



Alaska and Canada 2026 Feather Sampling Protocol

The Bird Genoscape Project welcomes feather samples from **any migratory or resident species**, not limited to the lists below.

Exceptions: we would prefer no Gray Catbird, Song Sparrow, White-crowned Sparrow, White-throated Sparrow, or Yellow-rumped Warbler samples collected during migration at this time. Breeding or wintering samples are still desired.

Category I: Species for which we are actively building population-specific range maps. We are interested in samples from the **Breeding or Wintering grounds**:

American Robin	AMRO	Eastern Meadowlark	EAME
Baird's Sparrow	BAIS	Eastern Warbling Vireo	EAWV
Bank Swallow	BANS	Hairy Woodpecker	HAWO
Blackpoll Warbler	BLPW	Horned Lark	HOLA
Black-throated Green Warbler	BTNW	Magnolia Warbler	MAWA
Blue-headed Vireo	BHVI	Nashville Warbler	NAWA
Bobolink	BOBO	Northern Saw-whet Owl *& migration	NSWO
Brewer's Sparrow	BRSP	Palm Warbler	PAWA
Brown Creeper	BRCR	Ruby-crowned Kinglet	RCKI
Cassin's Vireo	CAVI	Rufous Hummingbird *& migration	RUHU
Chestnut-collared Longspur	CCLO	Tennessee Warbler	TEWA
Chestnut-sided Warbler	CSWA	Western Meadowlark	WEME
Common Loon	COLO	White-throated Sparrow	WTSP
Dark-eyed Junco	DEJU	Yellow-bellied Sapsucker	YBSA

Category II: Species for which we are considering building population-specific range maps as funding or collaborations become available and sampling gaps across the range are filled. We are building a repository of samples from **1) Breeding & Wintering grounds; 2) Migration:**

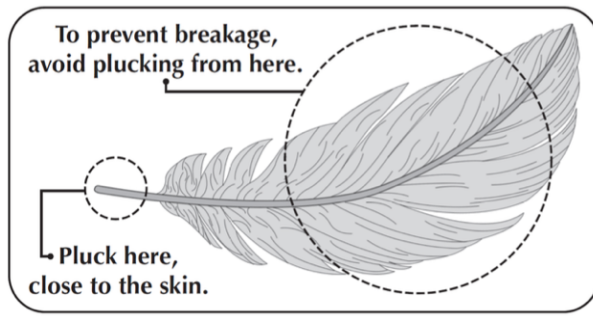
Alder Flycatcher	ALFL	Golden-crowned Kinglet	GCKI
American Three-toed Woodpecker	ATTW	Least Flycatcher *no migration	LEFL
Bay-breasted Warbler	BBWA	Mountain Chickadee	MOCH
Black-backed Woodpecker	BBWO	Mourning Warbler	MOWA
Black-capped Chickadee	BCCH	Northern Shrike	NSHR
Blackburnian Warbler	BLBW	Orange-crowned Warbler	OCWA
Boreal Chickadee	BOCH	Pacific Wren	PAWR
Cape May Warbler	CMWA	Philadelphia Vireo	PHVI
Connecticut Warbler	CONW	Red-eyed Vireo	REVI
Clay-colored Sparrow	CCSP	Ruby-throated Hummingbird	RTHU
Downy Woodpecker	DOWO	Savannah Sparrow	SAVS
Eastern Kingbird	EAKI	Snow Bunting	SNBU
Evening Grosbeak	EVGR	Sprague's Pipit	SPPI
Fox Sparrow	FOSP	Thick-billed Longspur	TBLO
Gray-cheeked Thrush	GCTH	Western Kingbird	WEKI

Feather Collection, Metadata, and Shipping Instructions

Overview: When a tail feather is pulled, a small amount of skin cells remains on the tip of the calamus. These skin cells are a valuable source of DNA that can then be used to identify how many genetically distinct populations exist across the breeding range of a species. With this map, or genoscape, the population origin of an individual bird that's sampled during migration or on the wintering grounds can also be determined. A portion of the plume of the feather can be used for stable isotope analyses, too, which alludes to the latitudinal gradient where the feather was grown. While our focus is not stable isotope work, we have shared such material with other researchers to support their projects.

