Developing a Centralized Digital Archive of Vouchered Animal Communication Signals (VACS)

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Primary Institutions

- Macaulay Library, Cornell Lab of Ornithology
- Cornell University Museum of Vertebrates
- Louisiana State University Museum of Natural Science
- University of Kansas Biodiversity Institute
- Texas Natural Science Center, University of Texas
- California Academy of Sciences

Secondary Institutions

- American Museum of Natural History
- Peabody Museum, Yale University
- Smithsonian Institution National Museum of Natural History
- Zoologisk Museum, Københavns Universitet
- Museu Paraense Emilio Goeldi

TCN: Vouchered Animal Communication Signals

TCN Goals:

- Digitize and make accessible animal communication signals associated with physical voucher specimens

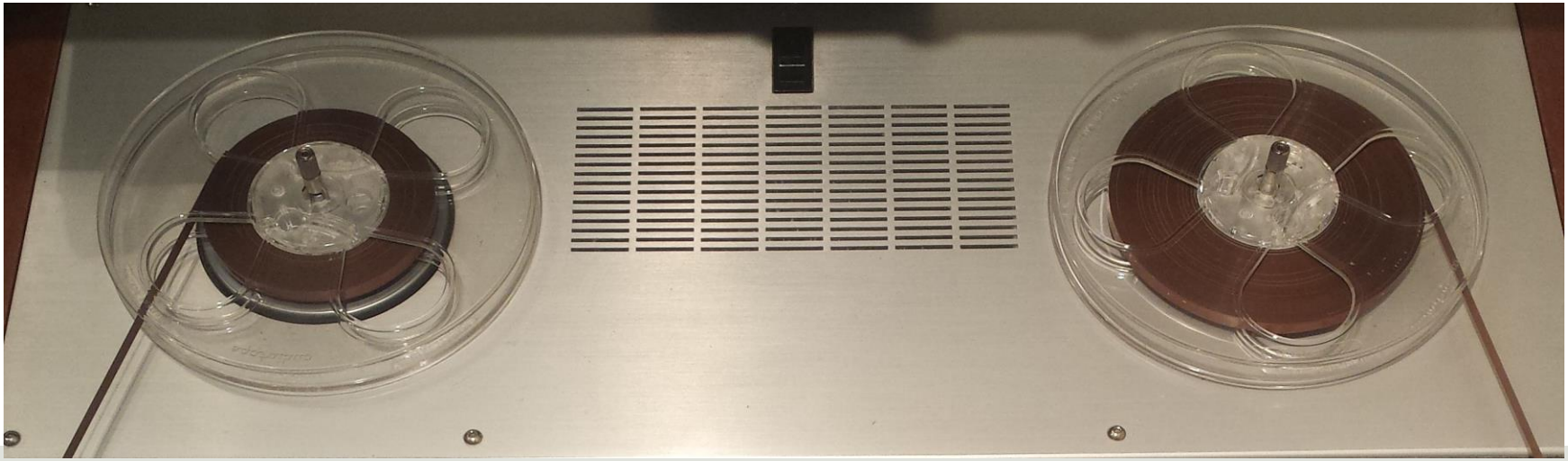
- Establish direct and transparent links across collections between physical voucher specimens and digitized recordings

TCN Research Theme:

