

**Supplementary material**

## Appendix 1

Table 1A. Within-site standard deviations (SD) and  $\delta^2\text{H}$  values from 73 black-and-white warbler (BAWW), Wilson's warbler (WIWA), and MacGillivray's warbler (MGWA) feather samples collected from 11 breeding locations.

| Breeding Site                               | Latitude (N) | Longitude (W) | Species   | n  | $\delta^2\text{H}_f$ (‰)<br>(mean $\pm$ SD) |
|---|--------------|---------------|-----------|----|---|
| Balsam Mountain Preserve, North Carolina    | 35.40        | -83.12        | BAWW      | 10 | -53.38 $\pm$ 6.9                            |
| Patuxent Wildlife Research Center, Maryland | 38.54        | -76.75        | BAWW      | 3  | -61.2 $\pm$ 3.5                             |
| Penobscot Experiment Forest, Maine          | 44.86        | -68.65        | BAWW      | 5  | -77.1 $\pm$ 3.6                             |
| Mother Goose Lake, Alaska                   | 57.18        | -157.28       | WIWA      | 4  | -111.2 $\pm$ 9.1                            |
| Denali National Park, Alaska                | 63.76        | -149.61       | WIWA      | 8  | -151.7 $\pm$ 8.4                            |
| 100 Mile House, British Columbia            | 51.65        | -121.28       | WIWA/MGWA | 11 | -148.8 $\pm$ 6.0                            |
| Wenatchee National Forest, Washington       | 46.91        | -120.92       | MGWA      | 4  | -120.1 $\pm$ 5.1                            |
| Willamette National Forest, Oregon          | 45.20        | -121.95       | WIWA/MGWA | 12 | -84.4 $\pm$ 5.7                             |
| Tahoe National Forest, California           | 39.47        | -120.38       | WIWA      | 5  | -87.5 $\pm$ 4.8                             |
| Flathead National Forest, Montana           | 48.35        | -133.98       | WIWA      | 5  | -123.7 $\pm$ 3.3                            |
| Grand Mesa, Colorado                        | 39.13        | -108.09       | WIWA      | 6  | -103.8 $\pm$ 3.6                            |