

FEATHER SAMPLING PROTOCOL

2021 Season

The Bird Genoscape Project welcomes feathers from any migratory or resident species, collected any time of the year, including migration. However, if you would like to prioritize your local efforts, the categories below lists our species of emphasis (**Category I and II are higher priority**):

Category I: Species for which we are currently building population-specific range maps. We are actively collecting samples from all stages of the annual cycle.

American Robin	(AMRO)	MacGillivray's Warbler	(MGWA)
Baird's Sparrow	(BAIS)	McCown's Longspur	(MCLO)
Canada Warbler	(CAWA)	Ovenbird	(OVEN)
Grasshopper Sparrow	(GRSP)	Sprague's Pipit	(SPPI)
Kentucky Warbler	(KEWA)	Western Tanager	(WETA)

Category II: Species for which we have completed building population-specific range maps. We are specifically interested in additional migrating and wintering samples:

American Redstart	(AMRE)	Willow Flycatcher	(WIFL)
Common Yellowthroat	(COYE)	Wilson's Warbler	(WIWA)
Hermit Thrush	(HETH)	Yellow Warbler	(YWAR)
Painted Bunting	(PABU)		

Category III: Species for which we will build population-specific range maps as funding becomes available. We are actively collecting samples from all stages of the annual cycle:

American Goldfinch	(AMGO)	Oregon Junco	(ORJU)
Audubon's Warbler	(AUWA)	Pine Siskin	(PISI)
Black-and-white Warbler	(BAWW)	Prothonotary Warbler	(PROW)
Blackpoll Warbler	(BLPW)	Red-eyed Vireo	(REVI)
Black-capped Chickadee	(BCCH)	Ruby-crowned Kinglet	(RCKI)
Black-headed Grosbeak	(BHGR)	Rusty Blackbird	(RUBL)
Carolina Wren	(CARW)	Slate-colored Junco	(SCJU)
Chipping Sparrow	(CHSP)	Song Sparrow	(SOSP)
Dark-eyed Junco	(DEJU)	Spotted Towhee	(SPTO)
Fox Sparrow	(FOSP)	Swainson's Thrush	(SWTH)
Gray Catbird	(GRCA)	Tennessee Warbler	(TEWA)
Hooded Warbler	(HOWA)	Virginia's Warbler	(VIWA)
Indigo Bunting	(INBU)	Warbling Vireo	(WAVI)
Lincoln's Sparrow	(LISP)	White-eyed Vireo	(WEVI)
Mountain Chickadee	(MOCH)	White-crowned Sparrow	(WCSP)
Myrtle Warbler	MYWA	White-throated Sparrow	(WTSP)
Nashville Warbler	(NAWA)	Wrentit	(WREN)
Northern Waterthrush	(NOWA)	Wood Thrush	(WOTH)
Orange-crowned Warbler	(OCWA)	Yellow-breasted Chat	(YBCH)

FEATHER COLLECTION AND SHIPPING PROTOCOL

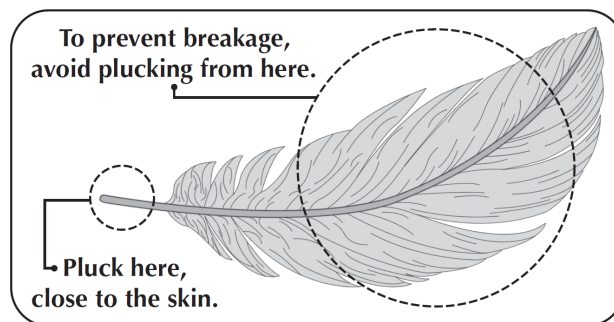
When tail feathers are pulled, a small amount of skin cells remain attached to the quill of the feather. These skin cells are a valuable source of DNA that can be used to determine the population origin of an individual bird. Moreover, a portion of the feather itself can be used for stable isotope analyses, which can provide important information on the location (at least latitude) where the feather was grown. We recommend that two tail feathers be collected during the banding process from each bird. This does not include woodpeckers and birds of prey for which tail feather are critical for foraging. For these species, 10 body feathers will suffice. **There is no need to collect feathers from the same individual more than once during the same season.**

Collecting Feather Samples

Before taking any feather samples, make sure that your hands are clean. If you are collecting samples from multiple birds, wash or sanitize hands between each collection.

To collect a sample, pluck one central and one outer tail feather (e.g., R1 and R6). To pluck the feathers, just hold them firmly, relatively close to the base, and pull gently. *See illustration.*

Do not touch the quill, as the DNA is extracted from the skin cells attached to it. **There is no need to collect feathers from the same individual more than once.**



Metadata Requirements

Place the feathers from each bird into one of the BGP provided pre-printed envelopes and fill out metadata. Using your own envelopes is fine, but please use **coin-sized envelopes** and ensure that each envelope contains the required information listed below.

On each envelope, please provide the following information:

- Species name
- Band number
- Date (Please use letters for the month instead of numbers, e.g. Apr 25, 2019)
- Station and location codes, or nearest town and city
- Age, sex and breeding condition (as determined by brood patch or cloacal protuberance)
- Whether or not the bird was a recapture
- BGP ID can be left blank; this will be assigned after we receive the samples

On a separate paper or in an email, please also provide the following location details:

- Nearest town, state/province, country
- GPS coordinates in **decimal format**

Feather Storage

Feathers are preferably stored in 4°C refrigerators but can also be stored at room temperature away from direct sunlight. Please store samples until the end of field season to minimize shipments (see shipping instructions below).

Sample Shipment

When you're ready to mail your samples, please email Teia Schweizer (birdgenoscape@gmail.com) with the following information and she will email you a prepaid FedEx or UPS label:

- Approximate weight and dimensions of package
- Preference for UPS or FedEx label
- Return address
- Contact number

If using your own label please mail the samples to the following address:

Teia Schweizer
Colorado State University
200 W. Lake Street
Campus Delivery 1878
Fort Collins, CO 80523

****Copies of the following Permits must be included in the shipment****

For domestic shipments **of samples collected within the U.S.**, please include:

- A copy of your (the collector's) federal bird banding permit
- A copy of your (the collector's) state scientific collecting permit

For domestic shipments **of samples previously imported to the U.S.**, please include:

- A copy of your (the collector's) federal bird banding permit
- A copy of your (the collector's) state scientific collecting permit
- A copy of the importer's USDA transit permit #138961**

For shipments from **outside of the U.S.** please include:

- A copy of the importer's USDA import permit #138972**
- A copy of the importer's USFWS Migratory Bird import/export permit**
- A copy of your (the collector's) federal bird banding permit
- A copy of your (the collector's) provincial scientific collecting permit (for Canada)
- USFWS Form 3-177 (Declaration of importation or exportation of fish or wildlife) – can also be filled online at <https://edecs.fws.gov/>
- FedEx Declaration of Biological Shipments
- FedEx Commercial Invoice
- CITES export permit as necessary

***Forms provided by the Bird Genoscape Project*

Thank you very much for your participation in this important project! If you would like to collaborate on a particular species or learn more about the current sample distribution for our target taxa, please visit our website:

www.birdgenoscape.org