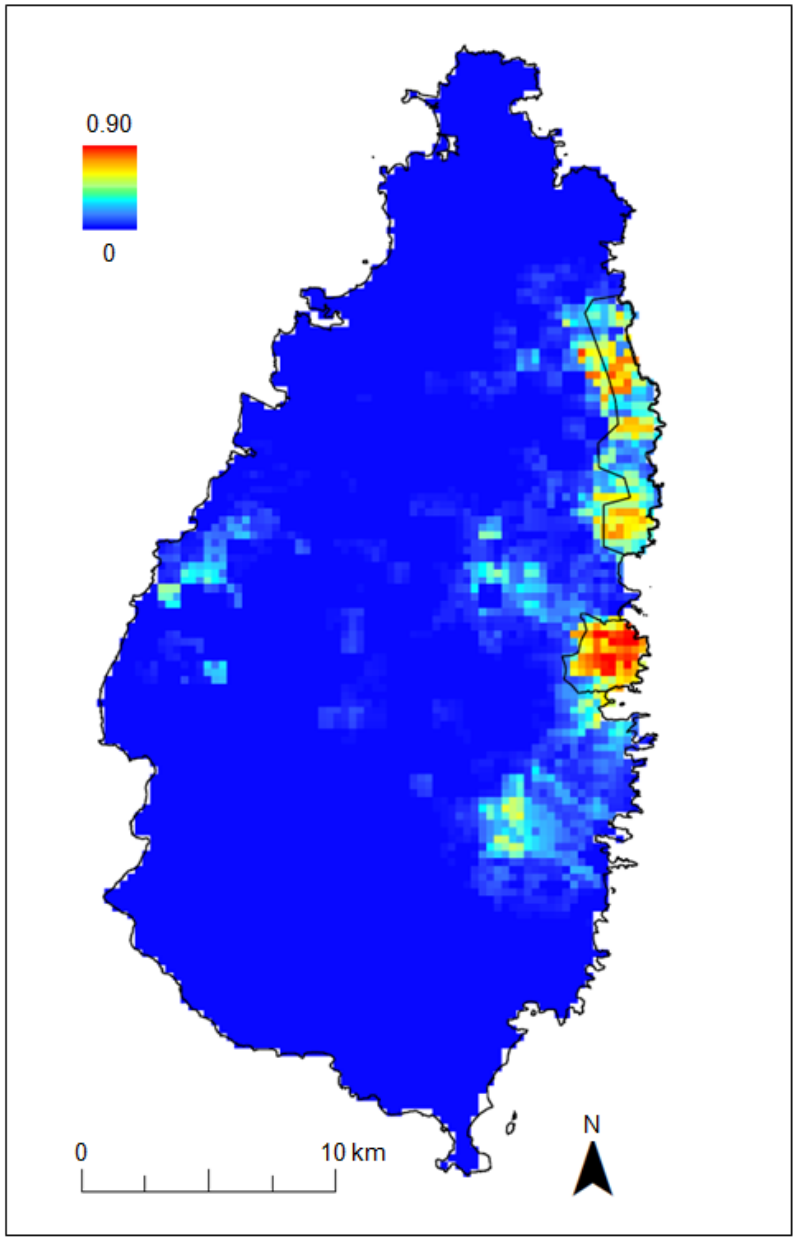

Figure S3. Predicted suitable habitat for the White-breasted Thrasher in Saint Lucia based on presence data from both the Iyanola and Mandelé ranges (full range model). Each pixel represents the predicted suitability of that site, ranging from 0 (blue, low suitability) to 0.9 (red, high suitability).

