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Supplemental Information for:

Can demographic histories explain long-term isolation and recent pulses of asymmetric gene flow between highly divergent grey fox lineages?

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Table S1: Sample information for 43 grey foxes included in this study including a representative subset of grey foxes selected from Kierepka et al. (2023) for whole genome-sequencing (n = 41) as well as two previously published western grey fox genomes (Robinson et al. 2016; Robinson et al. 2018). Reported information includes geographic sampling region, state, latitude (Lat), longitude (Lon), proportion of ancestry assigned to western lineage (qw) and eastern lineage (qe), average read depth at sequenced loci, sex, source, BioProject number, as well as Biosample and short-read accession IDs. All raw sequences from this study are available for download from the NCBI Sequence Read Archive (PRJNA966176). Raw sequence reads from the Robinson et al. (2016) and Robinson et al. (2018) publications can be found under the BioProjects PRJNA312115 and PRJNA478450, respectively.

Sample ID	Region	State	Lat	Lon	q_W	q_E	Depth(x)	Sex	Source	BioProject	Biosample Accession ID	Short-read Accession ID
S19-4623	East	MO	37.152	-91.391	0.000	1.000	6.2	F	This Study	PRJNA966176	SAMN33450808	SRR24465309
S19-4625	East	MS	33.937	-89.337	0.000	1.000	5.1	F	This Study	PRJNA966176	SAMN33450810	SRR24465308
S19-4626	East	MS	32.766	-90.388	0.000	1.000	4.8	F	This Study	PRJNA966176	SAMN33450811	SRR24465297
S19-4628	East	MS	31.164	-90.103	0.000	1.000	4.4	M	This Study	PRJNA966176	SAMN33450813	SRR24465286
S19-4639	East	TN	36.457	-88.984	0.000	1.000	4.2	F	This Study	PRJNA966176	SAMN33450824	SRR24465275
S19-4642†	East†	TN	35.543	-88.856	0.074	0.926	5.7	M	This Study	PRJNA966176	SAMN33450827	SRR24465272
S19-4663	East	AL	32.248	-87.791	0.000	1.000	4.8	M	This Study	PRJNA966176	SAMN33450847	SRR24465271
S19-4699	East	AR	36.052	-90.973	0.000	1.000	5.6	F	This Study	PRJNA966176	SAMN33450882	SRR24465270
S19-4701	East	AR	33.467	-92.169	0.000	1.000	6.2	M	This Study	PRJNA966176	SAMN33450884	SRR24465269
S19-4703†	East†	AR	35.708	-92.519	0.026	0.974	7.2	F	This Study	PRJNA966176	SAMN33450886	SRR24465268
S19-4710†	East†	AR	34.287	-91.338	0.011	0.989	6.4	M	This Study	PRJNA966176	SAMN33450893	SRR24465307
S19-4714	East	AR	33.588	-93.391	0.000	1.000	4.9	F	This Study	PRJNA966176	SAMN33450897	SRR24465306
S19-4737	East	KY	37.322	-84.928	0.000	1.000	6.3	M	This Study	PRJNA966176	SAMN33450919	SRR24465305
S19-6655	East	SC	33.346	-81.743	0.000	1.000	26.2	M	This Study	PRJNA966176	SAMN33450925	SRR24465304

S19-3074*	East*	TX	32.127	-94.765	0.057	0.943	5.8	M	This Study	PRJNA966176	SAMN33450735	SRR24465303
S19-4685*	East*	OK	36.287	-96.512	0.059	0.941	5.2	M	This Study	PRJNA966176	SAMN33450868	SRR24465302
S19-4692*	East*	OK	34.586	-97.186	0.074	0.926	5.6	M	This Study	PRJNA966176	SAMN33450875	SRR24465301
S19-4695*	East*	OK	34.709	-97.313	0.212	0.788	5.5	F	This Study	PRJNA966176	SAMN33450878	SRR24465300
S19-4698*	East*	AR	34.898	-94.091	0.019	0.981	5.0	F	This Study	PRJNA966176	SAMN33450881	SRR24465299
S19-4702*	East*	AR	33.331	-93.910	0.017	0.983	5.9	F	This Study	PRJNA966176	SAMN33450885	SRR24465298
S13-2949	West	CA	38.49	-122.152	1.000	0.000	7.7	M	This Study	PRJNA966176	SAMN33450690	SRR24465296
S19-2925	West	TX	29.924	-101.992	1.000	0.000	6.4	M	This Study	PRJNA966176	SAMN33450678	SRR24465294
S19-2974	West	TX	30.625	-104.067	1.000	0.000	5.5	M	This Study	PRJNA966176	SAMN33450706	SRR24465293
S19-3064	West	TX	29.561	-104.372	1.000	0.000	5.5	M	This Study	PRJNA966176	SAMN33450727	SRR24465292
S19-3066	West	TX	30.684	-101.308	1.000	0.000	6.1	F	This Study	PRJNA966176	SAMN33450728	SRR24465291
S19-3133	West	TX	29.508	-103.328	1.000	0.000	23.6	M	This Study	PRJNA966176	SAMN33450778	SRR24465290
S19-3152	West	TX	30.213	-102.43	1.000	0.000	6.1	M	This Study	PRJNA966176	SAMN33450782	SRR24465289
S19-4675	West	NV	37.459	-114.46	1.000	0.000	5.0	F	This Study	PRJNA966176	SAMN33450858	SRR24465288
S19-4679	West	NV	38.821	-116.494	1.000	0.000	5.8	M	This Study	PRJNA966176	SAMN33450862	SRR24465287
S19-4715	West	NM	34.956	-103.157	1.000	0.000	5.0	M	This Study	PRJNA966176	SAMN33450898	SRR24465285
S19-4717	West	NM	32.711	-107.845	1.000	0.000	4.9	M	This Study	PRJNA966176	SAMN33450900	SRR24465284
S19-4728	West	NM	33.156	-104.321	1.000	0.000	5.5	F	This Study	PRJNA966176	SAMN33450910	SRR24465283
GF041F	West	CA	NA	NA	1.000	0.000	18.3	F	Robinson et al. (2016)	PRJNA312115	SAMN04495241	SRR5198019, SRR5198020, SRR5198021
GOGANRA NPSGF30	West	CA	NA	NA	1.000	0.000	21.0	M	Robinson et al. (2018)	PRJNA478450	SAMN09516312	SRR7458270
S19-2940*	West*	TX	30.190	-100.876	0.979	0.021	4.8	F	This Study	PRJNA966176	SAMN33450685	SRR24465282
S19-2977*	West*	TX	29.888	-98.719	0.892	0.108	6.0	F	This Study	PRJNA966176	SAMN33450709	SRR24465281

S19-2992*	West*	TX	30.414	-99.664	0.928	0.072	6.8	M	This Study	PRJNA966176	SAMN33450715	SRR24465280
S19-3050*	West*	TX	31.892	-98.428	0.831	0.169	6.0	F	This Study	PRJNA966176	SAMN33450720	SRR24465279
S19-3061*	West*	TX	31.508	-100.356	0.960	0.040	5.1	M	This Study	PRJNA966176	SAMN33450725	SRR24465278
S19-3072*	West*	TX	31.892	-97.638	0.789	0.211	6.9	F	This Study	PRJNA966176	SAMN33450733	SRR24465277
S19-3075*	West*	TX	31.040	-98.762	0.870	0.130	5.9	M	This Study	PRJNA966176	SAMN33450736	SRR24465276
S19-3084*	West*	TX	31.643	-99.518	0.930	0.070	6.2	M	This Study	PRJNA966176	SAMN33450741	SRR24465274
S19-3098*	West*	TX	30.461	-97.430	0.823	0.177	6.3	F	This Study	PRJNA966176	SAMN33450747	SRR24465273

†Denotes samples that were originally identified as putatively admixed in Kierepka *et al*., (2023) but during preliminary AHMM analyses were identified as pure and were subsequently reclassified as pure parentals and included in generation of reference population allele frequencies.
*Denotes samples with admixed ancestry that were included in the admixed population in the AHMM analysis

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Table S2: Sample information for 259 grey foxes included in GBS related analyses for this study including geographic sampling region, sampling state, latitude, longitude, mean read depth at sequenced loci, BioProject number, and accession ID. All GBS sequences were first described in Kierepka et al. (2023). All raw sequences from this study are available for download from the NCBI Sequence Read Archive (BioProject ID: PRJNA938958).

