

## **SUPPLEMENTARY INFORMATION (SI)**

### **A Cross-Regional Ecological Assessment of Contaminants in Soils Intended for Agri-food Initiatives on Indigenous Peoples' Lands in Australia and Canadaa**

#### ***Environmental Monitoring and Assessment***

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**Table S1. Pollution indices guidelines and thresholds.**

| Metal | Subarctic Ontario<br>and Newfoundland <sup>1</sup> |           | Australia <sup>2</sup> |                       | Australia            |                    |                    | Subarctic Ontario | Newfoundland | $T^{3,8}$ | ERL <sup>9,10</sup> | ERM <sup>9,10</sup> |
|-------|----------------------------------------------------|-----------|------------------------|-----------------------|----------------------|--------------------|--------------------|-------------------|--------------|-----------|---------------------|---------------------|
|       | Contaminant                                        | Threshold | Guidelines             | $C_{pt}$ <sup>3</sup> | $B_a$ <sup>4,5</sup> | $B_a$ <sup>6</sup> | $B_a$ <sup>7</sup> |                   |              |           |                     |                     |
|       |                                                    |           |                        |                       |                      |                    |                    |                   |              |           |                     |                     |
| Ag    |                                                    | 20        | --                     | --                    | --                   |                    | 0.5                | 0.05              | --           | --        | --                  |                     |
| Al    |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| As    |                                                    | 12        | 100                    | 15                    | 1.6                  |                    | 11                 | 15                | 10           | 8.2       | 70                  |                     |
| B     |                                                    | 2.0       | --                     | --                    | --                   |                    | 36                 | --                | --           | --        | --                  |                     |
| Ba    |                                                    | 750       | 300                    | --                    | 66.8                 |                    | 210                | 700               | --           | --        | --                  |                     |
| Be    |                                                    | 4.0       | --                     | --                    |                      |                    | 2.5                | 3.0               | --           | --        | --                  |                     |
| Ca    |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| Cd    |                                                    | 1.4       | 3.0                    | 1.0                   | 0.04                 |                    | 1.0                | 0.2               | 30           | 1.2       | 9.6                 |                     |
| Co    |                                                    | 40        | 50                     | 25                    | 6.3                  |                    | 19                 | 100               | 5            | --        | --                  |                     |
| Cr    |                                                    | 64        | 100                    | 90                    | 23.6                 |                    | 67                 | 100               | 2            | 81        | 370                 |                     |
| Cu    |                                                    | 63        | 7000                   | 50                    | 11.2                 |                    | 62                 | 50                | 5            | 34        | 270                 |                     |
| Fe    |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| K     |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| Mg    |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| Mn    |                                                    | --        | 3000                   | --                    | 281                  |                    | --                 | --                | --           | --        | --                  |                     |
| Mo    |                                                    | 5.0       | 40                     | --                    | 0.2                  |                    | 2.0                | 3.0               | --           | --        | --                  |                     |
| Na    |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| Ni    |                                                    | 45        | 400                    | 5                     | 9.8                  |                    | 37                 | 70                | 5            | 20.9      | 51.6                |                     |
| P     |                                                    | --        | 2000                   | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| Pb    |                                                    | 70        | 300                    | 70                    | 7.22                 |                    | 45                 | 20                | 5            | 46.7      | 218                 |                     |
| S     |                                                    | 500       | 600                    | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |
| Sb    |                                                    | 20        | --                     | --                    | --                   |                    | 1.0                | 1.0               | --           | --        | --                  |                     |
| Se    |                                                    | 1.0       | --                     | --                    | --                   |                    | 1.2                | 0.6               | --           | --        | --                  |                     |
| Sn    |                                                    | 5.0       | 50                     | --                    | 0.65                 |                    | --                 | 4.0               | --           | --        | --                  |                     |
| Sr    |                                                    | --        | --                     | --                    | --                   |                    | --                 | --                | --           | --        | --                  |                     |

|           |     |      |     |      |     |     |    |     |     |
|-----------|-----|------|-----|------|-----|-----|----|-----|-----|
| <b>Ti</b> | --  | --   | --  | --   | --  | --  | -- | --  | --  |
| <b>Tl</b> | 1.0 | --   | --  |      | 1.0 | 1.0 | -- | --  | --  |
| <b>U</b>  | 23  | --   | --  | --   | 1.9 | 4   | -- | --  | --  |
| <b>V</b>  | 130 | 50   | --  | 32   | 86  | 130 | -- | --  | --  |
| <b>Zn</b> | 200 | 8000 | 175 | 26.3 | 290 | 100 | 2  | 150 | 410 |

