Both Direct and Vicarious Experiences of Nature Affect Children's Willingness to Conserve Biodiversity

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Figure S1. Land use map of the region around the study school (**black square**). In the middle of the map is the Tama River, the biggest river in Tokyo.



Figure S2. Ward's dendrogram of a hierarchical cluster analysis conducted on 16 animal species.

| Combination | t Value | <i>p</i> Value |
|---|---------|----------------|
| Watching TV or reading books about nature | | |
| Attitude scores | | |
| Never vs. Seldom | 2.47 | 0.07 |
| Never vs. Sometimes | 4.85 | < 0.001 |
| Never vs. Often | 9.76 | < 0.001 |
| Seldom vs. Sometimes | 3.04 | 0.01 |
| Seldom vs. Often | 9.64 | < 0.001 |
| Sometimes vs. Often | 7.80 | < 0.001 |
| Willingness scores | | |
| Never vs. Seldom | 2.88 | 0.02 |
| Never vs. Sometimes | 5.14 | < 0.001 |
| Never vs. Often | 8.42 | < 0.001 |
| Seldom vs. Sometimes | 2.83 | 0.02 |
| Seldom vs. Often | 7.28 | < 0.001 |
| Sometimes vs. Often | 5.32 | < 0.001 |
| Talking about nature | | |
| Attitude scores | | |
| Never vs. Seldom | 2.99 | 0.02 |
| Never vs. Sometimes | 8.16 | < 0.001 |
| Never vs. Often | 6.93 | < 0.001 |
| Seldom vs. Sometimes | 6.09 | < 0.001 |
| Seldom vs. Often | 5.13 | < 0.001 |
| Sometimes vs. Often | 0.67 | 0.91 |
| Willingness scores | | |
| Never <i>vs.</i> Seldom | 3.77 | 0.001 |
| Never vs. Sometimes | 8.80 | < 0.001 |
| Never vs. Often | 7.47 | < 0.001 |
| Seldom vs. Sometimes | 5.99 | < 0.001 |
| Seldom vs. Often | 5.12 | < 0.001 |
| Sometimes vs. Often | 0.72 | 0.89 |

Table S1. Summary of Tukey's HSD (honestly significant difference) test (see Figure 2 in the main text).

Table S2. Unstandardized and standardized parameter estimates for mediated relationships in the model (see Figures 3 and 5 in the main text).

| Path Estimate - | Estimate. | 95% CI | | Standardized |
|--|-----------|--------|----------|--------------|
| | Lower | Upper | Estimate | |
| All species (16 species) | | | | |
| Direct experience \rightarrow Affective attitudes \rightarrow | 2.60 | 154 | 2 75 | 0.20 |
| Willingness to conserve | 2.00 | 1.54 | 5.75 | 0.20 |
| Reading and watching \rightarrow Affective attitudes \rightarrow | 1 40 | 0.78 | 2.08 | 0.14 |
| Willingness to conserve | 1.40 | 0.70 | 2.00 | 0.14 |
| Talking \rightarrow Affective attitudes \rightarrow | 0.62 | 0.05 | 1 14 | 0.06 |
| Willingness to conserve | 0.02 | 0.00 | 1.14 | 0.00 |
| Gender \rightarrow Affective attitudes \rightarrow | 2 76 | 1 82 | 3 77 | 0.15 |
| Willingness to conserve | 2.7 0 | 1.02 | 0 | 0.10 |
| Cluster 1 (5 species) | | | | |
| Direct experience \rightarrow Affective attitudes \rightarrow | 0 99 | 0.64 | 1.36 | 0.25 |
| Willingness to conserve | 0.77 | 0.01 | 1.00 | 0.20 |
| Reading and watching \rightarrow Affective attitudes \rightarrow | 0.36 | 0.15 | 0.58 | 0.12 |
| Willingness to conserve | | | | |
| Talking \rightarrow Affective attitudes \rightarrow | 0.11 | -0.10 | 0.31 | 0.04 |
| Willingness to conserve | | | | |
| Gender \rightarrow Affective attitudes \rightarrow | -0.04 | -0.38 | 0.24 | -0.01 |
| Willingness to conserve | | | | |
| Cluster 2 (7 species) | | | | |
| Direct experience \rightarrow Affective attitudes \rightarrow | 1.22 | 0.70 | 1.73 | 0.19 |
| Willingness to conserve | | | | |
| Reading and watching \rightarrow Affective attitudes \rightarrow | 0.75 | 0.43 | 1.10 | 0.15 |
| Willingness to conserve | | | | |
| Talking \rightarrow Affective attitudes \rightarrow | 0.37 | 0.04 | 0.69 | 0.07 |
| Willingness to conserve | | | | |
| Gender \rightarrow Affective attitudes \rightarrow | 2.11 | 1.62 | 2.76 | 0.22 |
| Willingness to conserve | | | | |
| Cluster 3 (4 species) | | | | |
| Direct experience \rightarrow Affective attitudes \rightarrow | 0.32 | 0.11 | 0.52 | 0.09 |
| Willingness to conserve | | | | |
| Reading and watching \rightarrow Affective attitudes \rightarrow | 0.26 | 0.12 | 0.41 | 0.09 |
| Talling Affastics attitudes | | | | |
| Taiking \rightarrow Affective attitudes \rightarrow | 0.13 | -0.01 | 0.28 | 0.05 |
| Condor -> Affortive attitudes | | | | |
| Genuer \neg Anecuve attitudes \neg | 0.69 | 0.43 | 0.98 | 0.13 |
| Willingness to conserve | | | | |



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