Sample ID	Species	Region	State	Lat	Long	GBS Cov. (x)	BioProject	Biosample Accession ID
S13-2845	U. cinereoargenteus	West	N. California	38.53	-121.76	10	PRJNA938958	SAMN33450647
S13-2846	U. cinereoargenteus	West	N. California	38.52	-121.75	12	PRJNA938958	SAMN33450648
S13-2949	U. cinereoargenteus	West	N. California	38.49	-122.15	25	PRJNA938958	SAMN33450649
S13-2950	U. cinereoargenteus	West	N. California	38.49	-122.15	16	PRJNA938958	SAMN33450650
S13-2953	U. cinereoargenteus	West	N. California	38.49	-122.15	25	PRJNA938958	SAMN33450651
S14-0369	U. cinereoargenteus	West	N. California	39.03	-121.00	9	PRJNA938958	SAMN33450654
S14-0371	U. cinereoargenteus	West	S. California	36.57	-121.77	13	PRJNA938958	SAMN33450655
S14-0889	U. cinereoargenteus	West	N. California	38.49	-122.15	10	PRJNA938958	SAMN33450658
S14-1425	U. cinereoargenteus	West	N. California	37.86	-122.53	55	PRJNA938958	SAMN33450659
S14-1440	U. cinereoargenteus	West	N. California	37.86	-122.55	58	PRJNA938958	SAMN33450660
S14-1441	U. cinereoargenteus	West	N. California	37.86	-122.54	67	PRJNA938958	SAMN33450661
S14-1451	U. cinereoargenteus	West	S. California	34.20	-118.76	91	PRJNA938958	SAMN33450662
S14-1455	U. cinereoargenteus	West	S. California	34.21	-118.76	90	PRJNA938958	SAMN33450663
S14-1458	U. cinereoargenteus	West	S. California	34.20	-118.76	70	PRJNA938958	SAMN33450664
S14-1461	U. cinereoargenteus	West	S. California	34.07	-118.57	60	PRJNA938958	SAMN33450665
S16-1457	U. cinereoargenteus	West	S. California	33.23	-117.41	95	PRJNA938958	SAMN33450666

S16-1458	U. cinereoargenteus	West	S. California	33.24	-117.41	28	PRJNA938958	SAMN33450667
S16-1459	U. cinereoargenteus	West	S. California	33.33	-117.30	34	PRJNA938958	SAMN33450668
S16-1460	U. cinereoargenteus	West	S. California	33.24	-117.39	61	PRJNA938958	SAMN33450669
S19-2913	U. cinereoargenteus	West	Texas	30.96	-101.08	23	PRJNA938958	SAMN33450670
S19-2916	U. cinereoargenteus	West	Texas	30.10	-102.23	69	PRJNA938958	SAMN33450671
S19-2918	U. cinereoargenteus	West	Texas	31.40	-99.38	50	PRJNA938958	SAMN33450672
S19-2919	U. cinereoargenteus	West	Texas	31.13	-99.34	16	PRJNA938958	SAMN33450673
S19-2920	U. cinereoargenteus	West	Texas	31.13	-99.34	28	PRJNA938958	SAMN33450674
S19-2923	U. cinereoargenteus	West	Texas	30.97	-101.36	53	PRJNA938958	SAMN33450676
S19-2924	U. cinereoargenteus	West	Texas	29.92	-102.00	47	PRJNA938958	SAMN33450677
S19-2925	U. cinereoargenteus	West	Texas	29.92	-101.99	59	PRJNA938958	SAMN33450678
S19-2926	U. cinereoargenteus	West	Texas	30.61	-102.20	26	PRJNA938958	SAMN33450679
S19-2927	U. cinereoargenteus	West	Texas	30.61	-102.20	77	PRJNA938958	SAMN33450680
S19-2929	U. cinereoargenteus	West	Texas	30.59	-98.97	29	PRJNA938958	SAMN33450681
S19-2931	U. cinereoargenteus	West	Texas	31.23	-99.17	88	PRJNA938958	SAMN33450682
S19-2937	U. cinereoargenteus	West	Texas	30.59	-98.99	7	PRJNA938958	SAMN33450683
S19-2939	U. cinereoargenteus	West	Texas	30.19	-100.88	62	PRJNA938958	SAMN33450684
S19-2940	U. cinereoargenteus	West	Texas	30.19	-100.88	47	PRJNA938958	SAMN33450685
S19-2942	U. cinereoargenteus	West	Texas	31.82	-101.24	62	PRJNA938958	SAMN33450686
S19-2946	U. cinereoargenteus	West	Texas	29.95	-99.86	30	PRJNA938958	SAMN33450687
S19-2947	U. cinereoargenteus	West	Texas	29.69	-100.10	109	PRJNA938958	SAMN33450688
S19-2948	U. cinereoargenteus	West	Texas	30.04	-99.88	39	PRJNA938958	SAMN33450689
S19-2949	U. cinereoargenteus	West	Texas	30.04	-99.86	44	PRJNA938958	SAMN33450690

S19-2950	U. cinereoargenteus	West	Texas	31.26	-100.23	27	PRJNA938958	SAMN33450691
S19-2952	U. cinereoargenteus	West	Texas	31.26	-100.24	37	PRJNA938958	SAMN33450692
S19-2953	U. cinereoargenteus	West	Texas	30.62	-100.07	46	PRJNA938958	SAMN33450693
S19-2958	U. cinereoargenteus	West	Texas	30.65	-100.05	72	PRJNA938958	SAMN33450694
S19-2959	U. cinereoargenteus	West	Texas	30.78	-104.11	13	PRJNA938958	SAMN33450695
S19-2960	U. cinereoargenteus	West	Texas	30.78	-104.11	8	PRJNA938958	SAMN33450696
S19-2962	U. cinereoargenteus	West	Texas	30.96	-104.05	66	PRJNA938958	SAMN33450697
S19-2963	U. cinereoargenteus	West	Texas	30.96	-104.05	26	PRJNA938958	SAMN33450698
S19-2964	U. cinereoargenteus	West	Texas	30.96	-104.05	20	PRJNA938958	SAMN33450699
S19-2968	U. cinereoargenteus	West	Texas	30.96	-104.05	48	PRJNA938958	SAMN33450700
S19-2969	U. cinereoargenteus	West	Texas	30.96	-104.05	45	PRJNA938958	SAMN33450701
S19-2970	U. cinereoargenteus	West	Texas	30.96	-104.05	77	PRJNA938958	SAMN33450702
S19-2971	U. cinereoargenteus	West	Texas	30.96	-104.05	86	PRJNA938958	SAMN33450703
S19-2972	U. cinereoargenteus	West	Texas	30.96	-104.05	96	PRJNA938958	SAMN33450704
S19-2973	U. cinereoargenteus	West	Texas	30.96	-104.05	99	PRJNA938958	SAMN33450705
S19-2974	U. cinereoargenteus	West	Texas	30.63	-104.07	45	PRJNA938958	SAMN33450706
S19-2975	U. cinereoargenteus	West	Texas	30.00	-98.58	13	PRJNA938958	SAMN33450707
S19-2976	U. cinereoargenteus	West	Texas	29.97	-98.51	47	PRJNA938958	SAMN33450708
S19-2977	U. cinereoargenteus	West	Texas	29.89	-98.72	60	PRJNA938958	SAMN33450709
S19-2979	U. cinereoargenteus	West	Texas	29.98	-100.20	36	PRJNA938958	SAMN33450710
S19-2980	U. cinereoargenteus	West	Texas	29.98	-100.20	86	PRJNA938958	SAMN33450711
S19-2981	U. cinereoargenteus	West	Texas	29.99	-100.20	47	PRJNA938958	SAMN33450712
S19-2982	U. cinereoargenteus	West	Texas	29.98	-100.20	65	PRJNA938958	SAMN33450713