Key: Ag: Silver, Al: Aluminum, As: Arsenic, B: Boron, Ba: Barium, Be: Beryllium, Ca: Calcium, Cd: Cadmium, Co: Cobalt, Cr: Chromium, Cu: Copper, Fe: Iron, K: Potassium, Mg: Magnesium, Mn: Manganese, Mo: Molybdenum, Na: Sodium, Ni: Nickel, P: Phosphorus, Pb: Lead, S: Sulfur, Sb: Antimony, Se: Selenium, Sn: Tin, Sr: Strontium, Ti: Titanium, Tl: Thallium, U: Uranium, V: Vanadium, Zn: Zinc.

1. Canadian Council of Ministers of the Environment [CCME] (<https://ccme.ca/en/summary-table>)
2. Contaminated Sites Management Series Assessment levels for Soil, Sediment and Water (<https://support.esdat.net/Environmental%20Standards/Australia/WA/Assessment%20Levels%20-%202010.pdf>)
3. Kowlaska et al. 2018 (Table S4);
4. Total heavy metal status of horticultural soils in Queensland (<https://ausveg.com.au/app/data/technical-insights/docs/VG404.pdf>)
5. Investigation Levels Soil and Groundwater (<https://www.nepc.gov.au/sites/default/files/2022-09/schedule-b1-guideline-investigation-levels-soil-and-groundwater-sep10.pdf>)
6. Government of Ontario 2015
7. A guide to geochemistry in Newfoundland and Labrador (<https://www.gov.nl.ca/iet/files/mines-prospectors-matty-mitchell-virtual-a-guide-to-geochemistry-in-nl.pdf>)
8. Darko, G., Dodd, M., Nkansah, M. A., Aduse-Poku, Y., Ansah, E., Wemegah, D. D., & Borquaye, L. S. (2017). Distribution and ecological risks of toxic metals in the topsoils in the Kumasi metropolis, Ghana. *Cogent Environmental Science*, 3(1), 1354965. <https://doi.org/10.1080/23311843.2017.1354965>
9. Long et al. 1995
10. Luo et al. 2010

**Table S2. PCA/FA results for calculation of contamination security index (*CSI*) *w*.**

| <b>Location</b>   | <b>Metal</b> | <b><i>VF</i></b> | <b><i>w</i></b> |
|-------------------|--------------|------------------|-----------------|
| Australia         | Cr           | 0.927            | 0.214           |
|                   | Cu           | 0.898            | 0.208           |
|                   | Ni           | 0.912            | 0.211           |
|                   | Pb           | 0.752            | 0.174           |
|                   | Zn           | 0.834            | 0.193           |
| Eigenvalue        | 2.96         |                  |                 |
| Bartlett's Test   | $p < 0.001$  |                  |                 |
| KMO Test          | 0.62         |                  |                 |
| Subarctic Ontario | As           | 0.700            | 0.219           |
|                   | Cr           | 0.884            | 0.276           |
|                   | Cu           | 0.161            | 0.050           |
|                   | Ni           | 0.727            | 0.227           |
|                   | Pb           | 0.726            | 0.227           |
| Eigenvalue        | 3.21         |                  |                 |
| Bartlett's Test   | $p < 0.001$  |                  |                 |
| KMO Test          | 0.50         |                  |                 |
| Newfoundland      | As           | 0.913            | 0.199           |
|                   | Cr           | 0.761            | 0.166           |
|                   | Cu           | 0.797            | 0.174           |
|                   | Ni           | 0.872            | 0.190           |
|                   | Pb           | 0.411            | 0.009           |
|                   | Zn           | 0.835            | 0.182           |
| Eigenvalue        | 4.53         |                  |                 |
| Bartlett's Test   | $p < 0.001$  |                  |                 |
| KMO Test          | 0.71         |                  |                 |

Key: As: Arsenic, Cr: Chromium, Cu: Copper, Ni: Nickel, Pb: Lead, Zn: Zinc, *VF*: varifactor, *w*: weight.