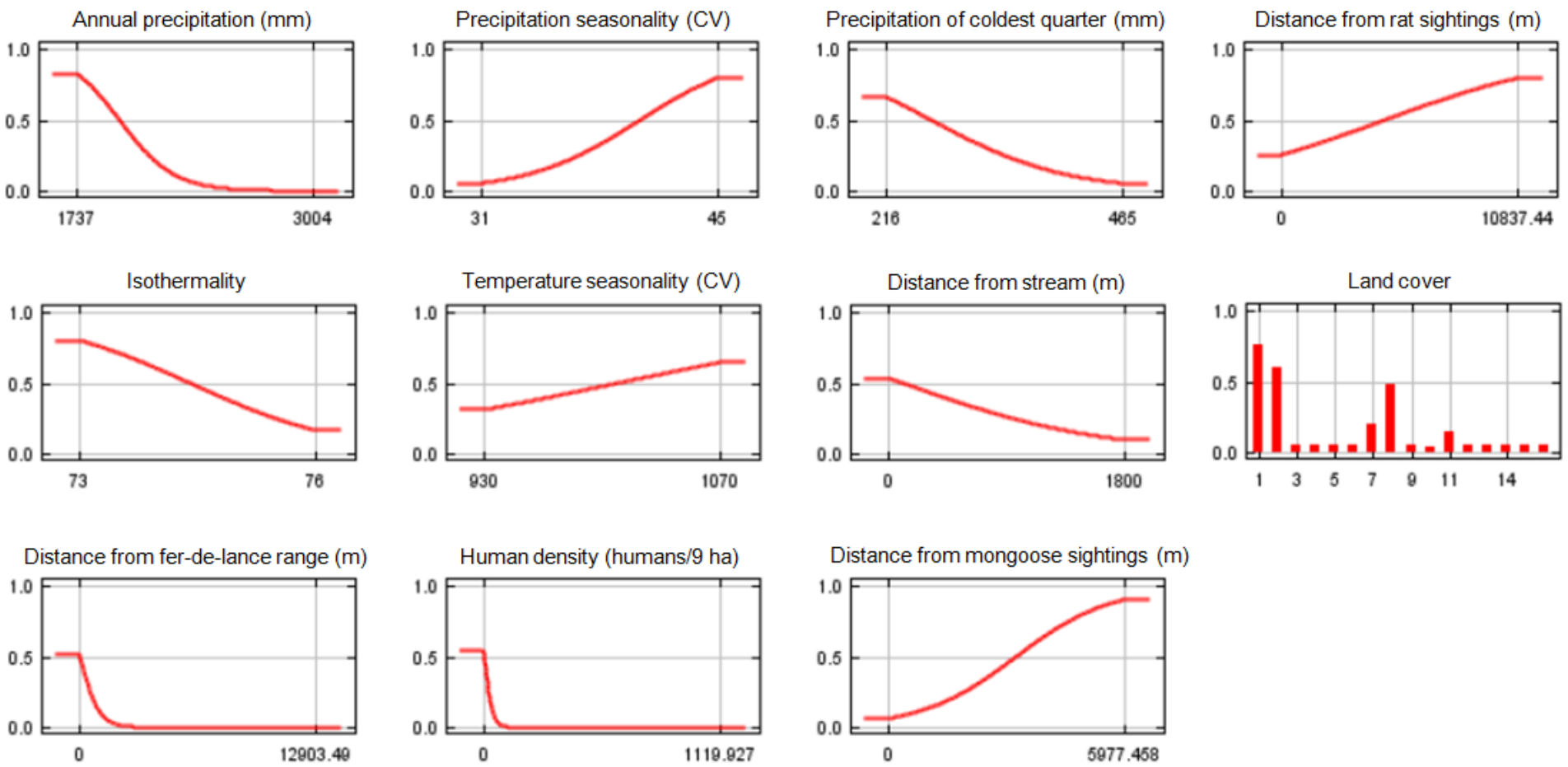

Figure S4. Bivariate relationship between White-breasted Thrasher habitat suitability and predictors retained in the top full-range model.
Land cover values correspond to: 1, under construction (this habitat type did not exist during early thrasher surveys, which is the only time 'presence' was noted. At that time, this was Type 2 land cover. Therefore, any positive association with thrashers is an artifact of timing, and should be treated as association with land cover Type 2.); 2, deciduous seasonal forest; 3, built-up areas; 4, deciduous seasonal forest and grassland; 5, mangrove; 6, herbaceous swamp; 7, intensive farming; 8, mixed farming with deciduous seasonal forest; 9, semi-evergreen seasonal forest; 10, lower montane rainforest; 11, mixed farming with semi-evergreen seasonal forest; 12, montane rainforest; 13, elfin shrublands; 14, mixed farming with lower montane forest; 15, freshwater swamp forest; 16, fumarole vegetation. A land cover map similar to that used in the habitat suitability model can be accessed at: www.bananatrustslu.com/doccentre/National_Forest_Demarcation/Biodiversity%20Assessment%20-%2027%20November%20-%20extract.pdf