S19-2988	U. cinereoargenteus	West	Texas	29.84	-101.61	12	PRJNA938958	SAMN33450714
S19-2992	U. cinereoargenteus	West	Texas	30.41	-99.66	55	PRJNA938958	SAMN33450715
S19-2995	U. cinereoargenteus	West	Texas	30.30	-99.75	55	PRJNA938958	SAMN33450716
S19-3050	U. cinereoargenteus	West	Texas	31.89	-98.43	17	PRJNA938958	SAMN33450720
S19-3051	U. cinereoargenteus	West	Texas	31.71	-99.43	15	PRJNA938958	SAMN33450721
S19-3056	U. cinereoargenteus	West	Texas	29.87	-102.65	9	PRJNA938958	SAMN33450722
S19-3058	U. cinereoargenteus	West	Texas	30.50	-97.41	13	PRJNA938958	SAMN33450723
S19-3060	U. cinereoargenteus	West	Texas	30.86	-100.20	12	PRJNA938958	SAMN33450724
S19-3061	U. cinereoargenteus	West	Texas	31.51	-100.36	41	PRJNA938958	SAMN33450725
S19-3062	U. cinereoargenteus	West	Texas	32.01	-100.75	23	PRJNA938958	SAMN33450726
S19-3064	U. cinereoargenteus	West	Texas	29.56	-104.37	10	PRJNA938958	SAMN33450727
S19-3066	U. cinereoargenteus	West	Texas	30.68	-101.31	78	PRJNA938958	SAMN33450728
S19-3067	U. cinereoargenteus	West	Texas	30.23	-102.16	15	PRJNA938958	SAMN33450729
S19-3069	U. cinereoargenteus	West	Texas	30.50	-100.52	9	PRJNA938958	SAMN33450731
S19-3071	U. cinereoargenteus	West	Texas	31.91	-97.66	8	PRJNA938958	SAMN33450732
S19-3072	U. cinereoargenteus	West	Texas	31.89	-97.64	41	PRJNA938958	SAMN33450733
S19-3073	U. cinereoargenteus	West	Texas	29.78	-98.36	11	PRJNA938958	SAMN33450734
S19-3074	U. cinereoargenteus	East	Texas	32.13	-94.77	9	PRJNA938958	SAMN33450735
S19-3075	U. cinereoargenteus	West	Texas	31.04	-98.76	18	PRJNA938958	SAMN33450736
S19-3081	U. cinereoargenteus	West	Texas	30.11	-98.13	6	PRJNA938958	SAMN33450739
S19-3083	U. cinereoargenteus	West	Texas	29.72	-98.35	11	PRJNA938958	SAMN33450740
S19-3084	U. cinereoargenteus	West	Texas	31.64	-99.52	19	PRJNA938958	SAMN33450741
S19-3088	U. cinereoargenteus	West	Texas	30.35	-102.13	13	PRJNA938958	SAMN33450742

S19-3092	U. cinereoargenteus	West	Texas	31.56	-102.89	10	PRJNA938958	SAMN33450743
S19-3096	U. cinereoargenteus	West	Texas	30.23	-102.08	9	PRJNA938958	SAMN33450745
S19-3097	U. cinereoargenteus	West	Texas	31.22	-101.98	14	PRJNA938958	SAMN33450746
S19-3098	U. cinereoargenteus	West	Texas	30.46	-97.43	32	PRJNA938958	SAMN33450747
S19-3099	U. cinereoargenteus	West	Texas	29.47	-103.29	79	PRJNA938958	SAMN33450748
S19-3100	U. cinereoargenteus	West	Texas	29.51	-103.32	19	PRJNA938958	SAMN33450749
S19-3104	U. cinereoargenteus	West	Texas	29.48	-103.27	7	PRJNA938958	SAMN33450750
S19-3107	U. cinereoargenteus	West	Texas	29.34	-99.10	9	PRJNA938958	SAMN33450752
S19-3108	U. cinereoargenteus	West	Texas	30.16	-102.33	22	PRJNA938958	SAMN33450753
S19-3109	U. cinereoargenteus	West	Texas	30.12	-102.36	14	PRJNA938958	SAMN33450754
S19-3110	U. cinereoargenteus	West	Texas	30.13	-102.34	8	PRJNA938958	SAMN33450755
S19-3111	U. cinereoargenteus	West	Texas	30.11	-102.36	28	PRJNA938958	SAMN33450756
S19-3112	U. cinereoargenteus	West	Texas	30.10	-102.30	23	PRJNA938958	SAMN33450757
S19-3113	U. cinereoargenteus	West	Texas	30.13	-102.32	39	PRJNA938958	SAMN33450758
S19-3114	U. cinereoargenteus	West	Texas	30.18	-102.35	21	PRJNA938958	SAMN33450759
S19-3115	U. cinereoargenteus	West	Texas	30.17	-102.41	39	PRJNA938958	SAMN33450760
S19-3116	U. cinereoargenteus	West	Texas	30.19	-102.36	24	PRJNA938958	SAMN33450761
S19-3117	U. cinereoargenteus	West	Texas	30.05	-102.30	21	PRJNA938958	SAMN33450762
S19-3118	U. cinereoargenteus	West	Texas	30.15	-102.39	20	PRJNA938958	SAMN33450763
S19-3119	U. cinereoargenteus	West	Texas	30.05	-102.32	18	PRJNA938958	SAMN33450764
S19-3120	U. cinereoargenteus	West	Texas	30.05	-102.30	33	PRJNA938958	SAMN33450765
S19-3121	U. cinereoargenteus	West	Texas	30.06	-102.33	37	PRJNA938958	SAMN33450766
S19-3122	U. cinereoargenteus	West	Texas	30.14	-102.44	47	PRJNA938958	SAMN33450767

S19-3123	U. cinereoargenteus	West	Texas	30.06	-102.31	58	PRJNA938958	SAMN33450768
S19-3124	U. cinereoargenteus	West	Texas	30.09	-102.29	53	PRJNA938958	SAMN33450769
S19-3125	U. cinereoargenteus	West	Texas	30.12	-102.36	27	PRJNA938958	SAMN33450770
S19-3126	U. cinereoargenteus	West	Texas	30.18	-102.41	21	PRJNA938958	SAMN33450771
S19-3127	U. cinereoargenteus	West	Texas	30.03	-102.29	13	PRJNA938958	SAMN33450772
S19-3128	U. cinereoargenteus	West	Texas	30.19	-102.43	10	PRJNA938958	SAMN33450773
S19-3129	U. cinereoargenteus	West	Texas	30.04	-102.30	20	PRJNA938958	SAMN33450774
S19-3130	U. cinereoargenteus	West	Texas	30.32	-102.46	17	PRJNA938958	SAMN33450775
S19-3132	U. cinereoargenteus	West	Texas	30.32	-102.47	12	PRJNA938958	SAMN33450777
S19-3133	U. cinereoargenteus	West	Texas	29.51	-103.33	27	PRJNA938958	SAMN33450778
S19-3134	U. cinereoargenteus	West	Texas	29.53	-103.33	10	PRJNA938958	SAMN33450779
S19-3143	U. cinereoargenteus	West	Texas	31.22	-101.98	11	PRJNA938958	SAMN33450780
S19-3149	U. cinereoargenteus	West	Texas	30.32	-102.47	11	PRJNA938958	SAMN33450781
S19-3152	U. cinereoargenteus	West	Texas	30.21	-102.43	19	PRJNA938958	SAMN33450782
S19-3154	U. cinereoargenteus	West	Texas	29.99	-102.27	49	PRJNA938958	SAMN33450783
S19-3157	U. cinereoargenteus	West	Texas	30.11	-102.89	77	PRJNA938958	SAMN33450784
S19-3162	U. cinereoargenteus	West	Texas	30.20	-102.50	12	PRJNA938958	SAMN33450785
S19-3163	U. cinereoargenteus	West	Texas	30.04	-102.30	41	PRJNA938958	SAMN33450786
S19-3167	U. cinereoargenteus	West	Texas	30.22	-102.42	14	PRJNA938958	SAMN33450788
S19-4604	U. cinereoargenteus	East	Kentucky	37.11	-85.28	49	PRJNA938958	SAMN33450789
S19-4605	U. cinereoargenteus	East	Kentucky	36.73	-85.15	32	PRJNA938958	SAMN33450790
S19-4606	U. cinereoargenteus	East	Kentucky	37.53	-85.29	46	PRJNA938958	SAMN33450791
S19-4607	U. cinereoargenteus	East	Kansas	38.95	-97.60	49	PRJNA938958	SAMN33450792