We recommend that two tail feathers be collected during the banding process from each bird (see below). If body feathers must be collected for certain species, 10-15 body (ex: woodpeckers) or 5 large contour body feathers (ex: raptors) are needed because this feather type yields less DNA than a tail feather. **Please do not collect feathers from the same individual more than once during the same time of year.**

How To and Handling:



Before taking any feather samples, make sure that your hands are clean or sanitized, if needed, from a previous bird.

To collect a sample, pluck one central and one outer tail feather (e.g., R1 & R6). To pluck the feathers, hold them firmly, relatively close to the base, and pull gently. *See illustration.* Collecting both of one tail feather, either R1 or R6, is also fine.

Do not touch the tip of the calamus. We do not want to possibly remove or contaminate the few skin cells here.

Place the feathers from each bird into an envelope and legibly fill in the fields on the envelope. Leave the BGP ID # blank; this will be assigned after we receive and curate your samples into our collection.

If you decide to use your own envelopes, please use coin-sized ones if possible, and write on the envelope all the required metadata (see example BGP envelope below). If you use a location code/acronym on your envelopes, please ensure that the full name for this is provided in the electronic metadata file (see below).

BGP ID # _____
DATE: Month _____ Day _____ Year _____
SPECIES: _____
BAND # or ALT ID: _____
LOCATION: _____
SEX: M ___ F ___ UNK ___ AGE CODE: _____ UNK ___
BREEDING? Y ___ N ___ UNK ___ RECAPTURE? Y ___ N ___
BLOOD COLLECTED? Y ___ N ___

Electronic Metadata

In addition to filling in your envelopes, please email the lab manager, Amanda Carpenter, your electronic metadata (birdgenoscape@gmail.com) when you're ready to send samples. The preferred format is available below. Lat/long coordinates are extremely important for our population-specific work; please provide this in decimal format.

*We can accept BBL data files, but please let us know if there is more data in the sheet than samples sent.

Band # or Alt ID	Year	Month	Day	Species Code	Sex	Age	Breeding	Recapture	Country	State / Province	Near Town	Lat	Long
XXXX XXXXX	2024	JUN	1	AMRO	M, F, or U	If known or U	Y, N, or U	R or N	USA or Canada	AK or Alberta	Silver Spring	39.012345	-77.02345

Feather Storage – Important!

Feathers are best stored in a refrigerator until they are ready to send but can also be stored at room temperature away from direct sunlight. Samples should not be left in a hot vehicle. Direct sun (UV), heat, and high humidity can degrade samples. Preferably, store samples until the end of your field season or year to minimize shipments (see shipping instructions below).

Ready to Send Your Samples? (For Alaska)

When you're ready to mail your samples, email Amanda Carpenter (birdgenoscape@gmail.com) with the following information below to request a prepaid return shipping label:

- Approximate weight and dimensions of package.
- Return address, including contact number and email (if other than the email being used).

If you would like to cover shipping costs, please mail the samples to the following address:

ATTN: Amanda Carpenter
Colorado State University, Biology
200 W. Lake Street
1878 Campus Delivery
Fort Collins, CO 80523

****Copies of the following permits should be included in the shipment package****

1. A copy of the federal bird banding permit or federal migratory bird scientific collection permit.
2. A copy of the Alaska scientific collecting permit.
3. A copy of the Bird Genoscape Project's USDA domestic transport permit #138961 (provided via email).

Ready to Send Your Samples? (For Canadian Contributors)

Because most species we work with are Migratory Bird Treaty Act (MBTA) protected, there are additional steps and permits needed in order to import the samples into the U.S. Please reach out to Amanda Carpenter (birdgenoscape@gmail.com) for instructions when you are ready to send your samples. You will likely be directed to ship your samples to one of our Canadian partners that will manage the aggregation of samples before sending them in a bulk shipment to Colorado State University.

Thank you very much for your participation in The Bird Genoscape Project! If you would like to collaborate on a particular species or learn more about each of the species we're working on, please visit our website:

www.birdgenoscape.org