**Table S3. Contamination security index severity classification.**

| <i>CSI</i> | Contamination severity <sup>1</sup> |
|------------|-------------------------------------|
| < 0.5      | not contaminated                    |
| 0.5-1      | very low severity                   |
| 1-1.5      | low severity                        |
| 1.5-2      | low to moderate severity            |
| 2-2.5      | moderate severity                   |
| 2.5-3      | moderate to high severity           |
| 3-4        | high severity                       |
| 4-5        | very high severity                  |
| > 5        | ultra-high severity                 |

*Key: CSI: contamination severity index.*

1. Kowalska et al. (2018)

Table S4. Metal(loid)s descriptive statistics.

| Subarctic Ontario |          |          |          |           |                  | Newfoundland |          |         |          |                  | Australia |        |        |         |                  |
|-------------------|----------|----------|----------|-----------|------------------|--------------|----------|---------|----------|------------------|-----------|--------|--------|---------|------------------|
| Metal             | Mean     | SD       | Min      | Max       | <i>n</i> detects | Mean         | SD       | Min     | Max      | <i>n</i> detects | Mean      | SD     | Min    | Max     | <i>n</i> detects |
| (mg/kg)           |          |          |          |           |                  | (mg/kg)      |          |         |          |                  | (mg/kg)   |        |        |         |                  |
| Ag                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | 0.26         | 0.00     | 0.26    | 0.26     | 1                | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Al                | 6307.50  | 2206.50  | 780.00   | 8800.00   | 24               | 13206.00     | 5699.73  | 790.00  | 22000.00 | 15               | 1.91      | 1.11   | 0.24   | 3.50    | 17               |
| As                | 1.94     | 0.37     | 1.20     | 2.90      | 23               | 31.29        | 27.05    | 3.10    | 95.00    | 15               | 12.33     | 4.04   | 8.00   | 16.00   | 3                |
| B                 | 25.78    | 5.41     | 18.00    | 33.00     | 18               | 2.23         | 0.18     | 2.00    | 2.50     | 6                | 6.70      | 0.00   | 6.70   | 6.70    | 1                |
| Ba                | 33.93    | 12.02    | 13.00    | 51.00     | 24               | 23.32        | 10.17    | 7.20    | 48.00    | 15               | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Be                | 0.28     | 0.05     | 0.19     | 0.34      | 16               | 0.31         | 0.15     | 0.02    | 0.53     | 15               | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Ca                | 66958.33 | 20910.74 | 23000.00 | 130000.00 | 24               | 1450.00      | 2383.68  | 180.00  | 9100.00  | 15               | 0.37      | 0.46   | 0.06   | 2.00    | 17               |
| Cd                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | <LOD         | <LOD     | <LOD    | <LOD     | 0                | 0.55      | 0.32   | 0.32   | 1.10    | 5                |
| Co                | 6.07     | 0.84     | 4.80     | 7.30      | 19               | 9.18         | 3.87     | 1.40    | 15.00    | 15               | 26.00     | 19.73  | 1.30   | 81.00   | 17               |
| Cr                | 20.63    | 2.16     | 16.00    | 24.00     | 16               | 24.76        | 11.85    | 7.20    | 41.00    | 14               | 63.14     | 64.10  | 9.10   | 240.00  | 17               |
| Cu                | 9.37     | 3.78     | 6.00     | 25.00     | 22               | 14.11        | 5.84     | 7.10    | 27.00    | 14               | 42.62     | 60.59  | 3.40   | 250.00  | 17               |
| Fe                | 12291.67 | 3690.05  | 3100.00  | 16000.00  | 24               | 25266.67     | 10390.63 | 2300.00 | 39000.00 | 15               | 4.28      | 2.57   | 0.61   | 8.10    | 17               |
| K                 | 1357.50  | 1162.01  | 510.00   | 6700.00   | 24               | 667.93       | 268.84   | 79.00   | 1100.00  | 15               | 105.44    | 140.31 | 0.04   | 360.00  | 17               |
| Mg                | 23275.00 | 8407.67  | 5000.00  | 45000.00  | 24               | 4224.00      | 2316.23  | 460.00  | 8500.00  | 15               | 0.16      | 0.10   | 0.03   | 0.32    | 17               |
| Mn                | 368.75   | 121.27   | 120.00   | 560.00    | 24               | 549.73       | 252.53   | 96.00   | 1000.00  | 15               | 1070.00   | 757.32 | 110.00 | 2800.00 | 17               |
| Mo                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | 1.32         | 0.76     | 0.53    | 2.90     | 12               | 1.88      | 0.71   | 1.50   | 3.60    | 8                |
| Na                | 247.08   | 133.04   | 110.00   | 840.00    | 24               | 133.33       | 49.33    | 100.00  | 190.00   | 3                | 0.01      | 0.01   | 0.00   | 0.02    | 17               |
| Ni                | 11.71    | 2.45     | 7.90     | 16.00     | 21               | 20.21        | 11.79    | 1.50    | 41.00    | 15               | 27.89     | 25.47  | 5.00   | 79.00   | 17               |
| P                 | 681.25   | 734.38   | 320.00   | 4100.00   | 24               | 347.33       | 133.92   | 120.00  | 650.00   | 15               | 0.12      | 0.19   | 0.01   | 0.83    | 17               |
| Pb                | 6.65     | 0.88     | 5.80     | 8.20      | 13               | 13.60        | 3.31     | 7.00    | 20.00    | 15               | 58.25     | 66.36  | 7.30   | 240.00  | 17               |
| S                 | 917.08   | 249.72   | 330.00   | 1300.00   | 24               | 334.00       | 295.68   | 110.00  | 1100.00  | 15               | 0.04      | 0.03   | 0.01   | 0.15    | 17               |
| Sb                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | <LOD         | <LOD     | <LOD    | <LOD     | 0                | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Se                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | <LOD         | <LOD     | <LOD    | <LOD     | 0                | 7.03      | 1.54   | 5.00   | 9.50    | 6                |
| Sn                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | <LOD         | <LOD     | <LOD    | <LOD     | 0                | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Sr                | 46.61    | 17.13    | 17.80    | 110.00    | 24               | 9.42         | 13.12    | 2.10    | 49.00    | 15               | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Ti                | 535.71   | 181.96   | 47.00    | 820.00    | 24               | 524.05       | 334.97   | 6.80    | 1300.00  | 15               | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| Tl                | <LOD     | <LOD     | <LOD     | <LOD      | 0                | <LOD         | <LOD     | <LOD    | <LOD     | 0                | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| U                 | <LOD     | <LOD     | <LOD     | <LOD      | 0                | <LOD         | <LOD     | <LOD    | <LOD     | 0                | <LOD      | <LOD   | <LOD   | <LOD    | 0                |
| V                 | 22.01    | 2.97     | 18.00    | 27.00     | 21               | 23.65        | 10.94    | 1.20    | 46.00    | 15               | <LOD      | <LOD   | <LOD   | <LOD    | 0                |