S19-4609	U. cinereoargenteus	West	Colorado	37.22	-104.46	34	PRJNA938958	SAMN33450794
S19-4610	U. cinereoargenteus	West	Colorado	37.08	-104.79	34	PRJNA938958	SAMN33450795
S19-4611	U. cinereoargenteus	West	Colorado	37.04	-104.69	46	PRJNA938958	SAMN33450796
S19-4612	U. cinereoargenteus	West	Colorado	37.10	-104.72	39	PRJNA938958	SAMN33450797
S19-4614	U. cinereoargenteus	West	Colorado	38.51	-105.44	21	PRJNA938958	SAMN33450799
S19-4615	U. cinereoargenteus	West	Colorado	38.34	-105.60	38	PRJNA938958	SAMN33450800
S19-4616	U. cinereoargenteus	West	Colorado	38.51	-105.44	42	PRJNA938958	SAMN33450801
S19-4617	U. cinereoargenteus	West	Colorado	38.42	-105.00	22	PRJNA938958	SAMN33450802
S19-4618	U. cinereoargenteus	East	Missouri	36.69	-91.40	50	PRJNA938958	SAMN33450803
S19-4619	U. cinereoargenteus	East	Missouri	36.61	-92.43	29	PRJNA938958	SAMN33450804
S19-4620	U. cinereoargenteus	East	Missouri	36.65	-90.87	66	PRJNA938958	SAMN33450805
S19-4621	U. cinereoargenteus	East	Missouri	37.31	-91.96	41	PRJNA938958	SAMN33450806
S19-4622	U. cinereoargenteus	East	Missouri	36.95	-90.95	54	PRJNA938958	SAMN33450807
S19-4623	U. cinereoargenteus	East	Missouri	37.15	-91.39	31	PRJNA938958	SAMN33450808
S19-4624	U. cinereoargenteus	East	Mississippi	32.27	-89.95	25	PRJNA938958	SAMN33450809
S19-4625	U. cinereoargenteus	East	Mississippi	33.94	-89.34	32	PRJNA938958	SAMN33450810
S19-4626	U. cinereoargenteus	East	Mississippi	32.77	-90.39	24	PRJNA938958	SAMN33450811
S19-4627	U. cinereoargenteus	East	Mississippi	31.19	-89.26	21	PRJNA938958	SAMN33450812
S19-4628	U. cinereoargenteus	East	Mississippi	31.16	-90.10	35	PRJNA938958	SAMN33450813
S19-4629	U. cinereoargenteus	East	Mississippi	31.20	-89.51	70	PRJNA938958	SAMN33450814
S19-4630	U. cinereoargenteus	East	Mississippi	32.43	-89.53	51	PRJNA938958	SAMN33450815
S19-4631	U. cinereoargenteus	East	Mississippi	32.27	-89.95	42	PRJNA938958	SAMN33450816
S19-4632	U. cinereoargenteus	East	Mississippi	32.40	-89.12	22	PRJNA938958	SAMN33450817

S19-4633	U. cinereoargenteus	East	Mississippi	32.05	-88.69	32	PRJNA938958	SAMN33450818
S19-4634	U. cinereoargenteus	East	Mississippi	32.40	-88.66	12	PRJNA938958	SAMN33450819
S19-4635	U. cinereoargenteus	East	Mississippi	32.02	-89.50	29	PRJNA938958	SAMN33450820
S19-4636	U. cinereoargenteus	East	Mississippi	33.09	-89.59	15	PRJNA938958	SAMN33450821
S19-4637	U. cinereoargenteus	East	Mississippi	33.35	-89.25	26	PRJNA938958	SAMN33450822
S19-4638	U. cinereoargenteus	East	Mississippi	32.75	-89.12	27	PRJNA938958	SAMN33450823
S19-4639	U. cinereoargenteus	East	Tennessee	36.46	-88.98	29	PRJNA938958	SAMN33450824
S19-4640	U. cinereoargenteus	East	Tennessee	35.87	-88.58	10	PRJNA938958	SAMN33450825
S19-4641	U. cinereoargenteus	East	Tennessee	35.22	-89.13	14	PRJNA938958	SAMN33450826
S19-4642	U. cinereoargenteus	East	Tennessee	35.54	-88.86	13	PRJNA938958	SAMN33450827
S19-4643	U. cinereoargenteus	East	Tennessee	35.46	-88.43	11	PRJNA938958	SAMN33450828
S19-4644	U. cinereoargenteus	East	Tennessee	35.45	-88.86	26	PRJNA938958	SAMN33450829
S19-4645	U. cinereoargenteus	East	Tennessee	35.45	-88.86	14	PRJNA938958	SAMN33450830
S19-4646	U. cinereoargenteus	East	Tennessee	35.77	-88.68	28	PRJNA938958	SAMN33450831
S19-4647	U. cinereoargenteus	East	Tennessee	35.59	-88.51	24	PRJNA938958	SAMN33450832
S19-4648	U. cinereoargenteus	East	Tennessee	35.77	-88.68	40	PRJNA938958	SAMN33450833
S19-4649	U. cinereoargenteus	East	Missouri	38.07	-91.41	15	PRJNA938958	SAMN33450834
S19-4650	U. cinereoargenteus	East	Missouri	38.38	-91.76	37	PRJNA938958	SAMN33450835
S19-4651	U. cinereoargenteus	East	Missouri	37.84	-90.67	22	PRJNA938958	SAMN33450836
S19-4652	U. cinereoargenteus	East	Missouri	38.91	-91.46	32	PRJNA938958	SAMN33450837
S19-4653	U. cinereoargenteus	East	Missouri	37.03	-90.65	24	PRJNA938958	SAMN33450838
S19-4654	U. cinereoargenteus	East	Missouri	38.82	-91.14	16	PRJNA938958	SAMN33450839
S19-4655	U. cinereoargenteus	East	Missouri	39.21	-92.13	7	PRJNA938958	SAMN33450840

S19-4656	U. cinereoargenteus	East	Missouri	37.43	-89.80	37	PRJNA938958	SAMN33450841
S19-4657	U. cinereoargenteus	East	Missouri	37.86	-92.40	31	PRJNA938958	SAMN33450842
S19-4659	U. cinereoargenteus	East	Missouri	36.77	-91.89	12	PRJNA938958	SAMN33450843
S19-4660	U. cinereoargenteus	East	Missouri	38.43	-92.85	29	PRJNA938958	SAMN33450844
S19-4661	U. cinereoargenteus	East	Missouri	39.08	-92.84	31	PRJNA938958	SAMN33450845
S19-4662	U. cinereoargenteus	East	Missouri	38.91	-91.46	28	PRJNA938958	SAMN33450846
S19-4663	U. cinereoargenteus	East	Alabama	32.25	-87.79	31	PRJNA938958	SAMN33450847
S19-4664	U. cinereoargenteus	East	Alabama	32.25	-87.79	12	PRJNA938958	SAMN33450848
S19-4665	U. cinereoargenteus	East	Kansas	37.83	-94.65	47	PRJNA938958	SAMN33450849
S19-4666	U. cinereoargenteus	East	Kansas	37.83	-94.65	17	PRJNA938958	SAMN33450850
S19-4667	U. cinereoargenteus	East	Arkansas	34.72	-92.36	19	PRJNA938958	SAMN33450851
S19-4670	U. cinereoargenteus	West	Nevada	36.40	-115.71	28	PRJNA938958	SAMN33450853
S19-4671	U. cinereoargenteus	West	Nevada	39.34	-119.71	35	PRJNA938958	SAMN33450854
S19-4672	U. cinereoargenteus	West	Nevada	39.20	-117.80	32	PRJNA938958	SAMN33450855
S19-4673	U. cinereoargenteus	West	Nevada	40.02	-118.05	17	PRJNA938958	SAMN33450856
S19-4674	U. cinereoargenteus	West	Nevada	38.27	-118.88	24	PRJNA938958	SAMN33450857
S19-4675	U. cinereoargenteus	West	Nevada	37.46	-114.46	45	PRJNA938958	SAMN33450858
S19-4676	U. cinereoargenteus	West	Nevada	36.88	-116.68	32	PRJNA938958	SAMN33450859
S19-4677	U. cinereoargenteus	West	Nevada	40.37	-117.48	38	PRJNA938958	SAMN33450860
S19-4678	U. cinereoargenteus	West	Nevada	38.54	-119.29	19	PRJNA938958	SAMN33450861
S19-4679	U. cinereoargenteus	West	Nevada	38.82	-116.49	46	PRJNA938958	SAMN33450862
S19-4680	U. cinereoargenteus	West	Nevada	38.05	-117.48	69	PRJNA938958	SAMN33450863
S19-4681	U. cinereoargenteus	West	Nevada	39.93	-114.60	37	PRJNA938958	SAMN33450864

