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Supplemental Material

Forest Disturbance and Disease: Exploring the Effects of Tree Harvesting Area on *Cryptococcus gattii* sensu lato Infection Risk, Vancouver Island, Canada, 1998–2014

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Table S7. Spearman rank-order correlation results of annual high-confidence harvests occurring from 0 to 20 km of the human settlement area of eastern Vancouver Island and annual *C. gattii* cases on Vancouver Island (1998-2014) where cases were considered if no evidence of travel outside of BC was shown (this included records with no travel history) (n=142 and 233 for confirmed and combined confirmed and probable cases, respectively).

COMPARING HUMAN CASES TO HARVESTS OCCURRING ONE YEAR PRIOR TO CASE REPORTING

Table S8. Spearman rank-order correlation results of annual high- and low-confidence harvests occurring from 0 to 20 km of the human settlement area of eastern Vancouver Island one year prior to case reporting and annual *C. gattii* cases on Vancouver Island (1998-2014) where cases were considered regardless of travel history (n=146 and 241 for confirmed and combined confirmed and probable cases, respectively).

Table S9. Spearman rank-order correlation results of annual high- and low-confidence harvests occurring from 0 to 20 km of the human settlement area of eastern Vancouver Island one year prior to case reporting and annual *C. gattii* cases on Vancouver Island (1998-2014) where cases were considered if no evidence of travel outside of BC was shown (this included records with no travel history) (n=142 and 233 for confirmed and combined confirmed and probable cases, respectively).

Table S10. Spearman rank-order correlation results of annual high-confidence harvests occurring from 0 to 20 km of the human settlement area of eastern Vancouver Island one year prior to case reporting and annual *C. gattii* cases on Vancouver Island (1998-2014) where cases were considered regardless of travel history (n=146 and 241 for confirmed and combined confirmed and probable cases, respectively).

Table S11. Spearman rank-order correlation results of annual high-confidence harvests occurring from 0 to 20 km of the human settlement area of eastern Vancouver Island occurring one year prior to case reporting and annual *C. gattii* cases on Vancouver Island (1998-2014) where cases were considered if no evidence of travel outside of BC was shown (this included records with no travel history) (n=142 and 233 for confirmed and combined confirmed and probable cases, respectively).

Table S12. Area of high-confidence tree harvests (in km^2) directly associated with the construction of the Inland Island Highway from 1991 to 1999.

Table S13. Area of high- and low-confidence tree harvests directly associated with the construction of the Inland Island Highway from 1991 to 1999.

Figure S1. A) High- and low-confidence tree harvest data at 30-m resolution with Inland Island Highway superimposed (grey line). Three example segments of the highway are shown in closer view, with tree harvest years shown along a colour gradient (blue to red) (B, D, and F) as well as using binary colours to depict the same tree harvests occurring from 1985 through 1998 (yellow) and 1999 through 2014 (purple) (C, E, and G). Inset map specifies region of Vancouver Island shown. Tree harvests were assigned 'high' or 'low' confidence through a random forest classifier, based on how many votes from individual trees were received for each class type (tree harvest, fire, etc.). The proportion of votes of the second most voted class (v2) was divided by the proportion of votes of the assigned class (v1). Tree harvests were considered high confidence if v2/v1 was less than or equal to 0.4 and low confidence if v2/v1 was greater than 0.4. Tree harvest data were provided by Hermosilla et al. (see https://opendata.nfis.org/mapserver/nfis-change_eng.html). This figure was created using ArcGIS v.10.7.1 (Environmental Systems Research Institute, 2019, Redlands, CA, USA).

Figure S2. The area of A) high and low confidence and B) high confidence tree harvests (in square kilometers) associated directly with construction of the Inland Island Highway and Nanaimo Parkway (in black) compared to harvests not occurring within the highway construction area (in grey). Harvests associated directly with highway construction were calculated based on harvests within 60 m of the highway and can be found in Tables S12 and S13. Harvests occurring outside the highway region were those that fell within 10 km of the eastern human settlement area of Vancouver Island. Tree harvests were assigned 'high' or 'low' confidence through a random forest classifier, based on how many votes from individual trees were received for each class type (tree harvest, fire, etc.). The proportion of votes of the second most voted class (v2) was divided by the proportion of votes of the assigned class (v1). Tree harvests were considered high confidence if v2/v1 was less than or equal to 0.4 and low confidence if v2/v1 was greater than 0.4. Tree harvest data were provided by Hermosilla et al. (see https://opendata.nfis.org/mapserver/nfis-change_eng.html). Permanent human settlement areas were created based on the 2015 raster dataset from the European Commission Global Human Settlement -- Settlement Model (SMOD) at 1-km resolution (https://ghsl.jrc.ec.europa.eu/datasets.php). The area of annual high-confidence tree harvesting (in km^2) per year from 1985-2014 is shown in Table S3 and the area of annual high- and low-confidence tree harvesting (in km^2) is shown in Table S4. The spatial extent of the highway is shown in Figure S1.

References