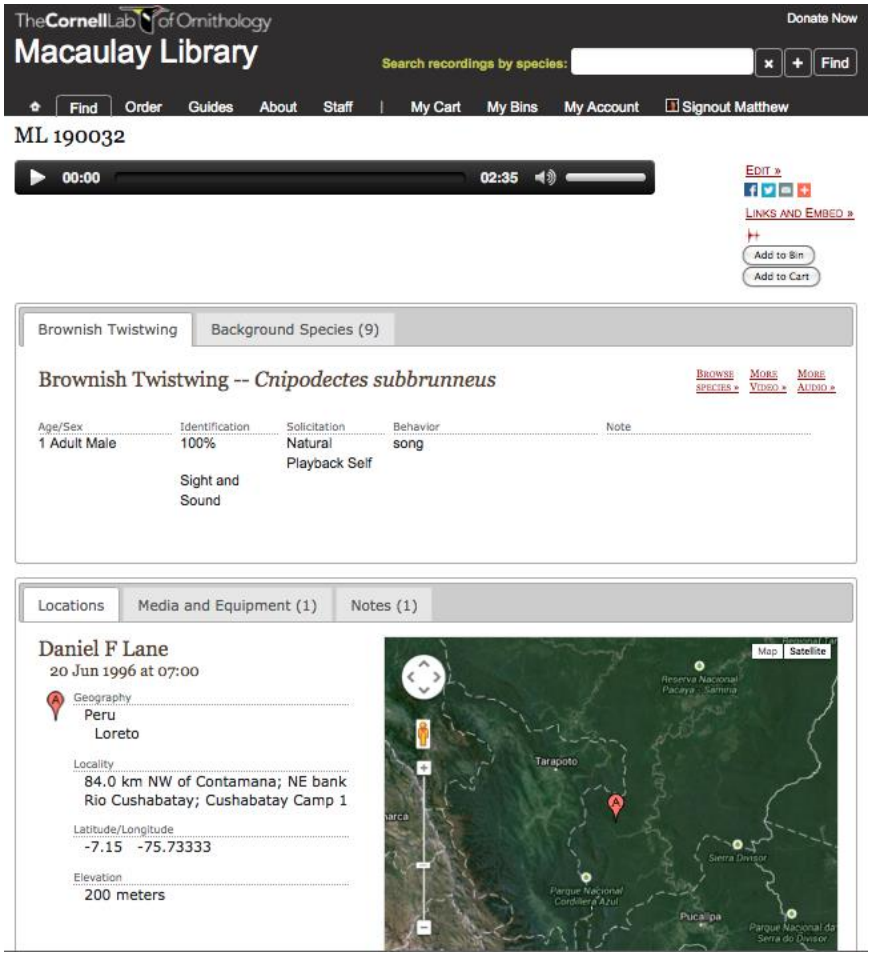
Understanding the tempo and mode of animal signal evolution

Goal #1: Digitize Media & Make Accessible

Media Format	Hours of Recordings	Hours of Digitized Recordings to Date
Cassette	495	250+
Reel-to-reel	455	15
R-DAT	95	0
TOTAL	1,045	265+