S19-4682	U. cinereoargenteus	West	Nevada	37.07	-114.92	44	PRJNA938958	SAMN33450865
S19-4683	U. cinereoargenteus	West	Nevada	38.54	-119.29	29	PRJNA938958	SAMN33450866
S19-4684	U. cinereoargenteus	West	Nevada	39.93	-114.60	33	PRJNA938958	SAMN33450867
S19-4685	U. cinereoargenteus	East	Oklahoma	36.29	-96.51	28	PRJNA938958	SAMN33450868
S19-4686	U. cinereoargenteus	East	Oklahoma	36.50	-95.06	32	PRJNA938958	SAMN33450869
S19-4687	U. cinereoargenteus	East	Oklahoma	35.50	-94.75	41	PRJNA938958	SAMN33450870
S19-4688	U. cinereoargenteus	East	Oklahoma	35.74	-94.74	46	PRJNA938958	SAMN33450871
S19-4689	U. cinereoargenteus	East	Oklahoma	36.52	-95.03	14	PRJNA938958	SAMN33450872
S19-4691	U. cinereoargenteus	East	Oklahoma	35.82	-94.63	34	PRJNA938958	SAMN33450874
S19-4692	U. cinereoargenteus	East	Oklahoma	34.59	-97.19	29	PRJNA938958	SAMN33450875
S19-4693	U. cinereoargenteus	East	Oklahoma	36.52	-95.03	40	PRJNA938958	SAMN33450876
S19-4695	U. cinereoargenteus	East	Oklahoma	34.71	-97.31	54	PRJNA938958	SAMN33450875
S19-4696	U. cinereoargenteus	East	Oklahoma	35.82	-94.63	30	PRJNA938958	SAMN33450879
S19-4697	U. cinereoargenteus	East	Arkansas	41.40	-96.48	39	PRJNA938958	SAMN33450880
S19-4698	U. cinereoargenteus	East	Arkansas	34.90	-94.09	38	PRJNA938958	SAMN33450881
S19-4699	U. cinereoargenteus	East	Arkansas	36.05	-90.97	23	PRJNA938958	SAMN33450882
S19-4700	U. cinereoargenteus	East	Arkansas	34.58	-94.24	31	PRJNA938958	SAMN33450883
S19-4701	U. cinereoargenteus	East	Arkansas	33.47	-92.17	26	PRJNA938958	SAMN33450884
S19-4702	U. cinereoargenteus	East	Arkansas	33.33	-93.91	62	PRJNA938958	SAMN33450885
S19-4703	U. cinereoargenteus	East	Arkansas	35.71	-92.52	12	PRJNA938958	SAMN33450886
S19-4704	U. cinereoargenteus	East	Arkansas	36.29	-91.86	6	PRJNA938958	SAMN33450887
S19-4706	U. cinereoargenteus	East	Arkansas	36.25	-93.51	12	PRJNA938958	SAMN33450889
S19-4707	U. cinereoargenteus	East	Arkansas	33.96	-91.73	13	PRJNA938958	SAMN33450890

S19-4708	U. cinereoargenteus	East	Arkansas	36.04	-94.25	17	PRJNA938958	SAMN33450891
S19-4709	U. cinereoargenteus	East	Arkansas	36.49	-94.43	23	PRJNA938958	SAMN33450892
S19-4710	U. cinereoargenteus	East	Arkansas	34.29	-91.34	17	PRJNA938958	SAMN33450893
S19-4711	U. cinereoargenteus	East	Arkansas	35.52	-93.33	40	PRJNA938958	SAMN33450894
S19-4712	U. cinereoargenteus	East	Arkansas	34.80	-91.74	26	PRJNA938958	SAMN33450895
S19-4713	U. cinereoargenteus	East	Arkansas	36.43	-92.77	31	PRJNA938958	SAMN33450896
S19-4714	U. cinereoargenteus	East	Arkansas	33.59	-93.39	61	PRJNA938958	SAMN33450897
S19-4715	U. cinereoargenteus	West	New Mexico	34.96	-103.16	55	PRJNA938958	SAMN33450898
S19-4716	U. cinereoargenteus	West	New Mexico	33.82	-106.37	42	PRJNA938958	SAMN33450899
S19-4717	U. cinereoargenteus	West	New Mexico	32.71	-107.85	94	PRJNA938958	SAMN33450900
S19-4718	U. cinereoargenteus	West	New Mexico	34.20	-108.50	60	PRJNA938958	SAMN33450901
S19-4719	U. cinereoargenteus	West	New Mexico	33.28	-104.36	23	PRJNA938958	SAMN33450902
S19-4720	U. cinereoargenteus	West	New Mexico	35.34	-105.59	73	PRJNA938958	SAMN33450903
S19-4721	U. cinereoargenteus	West	New Mexico	35.48	-107.04	77	PRJNA938958	SAMN33450904
S19-4722	U. cinereoargenteus	West	New Mexico	35.51	-107.04	86	PRJNA938958	SAMN33450905
S19-4723	U. cinereoargenteus	West	New Mexico	36.43	-107.59	30	PRJNA938958	SAMN33450906
S19-4724	U. cinereoargenteus	West	New Mexico	34.20	-108.50	22	PRJNA938958	SAMN33450907
S19-4725	U. cinereoargenteus	West	New Mexico	35.06	-106.44	36	PRJNA938958	SAMN33450908
S19-4726	U. cinereoargenteus	West	New Mexico	34.95	-103.14	7	PRJNA938958	SAMN33450909
S19-4728	U. cinereoargenteus	West	New Mexico	33.16	-104.32	53	PRJNA938958	SAMN33450910
S19-4729	U. cinereoargenteus	West	New Mexico	36.38	-107.56	18	PRJNA938958	SAMN33450911
S19-4730	U. cinereoargenteus	West	New Mexico	35.28	-105.54	19	PRJNA938958	SAMN33450912
S19-4731	U. cinereoargenteus	West	New Mexico	33.28	-104.36	36	PRJNA938958	SAMN33450913

S19-4732	U. cinereoargenteus	East	Kansas	37.29	-95.81	21	PRJNA938958	SAMN33450914
S19-4733	U. cinereoargenteus	East	Kansas	37.29	-95.81	23	PRJNA938958	SAMN33450915
S19-4734	U. cinereoargenteus	East	Kentucky	37.55	-85.27	25	PRJNA938958	SAMN33450916
S19-4735	U. cinereoargenteus	East	Kentucky	36.76	-84.15	15	PRJNA938958	SAMN33450917
S19-4736	U. cinereoargenteus	East	Kentucky	37.32	-85.88	29	PRJNA938958	SAMN33450918
S19-4737	U. cinereoargenteus	East	Kentucky	37.32	-84.93	50	PRJNA938958	SAMN33450919
S19-4738	U. cinereoargenteus	East	Kentucky	37.46	-84.66	9	PRJNA938958	SAMN33450920
S19-4739	U. cinereoargenteus	East	Kentucky	36.86	-86.88	35	PRJNA938958	SAMN33450921
S19-4740	U. cinereoargenteus	East	Kentucky	37.93	-86.06	16	PRJNA938958	SAMN33450922
S19-4741	U. cinereoargenteus	East	Kentucky	37.37	-85.33	20	PRJNA938958	SAMN33450923
S19-4742	U. cinereoargenteus	East	Kentucky	37.11	-84.58	27	PRJNA938958	SAMN33450924
S19-6655	U. cinereoargenteus	East	South Carolina	33.35	-81.74	44	PRJNA938958	SAMN33450925
S19-6656	U. cinereoargenteus	East	South Carolina	33.34	-81.75	24	PRJNA938958	SAMN33450926

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Table S3: Timing estimates of admixture pulses inferred for each putatively admixed individual using Ancestry_HMM (v0.94, Corbett-Detig and Nielson, 2017, Medina *et al*., 2018). Likelihood scores and associated inferences of admixture time are shown for both single pulse and two-pulse models of gene. All individuals from the eastern admixed population show stronger support for a single pulse of admixture that occurred 36-68 generations ago. Alternatively, the western admixed population shows stronger support for two pulses of admixture, a more recent pulse that occurred 34-99 generation ago which coincides with the pulse in the east, and an older pulse that occurred 233-1740 generations ago.