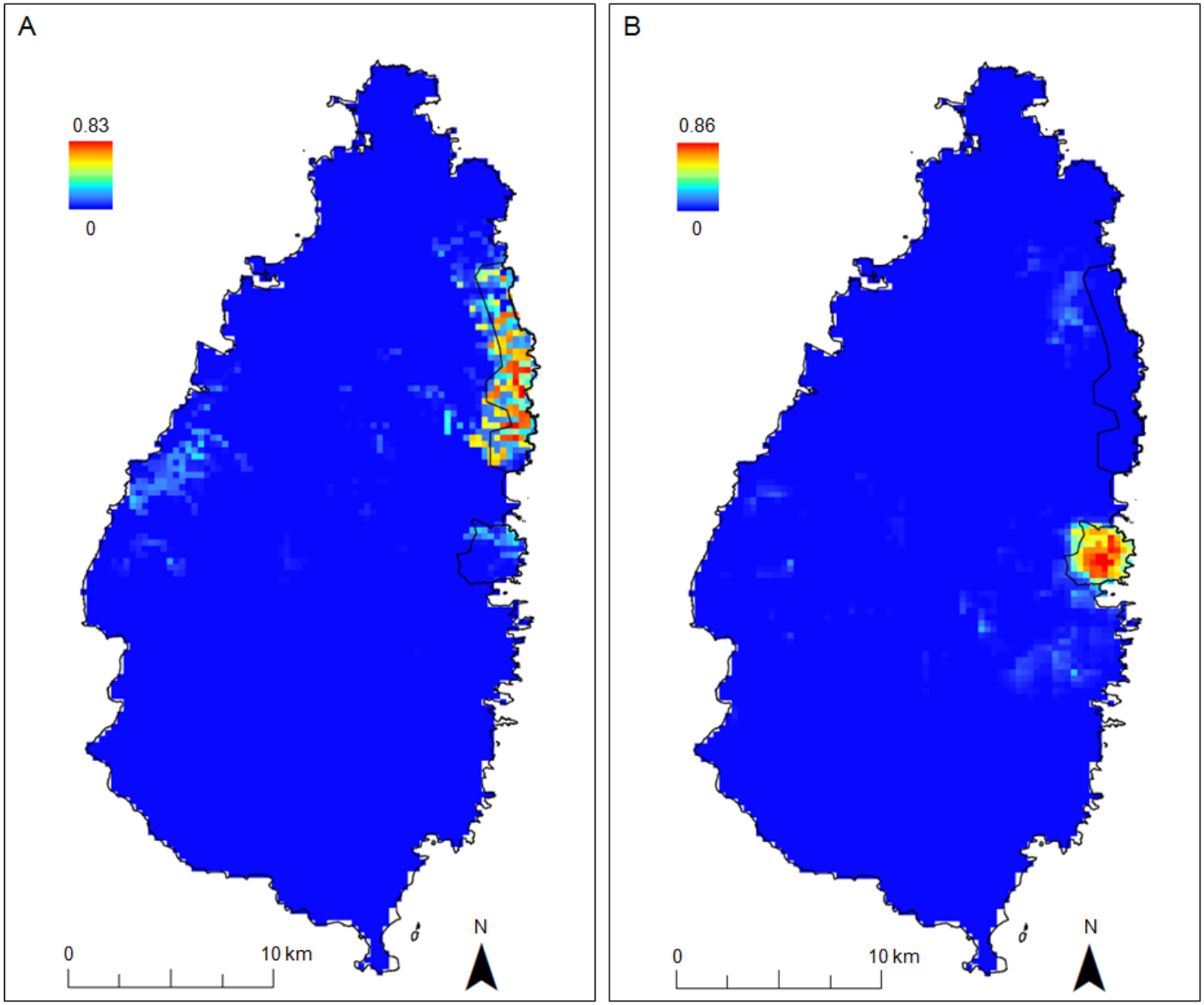

Figure S5. Habitat suitability maps for the White-breasted Thrasher in Saint Lucia. Each pixel represents the predicted suitability of that site, ranging from low (blue) to high (red) suitability. (A) Iyanola-trained model: presence points from the Iyanola range were used as training data and presence points from the Mandelé range used as test data. (B) Mandelé-trained model: presence points from the Mandelé range were used as training data and presence points from the Iyanola range as test data.

Table S1. Variables included in the best of each of the three habitat suitability models for the White-breasted Thrasher in Saint Lucia that do not include the presence of mammalian predators as factors during model development. We report permutation importance for each model (values are compared within, not across, columns), and for each variable describe the relationship with suitability for the best model. "–" indicates a variable not in the top model.

		Variable importance		
Variable	**Relationship for suitability**	**Best full range model**	**Best Mandelé-trained model**	**Best Iyanola-trained model**
Fer-de-lance range	Positive association (closer is better)	41.9	39.5	55.5
Annual precipitation	Negative association	24.9	19.1	9.5
Land Cover	Deciduous seasonal forest is best	13	14.5	24.3
Isothermality	Negative association	12.9	7.9	1.8
Distance to streams	Negative association (closer is better)	1.7	–	7.8
Elevation	Negative association	1.7	6.4	0.4
Precipitation seasonality	Positive association	1.7	5.7	0.5
Human density	Negative association	0.8	–	–
Precipitation of the coldest quarter	Negative association	0.6	3.5	–
Slope	Positive association	0.4	2.1	–
Temperature seasonality	Positive association	0.4	1.4	–
Mean diurnal range	Positive association	< 0.1	–	–

Table S2. Frequency of 300 X 300 m pixels within each suitability bin for the top full-range White-breasted Thrasher habitat suitability model.

Suitability value	Frequency	Percent	Cumulative frequency	Cumulative percent
≤ 0.05	5659	84.83	5659	84.83
0.05 – 0.15	448	6.72	6107	91.55
0.15 – 0.25	204	3.06	6311	94.60
0.25 – 0.35	120	1.80	6431	96.40
0.35 – 0.45	75	1.12	6506	97.53
0.45 – 0.55	51	0.76	6557	98.29
0.55 – 0.65	52	0.78	6609	99.07
0.65 – 0.75	33	0.49	6642	99.57
0.75 – 0.85	21	0.31	6663	99.88
0.85 – 0.95	8	0.12	6671	100.00