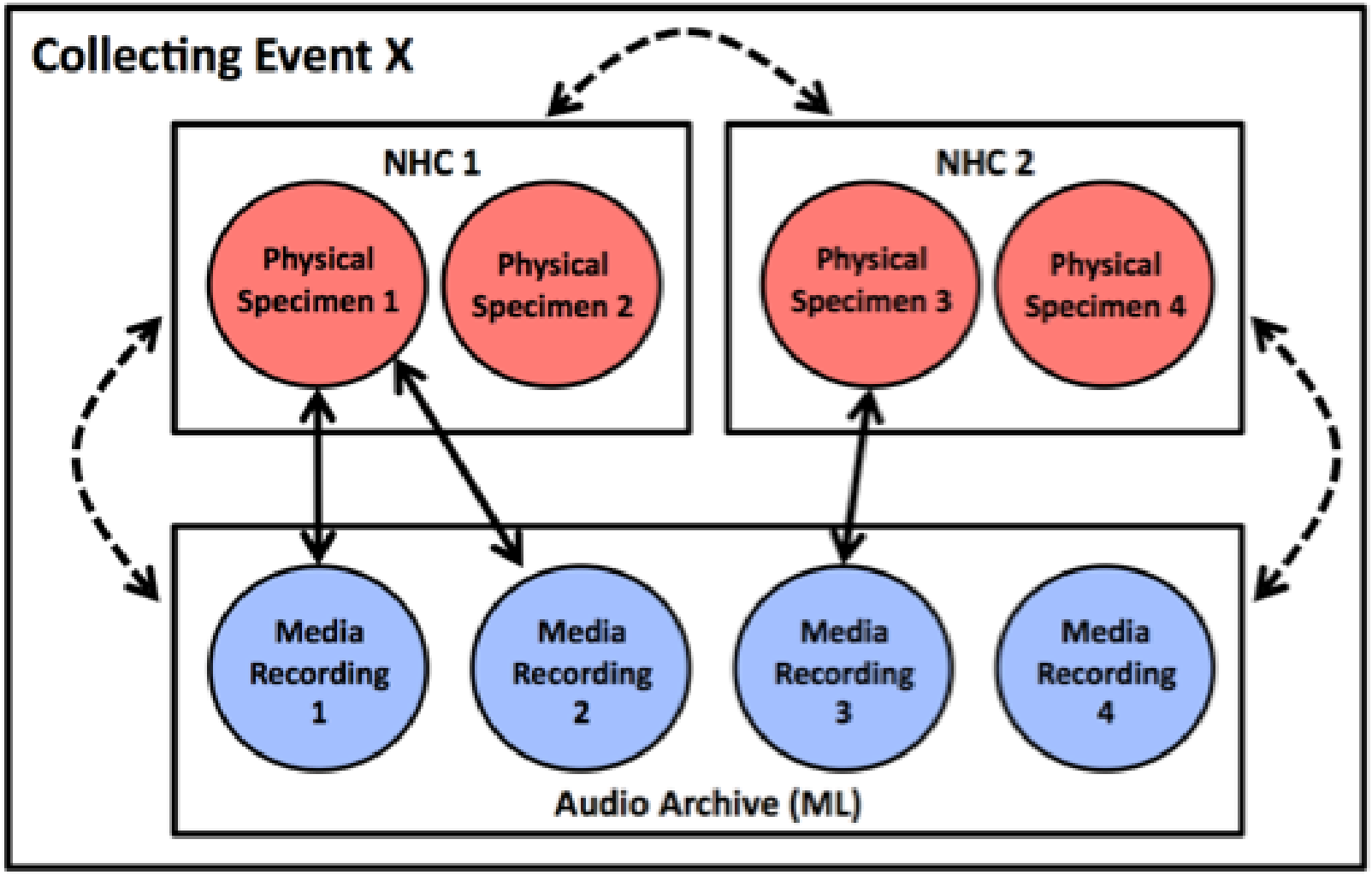


Goal #1: Digitize Media & Make Accessible



Institution	Archived Recordings
University of Kansas	10,000+
Louisiana State University	1,000+
Yale University	1,000+
California Academy of Sciences	650+
Total	12,650+

