Supplementary Information

Table S1. Isotopic and elemental composition of diets items, or "endpoints", used in the construction of mixing models to estimate the isotopic contribution of food sources to avian tissues. Values are presented as mean (standard deviation). See text for specifics of $\delta^{15}N$ and $\delta^{13}C$ for dietary endpoints.

Dietary endpoint[a]	n[b]	$\delta^{15}N$ (‰)	% N	$\delta^{13}C$ (‰)	% C	Significance Test[c] $\delta^{15}N$	Significance Test[c] $\delta^{13}C$
Fruits[d]	11/11	-2.25 (2.00)	0.80 (0.14)	-29.91 (1.23)	50.70 (1.48)	C	A
Fruits (Myricaceae)	5/5	-2.25 (0.28)	0.85 (0.20)	-30.02 (1.24)	56.08 (1.36)	C	A
Arthropods (high C_3)	15/22	5.23 (1.30)	10.83 (2.33)	-26.02 (2.21)	48.16 (3.95)	A	B
Arthropods (low C_3)	10/22	1.08 (0.95)	10.83 (2.33)	-26.02 (2.21)	48.16 (3.95)	B	B
Arthropods (high C_4)	15/3	5.23 (1.30)	10.83 (2.33)	-14.90 (2.78)	48.16 (3.95)	A	C
Arthropods (low C_4)	10/3	1.08 (0.95)	10.83 (2.33)	-14.90 (2.78)	48.16 (3.95)	B	C
Seeds (C_3)	11/2	1.43 (1.99)	2.65 (1.25)	-27.04 (0.45)	47.80 (2.02)	B	A,B
Seeds (C_4)	11/9	1.43 (1.99)	2.65 (1.25)	-12.71 (0.21)	47.80 (2.02)	B	C

[a]The species composition of endpoints were: Fruits: *Morella cerifera* (*n*=5), *Cornus florida* (*n*=2), *Ilex opaca* (*n*=4);Fruits (Myricaceae): *Morella cerifera* (*n*=5); High trophic arthropods: Coleoptera (*n*=4), Diptera (*n*=2), Hemiptera (*n*=1), Hymenoptera (*n*=4), Aranae (*n*=4); Low trophic arthropods: Coleoptera (*n*=3), Hemiptera (*n*=4), Hymenoptera (*n*=1), Lepidoptera (*n*=2); C_4 arthropods : Hymenoptera (*n*=1), Coleoptera (*n*=1), Hemiptera (*n*=1); C_3 arthropods: the rest of the arthropods not included in C_4 arthropods; C_3 seeds: *Scirpus cyperinus* (*n*=2); C_4 seeds: *Andropogon* sp. (*n*=2), *Paspalum* sp (*n*=2), *Phragmites communis* (*n*=2), unidentified Poaceae (*n*=3)

[b]indicates sample size used to calculate $\delta^{15}N/\delta^{13}C$, respectively; %N and %C in fruits, arthropods, and seeds calculated from 11, 25, and 11 samples, respectively

[c]Comparing $\delta^{15}N$ and $\delta^{13}C$ between dietary end points. Letters differ at $p < 0.001$ (Scheffe's adjusted)

[d]The fruit species included as dietary endpoints are those consumed frequently and by multiple species. Infrequently consumed fruit species that were not used as part of the fruit dietary endpoint include *Euonymus americanus*, *Toxicodendron radicans*, and *Phytolacca americana*.

Table S2. Tissue- and diet-specific discrimination (Δ) values used in mixing models for estimating the isotopic contribution of food sources to avian tissues. We estimated arthropod and fruit diet discrimination values using published equations relating diet-tissue discrimination values to the elemental concentration of the diet (Pearson et al. 2003). Values are presented as mean (standard deviation). See text for specifics of ΔN and ΔC calculation.

	ΔN (‰)			ΔC (‰)		
	Tissue			Tissue		
	Feather	Blood	Plasma	Feather	Blood	Plasma
Dietary endpoint						
Fruits	-	1.15 (0.13)	2.32 (0.23)	-	1.41 (0.56)	-0.07 (0.51)
Arthropods	3.77 (0.23)	3.04 (0.56)	3.20 (0.42)	3.07 (0.83)	0.64 (1.33)	-0.55 (0.98)
Seeds	-	1.50 (0.38)	2.48 (0.34)	-	0.54 (0.75)	-0.61 (0.62)

Table S3. Sample sizes of various tissue samples collected for this study.

		Summer	Fall		Winter		# individuals contributing samples to:	
Species	Total # individuals	feather	plasma	blood	plasma	blood	only one season	both seasons (i.e., paired data)
American Robin	7	6	-	-	7	-	1	6
Eastern Towhee	12	11	10	-	-	-	3	9
Eastern Tufted-titmouse	12	10	5	-	-	-	9	3
Gray Catbird	14	12	10	-	-	-	5	9
Hermit Thrush	13	10	-	-	11	-	5	8
Yellow-rumped Warbler	86	83	9	-	17 (1998), 12 (1999)	-	51	35
Northern Cardinal	22	21	10	-	11	-	2	20
Ruby-crowned Kinglet	18	10	-	13	-	5	8	10
Dark-eyed Junco	16	14	-	-	12	-	6	10
Swainson’s Thrush	8	8	-	-	7	-	1	7
White-throated Sparrow	24	23	5	-	5	-	15	9

Table S4. Estimated fruit composition of feces (%) and estimated isotopic contribution (%) of food sources to avian tissues based on linear mixing models. Median values are presented, along with the 95% frequentist confidence interval (fecal fruit) or Bayesian confidence intervals (mixing model output). First N value = isotopic contribution sample size and second N value = estimated percent of fruit in feces.