SampleID	Admixed Population	Single Pulse Model		Multi-Pulse Model		
		Admixture Timing (generations)	Likelihood	Admixture Timing (generations; Pulse 1)	Admixture Timing (generations; Pulse 2)	Likelihood
S19_3074	East_Admixed	56.2467	-882452	82.1877	31.3466	-882472
S19_4685	East_Admixed	36.5589	-878197	58.1238	20.1665	-878218
S19_4692	East_Admixed	35.7165	-895379	51.5938	15.5572	-895382
S19_4695	East_Admixed	36.6483	-891294	58.7884	13.9215	-891300
S19_4698	East_Admixed	67.6089	-865996	104.215	43.0933	-866018
S19_4702	East_Admixed	61.9129	-881516	113.935	33.8748	-881535
S19_2940	West_Admixed	160.915	-885960	1174.69	98.5155	-885929
S19_2977	West_Admixed	119.297	-905919	388.508	55.3355	-905874
S19_2992	West_Admixed	144.651	-908945	557.255	74.3797	-908899
S19_3050	West_Admixed	107.34	-907111	320.016	37.4516	-907027
S19_3061	West_Admixed	143.262	-893838	1740.09	94.4144	-893794
S19_3072	West_Admixed	96.9881	-916830	257.99	33.6021	-916761
S19_3075	West_Admixed	126.542	-904135	426.5	57.8633	-904096
S19_3084	West_Admixed	168.768	-904856	716.806	83.454	-904792
S19_3098	West_Admixed	92.8849	-909749	233.122	34.6592	-909705

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Table S4: Parameter estimates for the best-fitting cline model for empirical geographic clines of based on admixture proportions generated from 44k nuclear GBS SNPs (Kierepka *et al*., 2023). Clines were generated using the program HZAR (Derryberry *et al*., 2014). Cline width is 1/maximum slope, and the cline center was measured as the 50% ancestry transition spline based on empirical Bayesian Kriging in ArcMap. Additionally, clines widths are presented for the data modeled together (All Grey foxes) and with the eastern and western grey foxes modeled separately. The ±2 log-likelihood (LL) unit support is presented for both. The shape parameter indicates the tail shape (left, right, both, none, mirrored) of the top model, while pmin and pmax are the lower and upper bounds of ancestry proportion for the top cline model.

	AHMM Predicted Cline Width [$w = \sigma \sqrt{2\pi T}$]	Top Model			Cline Position (km)	± 2 LL		Cline Width (km)	± 2 LL	
		Shape (tails)	pmin	pmax		min (km)	max (km)		min (km)	max (km)
All Grey foxes	641	none	0	1	-82.57	-174.51	28.53	524.10	376.21	712.44
Western Grey fox Only	889 (445)	none	0	1	-9.32	-89.82	69.93	655.16 (327.58)	532.89 (266.45)	807.5 (403.75)
Eastern Grey fox Only	176 (88)	none	0	1	-9.93	-150.16	130.82	376.94 (188.47)	223.52 (111.76)	583.28 (291.64)

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Table S5: Evaluation metrics of maximum entropy (MaxEnt) model generated by ENMeval using the "maxnet" algorithm (v0.1.4; Phillips *et al*., 2017) and k-fold cross validation. FC: Feature Combination; RM: Regulatory Multiplier; OR_{10}:10% training omission rate; AICc: the Akaike Information Criterion corrected for small samples size; AUC: The area under the subject curve. The MaxEnt model provides 5 features, which are linear features (L), quadratic features (Q), hinge features (H), threshold features (T), and product features (P).

Model ID	FC	RM	OR_{10}	AICc	Δ AICc	Mean AUC	avg.diff.AUC
rm.0.5_fc.LQHP	LQHP	0.5	0.11360656	35562.2886	0	0.79065217	0.01427506
rm.0.5_fc.LQHPT	LQHPT	0.5	0.12279983	35594.4452	32.1566334	0.79292433	0.02290709
rm.1_fc.LQHP	LQHP	1	0.10573123	35601.2798	38.9912146	0.78774164	0.00991035
rm.1_fc.LQHPT	LQHPT	1	0.1096635	35617.4691	55.1805539	0.78889698	0.01342183
rm.1.5_fc.LQHP	LQHP	1.5	0.10376402	35635.3661	73.0775371	0.78615746	0.00805648
rm.0.5_fc.H	H	0.5	0.10965703	35643.6197	81.331093	0.78585142	0.0135339
rm.1.5_fc.LQHPT	LQHPT	1.5	0.10835634	35649.2245	86.9359778	0.78613568	0.00977236
rm.0.5_fc.LQH	LQH	0.5	0.11293788	35660.7999	98.5113294	0.78586871	0.0136491
rm.1_fc.H	H	1	0.10637403	35666.8428	104.554205	0.78361953	0.0090359
rm.1_fc.LQH	LQH	1	0.10572045	35680.1987	117.910096	0.78350001	0.00913432
rm.2_fc.LQHP	LQHP	2	0.10310828	35686.6927	124.404152	0.78415825	0.00700086
rm.2_fc.LQHPT	LQHPT	2	0.10704271	35687.0939	124.805315	0.78397832	0.00771141
rm.1.5_fc.LQH	LQH	1.5	0.10243745	35693.1907	130.902121	0.78245993	0.00675948
rm.0.5_fc.T	T	0.5	0.12279551	35711.0526	148.764027	0.78398849	0.02468024
rm.1.5_fc.H	H	1.5	0.10178387	35722.364	160.075409	0.78224932	0.00661442
rm.2_fc.H	H	2	0.09849871	35739.9513	177.662737	0.78038226	0.00609491
rm.2_fc.LQH	LQH	2	0.09784297	35753.3573	191.068684	0.78086764	0.00611708
rm.1_fc.T	T	1	0.11359146	35781.8226	219.534061	0.77646622	0.01865849

rm.0.5_fc.LQP	LQP	0.5	0.10243529	35811.8929	249.60435	0.76800358	0.00689237
rm.0.5_fc.P	P	0.5	0.10243745	35839.987	277.698468	0.76553971	0.00808325
rm.1.5_fc.T	T	1.5	0.11359146	35852.5935	290.304957	0.7707586	0.01415949
rm.1_fc.LQP	LQP	1	0.10375539	35886.9274	324.638838	0.76424907	0.007234
rm.1_fc.P	P	1	0.1024396	35895.8928	333.604188	0.76255592	0.00739683
rm.2_fc.T	T	2	0.11359793	35920.3064	358.017847	0.76625336	0.01141213
rm.1.5_fc.P	P	1.5	0.1024396	35925.1675	362.878933	0.76097814	0.00669239
rm.1.5_fc.LQP	LQP	1.5	0.10309965	35925.2187	362.930172	0.76153679	0.00688538
rm.2_fc.P	P	2	0.09980802	35946.0175	383.728942	0.75990811	0.00675825
rm.2_fc.LQP	LQP	2	0.10046808	35949.7563	387.467712	0.76007194	0.00662036
rm.0.5_fc.LQ	LQ	0.5	0.10045945	36025.3023	463.013735	0.75596549	0.00501522
rm.1_fc.LQ	LQ	1	0.10572045	36095.6039	533.315328	0.75106226	0.00533069
rm.1.5_fc.LQ	LQ	1.5	0.10506687	36147.9674	585.678845	0.74641867	0.00573921
rm.2_fc.LQ	LQ	2	0.10046808	36193.4415	631.152939	0.74205818	0.00597439
rm.0.5_fc.Q	Q	0.5	0.09654012	36247.5408	685.252204	0.73156554	0.00701892
rm.1_fc.Q	Q	1	0.09653796	36255.0825	692.79394	0.73184387	0.00660001
rm.1.5_fc.Q	Q	1.5	0.09719154	36259.0763	696.787713	0.73185478	0.00640323
rm.2_fc.Q	Q	2	0.09850518	36265.97	703.681454	0.73190042	0.00624363
rm.0.5_fc.L	L	0.5	0.10178818	36829.8252	1267.53667	0.66328094	0.01813811
rm.1_fc.L	L	1	0.10376618	36918.4908	1356.20228	0.65165531	0.01899753
rm.1.5_fc.L	L	1.5	0.10179034	36943.7557	1381.46711	0.64611121	0.01977507
rm.2_fc.L	L	2	0.10704918	36966.6884	1404.3998	0.64192711	0.02014452