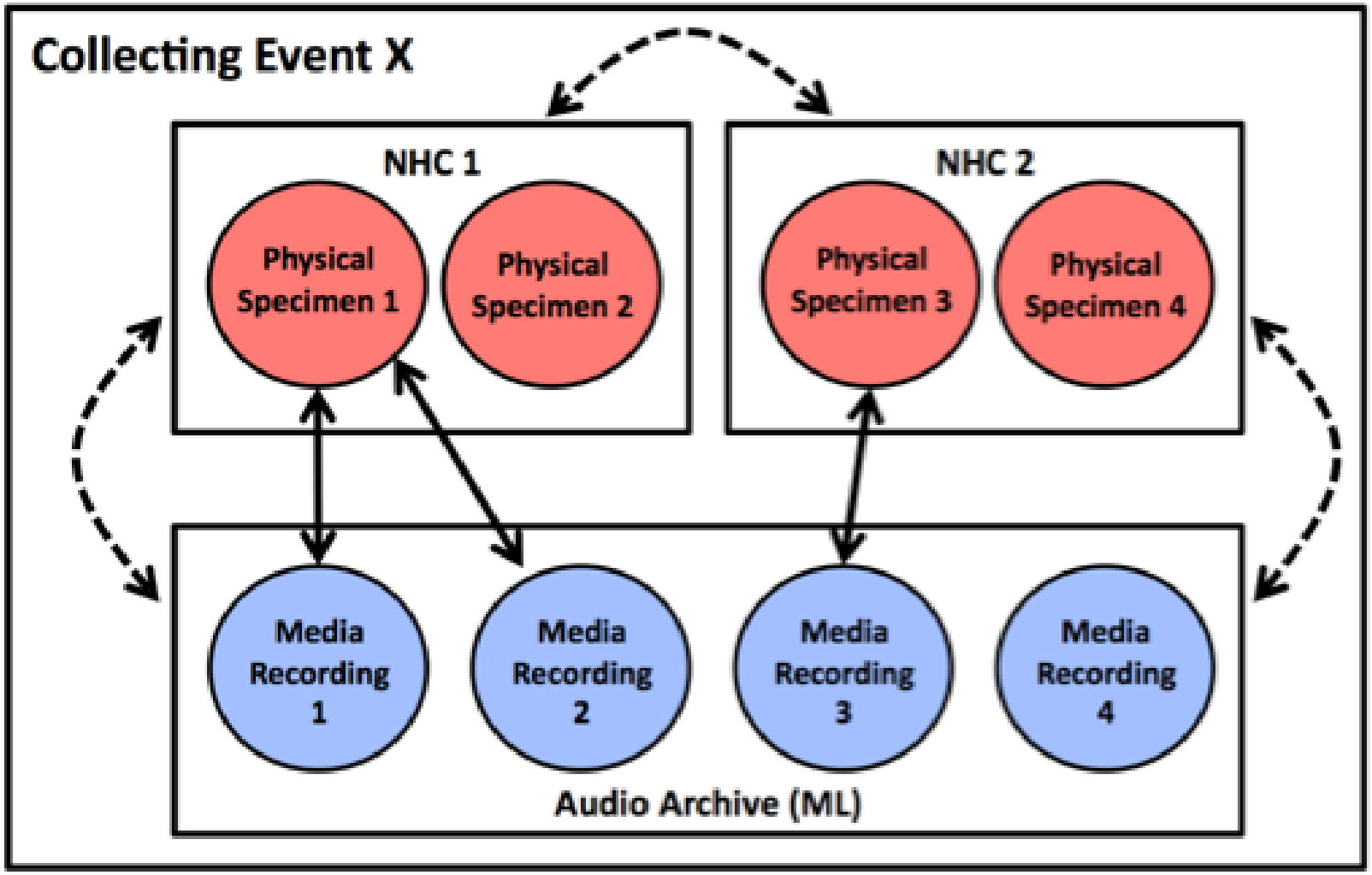
Goal #2: Establish Links Across Collections



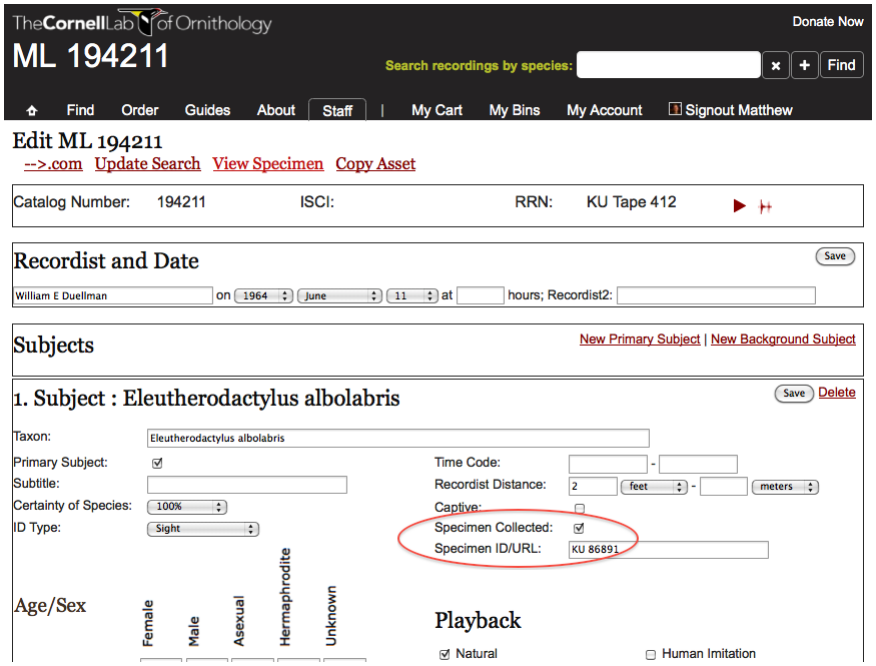
Goal #2: Establish Links Across Collections