Species	N	Fecal fruit	Fruits	Arthropods (total)	Seeds (total)	Arthropods (high – C_3)	Arthropods (low – C_3)	Arthropods (high – C_4)	Arthropods (low – C_4)	Seeds (C_3)	Seeds (C_4)
Species Known to Consume Fruit											
American Robin *(Turdus migratorius)*											
winter	7/7	96.5	31.0	69.0	-	5.3	62.7	-	-	-	-
		(89.5, 100+)	(9.8, 49.8)	(50.3, 90.2)		(0.7, 14.5)	(44.9, 83.7)				
Gray Catbird (*Dumetella carolinensis*)											
fall	10/6	57.5	16.9	83.1	-	41.3	41.4				
		(22.7, 92.3)	(2.9, 32.0)	(68.0, 97.1)		(29.8, 53.5)	(28.2, 55.3)				
Hermit Thrush (*Caltharus guttatus*)											
winter	11/11	71.4	9.0	91.1	-	29.4	60.0	-	-	-	-
		(48.6, 94.1)	(0.9, 28.6)	(71.4, 99.1)		(16.3, 44.2)	(41.5, 71.7)				
Ruby-crowned Kinglet (*Regulus calendula*)											
fall	13/29	10.7	4.3	95.7	-	34.3	59.2	-	-	-	-
		(4.5, 16.8)	(0.4, 20.2)	(79.8, 99.6)		(17.9, 50.8)	(41.1, 77.3)				
winter	5/34	31.6	18.2	81.8	-	33.9	46.4	-	-	-	-
		(20.9, 42.4)	(2.4, 39.6)	(60.4, 97.6)		(18.4, 49.6)	(28.9, 65.9)				
Swainson's Thrush (*Caltharus ustulatus*)											
fall	7/1	-	20.5	79.5	-	23.4	55.2	-	-	-	-
			(3.3, 40.1)	(59.9, 96.7)		(11.4, 37.9)	(37.5, 73.7)				
Yellow-rumped Warbler (*Dendroica coronata*)											
Fall	9/32	77.3	10.2	89.8	-	64.5	24.0	-	-	-	-
		(68.0, 86.6)	(1.2, 25.1)	(74.9, 98.8)		(48.2, 79.7)	(8.8, 42.1)				
winter 1	17/34	72.5	36.8	63.2	-	1.2	61.5	-	-	-	-
		(65.9, 79.1)	(24.2, 47.6)	(52.4, 75.8)		2(0.1, 5.2)	(51.1, 73.6)				

winter 2	12/37	92.9	19.2	80.8	-	28.5	52.0	-	-	-	-
		(76.2, 100+)	(5.4, 32.3)	(67.7, 94.7)		(19.9, 38.7)	(39.8, 65.0)				
Species Known to Consume Fruit and Seeds											
Eastern Towhee (*Pipilo erythrophthalmus*)											
fall	10/6	29.2	22.8	48.6	28.4	18.8	14.2	7.7	5.9	21.5	6.4
		(0, 76.8)	(7.1, 37.6)	(30.2, 66.4)	(10.9, 47.9)	(5.0, 31.8)	(2.1, 28.8)	(1.0, 17.9)	(0.7, 15.9)	(4.6, 40.1)	(0.7, 15.7)
Northern Cardinal (*Cardinalis cardinalis*)											
fall	10/10/5	34.0	25.8	45.8	27.5	5.7	24.5	3.4	8.2	20.5	6.0
		(0, 91.9)	(7.2, 45.8)	(23.5, 67.9)	(8.5, 45.9)	(0.5, 20.9)	(4.9, 47.3)	(0.3, 11.7)	(0.9, 19.9)	(3.3, 42.7)	(0.7, 15.8)
winter	11/4	48.8	16.0	51.1	32.3	3.7	20.9	3.8	20.9	14.1	17.8
		(0, 100+)	(2.3, 32.1)	(26.9, 74.1)	(13.2, 54.7)	(0.3, 17.1)	(4.8, 38.5)	(0.3, 17.2)	(4.8, 38.5)	(1.8, 30.9)	(3.4, 33.5)
Tufted Titmouse (*Baeolophus bicolor*)											
fall	5/11	50.3	12.9	55.7	-	22.4	32.7	-	-	29.9	-
		(24.5, 76.1)	(1.4, 32.8)	(34.4,77.1)		(6.6, 39.6)	(14.3, 51.3)			(5.7, 54.7)	
Species Known to Consume Seeds											
Dark-eyed Junco (*Junco hyemalis*)											
winter	12/12	-	-	58.2	41.8	3.3	20.9	4.0	25.6	17.6	24.5
				(32.6, 81.6)	(18.4, 67.4)	(0.3, 15.1)	(3.8, 37.9)	(0.3, 19.0)	(7.5, 46.8)	(2.4, 35.2)	(6.3, 42.2)
White-throated Sparrow (*Zonotrichia leucophrys*)											
fall	5/11	-	-	67.6	32.4	19.2	20.6	12.7	14.2	20.1	11.9
				(47.2, 87.7)	(12.3, 52.8)	(3.2, 34.1)	(4.4, 36.2)	(1.3, 28.2)	(1.7, 29.8)	(4.0, 35.1)	(1.3, 27.3)
winter	5/0	-	-	64.4	35.6	10.4	20.5	10.0	20.1	18.7	17.2
				(41.7, 85.8)	(14.3, 58.3)	(0.9, 27.2)	(4.3, 37.1)	(0.8, 27.2)	(3.7, 36.7)	(3.1, 34.5)	(2.7, 33.2)