MOLECULAR ECOLOGY

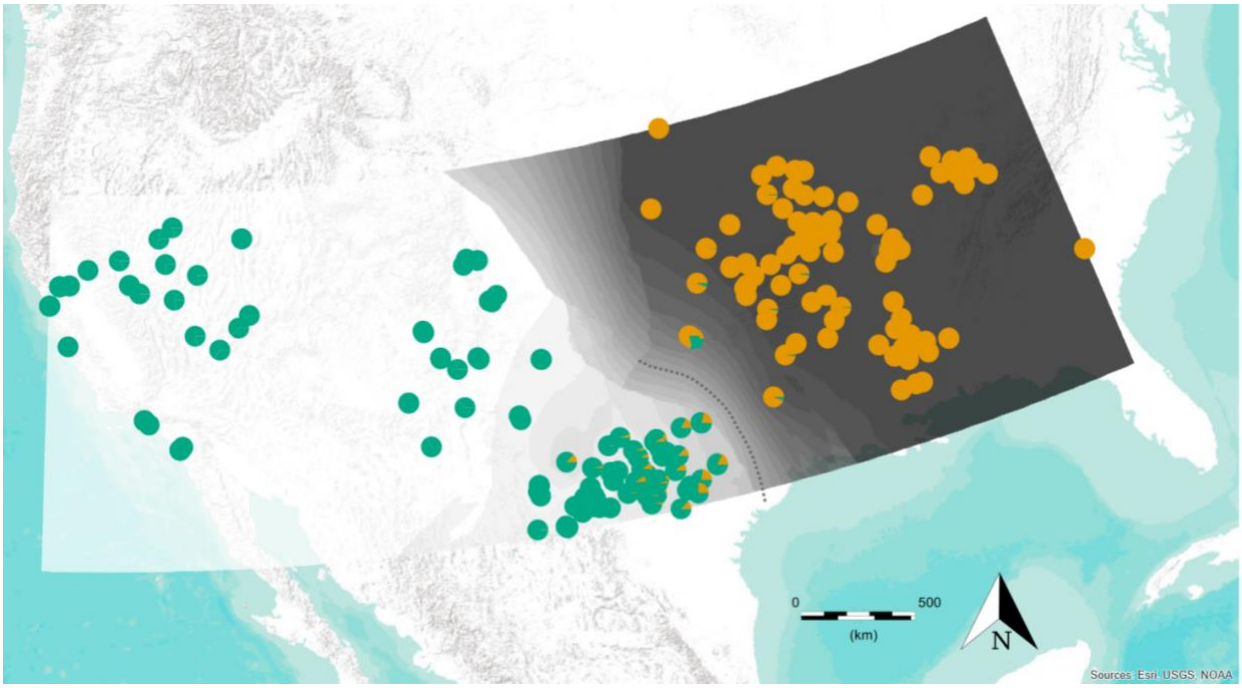

Figure S1: Ancestry surface (2-Dimensional) generated using an empirical Bayesian kriging approach that interpolated admixture proportions (q-values) of grey fox samples (n = 259) throughout the eastern and western range. The ancestry proportions were inferred in the program fastStructure (Raj *et al*., 2014) using ~45k nuclear genotyping-by-sequencing loci (Kierepka *et al*., 2023). Each pie chart reflects the relative proportion of eastern (yellow) and western (green) ancestry within a single grey fox individual. The predicted cline center (black dashed line) used to generate an estimate of empirical cline width was then inferred based on the geographic location of the 50% ancestry spline from the interpolation approach.

MOLECULAR ECOLOGY

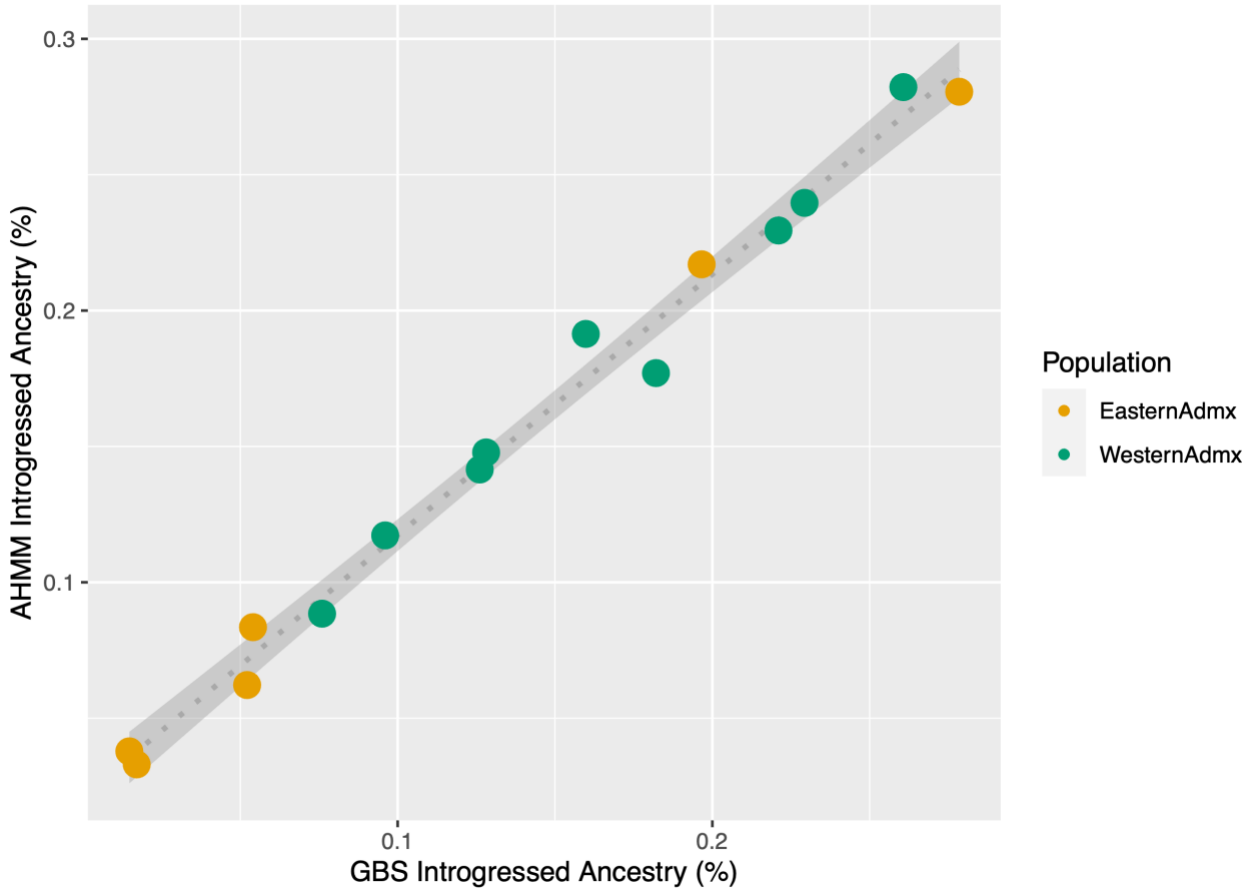

Figure S2.: Estimates of global ancestry inferred from local ancestry in Ancestry_HMM versus fastStructure (Raj *et al.*, 2014). Ancestry_HMM estimates were based on ancestry informative markers selected from whole genome sequencing, whereas estimates based on fastStructure were estimated from genotyping-by-sequencing loci (Kierepka *et al.*, 2023). Estimates were largely concordant (Pearson's r ≥0.994) among eastern (yellow circles; n = 6) and western (green circles, n = 9) admixed individuals.