|              |       |       |       |       |            |              |       |      |       |    |            |              |       |        |    |  |            |
|--------------|-------|-------|-------|-------|------------|--------------|-------|------|-------|----|------------|--------------|-------|--------|----|--|------------|
| <b>Zn</b>    | 31.04 | 10.53 | 15.00 | 68.00 | 23         | 43.44        | 15.16 | 5.60 | 66.00 | 15 | 213.12     | 211.37       | 20.00 | 750.00 | 17 |  |            |
| <b>Total</b> |       |       |       |       | <b>480</b> | <b>Total</b> |       |      |       |    | <b>320</b> | <b>Total</b> |       |        |    |  | <b>278</b> |

Key: LOD: Level of detection, Ag: Silver, Al: Aluminum, As: Arsenic, B: Boron, Ba: Barium, Be: Beryllium, Ca: Calcium, Cd: Cadmium, Co: Cobalt, Cr: Chromium, Cu: Copper, Fe: Iron, K: Potassium, Mg: Magnesium, Mn: Manganese, Mo: Molybdenum, Na: Sodium, Ni: Nickel, P: Phosphorus, Pb: Lead, S: Sulfur, Sb: Antimony, Se: Selenium, Sn: Tin, Sr: Strontium, Ti: Titanium, Tl: Thallium, U: Uranium, V: Vanadium, Zn: Zinc.