MOLECULAR ECOLOGY

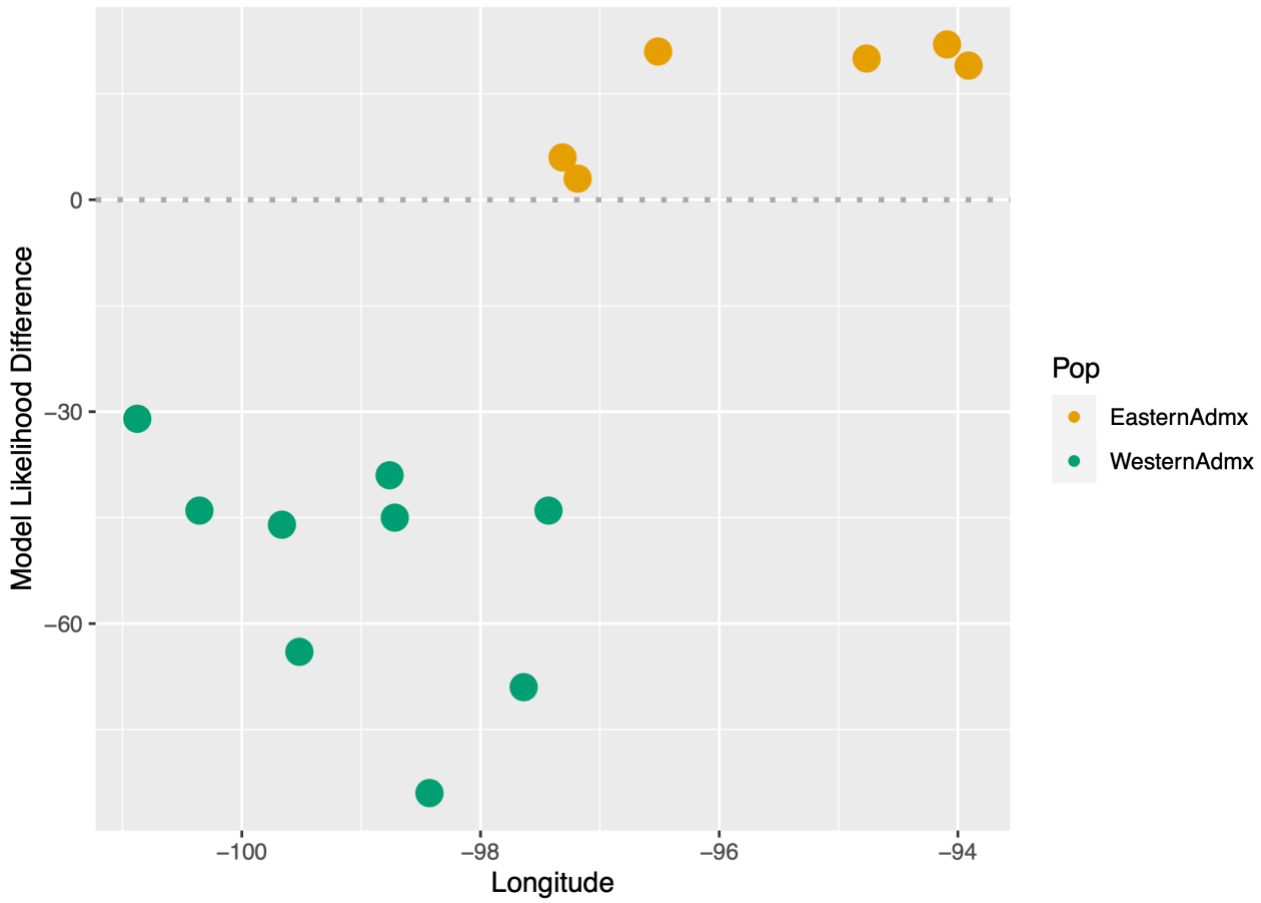

Figure S3: Differences in model likelihood scores generated for a one vs. two-pulse models of gene flow within the eastern admixed individuals (yellow circles; n = 6) and the western admixed individuals (green circles; n = 9) estimated using Ancestry_HMM). Positive model likelihood differences indicate stronger support for a single pulse model of gene flow, while negative values indicate stronger support for a two-pulse model of gene flow. All individuals within the eastern population show greater support for an admixture history involving a single pulse of gene flow from the west, while those in the west show stronger support for an admixture history involving two distinct pulses.

MOLECULAR ECOLOGY

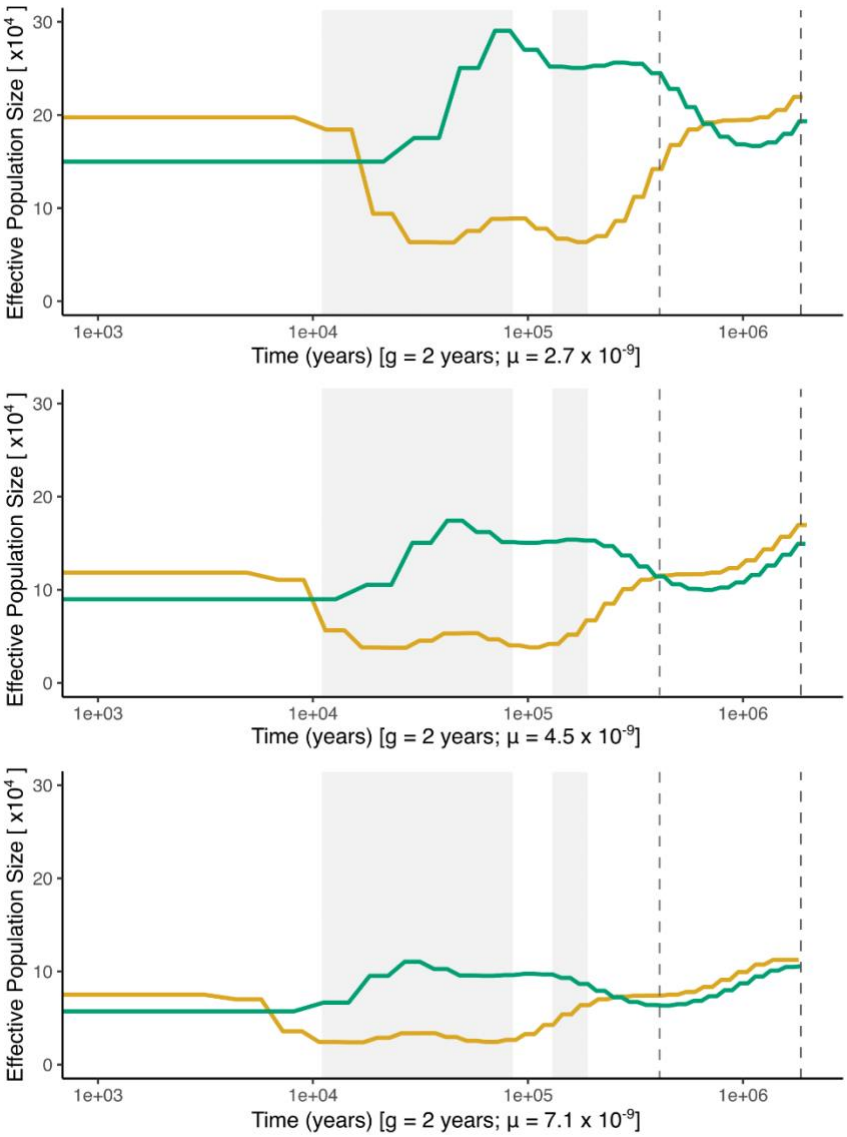

Figure S4 PSMC plots of a high coverage (26x) eastern grey fox (yellow) and a high coverage (24x) western grey fox from Texas (green) showing differences in demographic reconstruction based upon variable mutation rates [4.5 x 10^{-9} (2.7 x 10^{-9} – 7.1 x 10^{-9})] as presented by Koch *et al*., (2019). Shading corresponds to the Wisconsinan (85,000 – 11,000 YBP) and Illinoian (190 – 130 kya) glaciation periods. Dashed lines bound the estimate of divergence time between eastern and western grey foxes [0.87 MYA (0.41 mya – 1.86 mya)] from an earlier GBS study (Kierepka *et al*., 2023).

MOLECULAR ECOLOGY

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