Table S5. Pesticides descriptive statistics.

| Organochlorine Pesticide    | Subarctic Ontario |      |      |      |                  | Newfoundland |      |      |      |                  | Australia |       |      |      |                  |  |   |
|-----------------------------|-------------------|------|------|------|------------------|--------------|------|------|------|------------------|-----------|-------|------|------|------------------|--|---|
|                             | Mean              | SD   | Min  | Max  | <i>n</i> detects | Mean         | SD   | Min  | Max  | <i>n</i> detects | Mean      | SD    | Min  | Max  | <i>n</i> detects |  |   |
|                             | (mg/kg)           |      |      |      |                  | (mg/kg)      |      |      |      |                  | (mg/kg)   |       |      |      |                  |  |   |
| alpha-BHC                   | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| beta-BHC                    | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| gamma-BHC                   | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| delta-BHC                   | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| heptachlor                  | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| aldrin                      | 0.01              | 0.01 | 0.00 | 0.01 | 2                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| heptachlor epoxide isomer B | 0.01              | 0.00 | 0.01 | 0.01 | 1                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| endosulfan I                | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| dieldrin                    | 0.07              | 0.13 | 0.00 | 0.44 | 16               | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| endrin                      | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| Endosulfan II               | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| endrin aldehyde             | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| endosulfan sulfate          | 0.01              | 0.01 | 0.00 | 0.01 | 10               | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| methoxychlor                | <LOD              | <LOD | <LOD | <LOD | 0                | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| <i>o,p'</i> -DDE            | 0.01              | 0.01 | 0.00 | 0.03 | 12               | 0.00         | 0.00 | 0.00 | 0.00 | 1                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| <i>p,p'</i> -DDE            | 0.23              | 0.46 | 0.00 | 2.05 | 28               | 0.00         | 0.00 | 0.00 | 0.00 | 3                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| <i>o,p'</i> -DDD            | 0.01              | 0.02 | 0.00 | 0.08 | 19               | <LOD         | <LOD | <LOD | <LOD | 0                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| <i>p,p'</i> -DDD            | 0.04              | 0.07 | 0.00 | 0.30 | 27               | 0.00         | 0.00 | 0.00 | 0.00 | 1                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| <i>o,p'</i> -DDT            | 0.10              | 0.19 | 0.00 | 0.72 | 18               | 0.00         | 0.00 | 0.00 | 0.00 | 1                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| <i>p,p'</i> -DDT            | 0.50              | 1.04 | 0.00 | 4.54 | 25               | 0.00         | 0.00 | 0.00 | 0.01 | 3                | <LOD      | <LOD  | <LOD | <LOD | 0                |  |   |
| Total                       |                   |      |      |      | 158              | Total        |      |      |      |                  | 9         | Total |      |      |                  |  | 0 |

Key: LOD: Level of detection, alpha-BHC: Alpha-Benzene Hexachloride, beta-BHC: Beta-Benzene Hexachloride, gamma-BHC: Gamma-Benzene Hexachloride (Lindane), delta-BHC: Delta-Benzene Hexachloride, *o,p'*-DDE: 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene , *p,p'*-DDE: 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene, *o,p'*-DDD: 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane, *p,p'*-DDD: 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane, *o,p'*-DDT: 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane, *p,p'*-DDT: 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane.

**Table S6. PCA results for pesticides in subarctic Ontario.**

| Pesticide           | Loadings |        |
|---------------------|----------|--------|
|                     | PC1      | PC2    |
| Dieldrin            | 0.846    | 0.309  |
| Endosulfan sulfate  | -0.006   | -0.993 |
| <i>p,p'</i> -DDE    | 0.998    | -0.038 |
| <i>p,p'</i> -DDD    | 0.987    | 0.038  |
| <i>p,p'</i> -DDT    | 0.993    | 0.112  |
| Eigenvalue          | 3.67     | 1.01   |
| Variance            | 75.20%   | 20.01% |
| Cumulative variance | 75.20%   | 95.21% |

*Key:* *p,p'*-DDE: 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene, *p,p'*-DDD: 1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane, *p,p'*-DDT: 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane, PC: principal component.