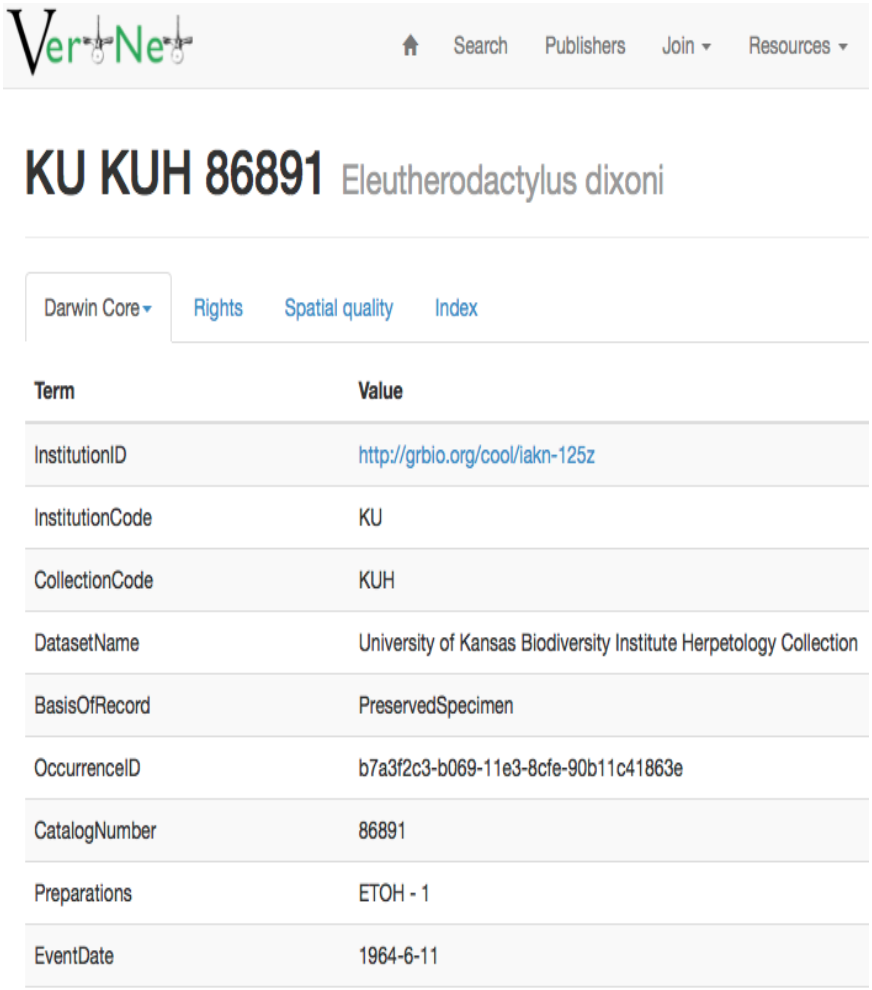
TCN One-to-One and Population-level Linkage Goals		
Taxon	Vouchers	Population Vouchers
Birds	5,114	55,500+
Anurans	5,300	10s of thousands
Fishes	6,938	Unknown
Insects	8,968	5,704
Other	28	Unknown
TOTAL	26,348	70,000+

Goal #2: Establish Links Across Collections

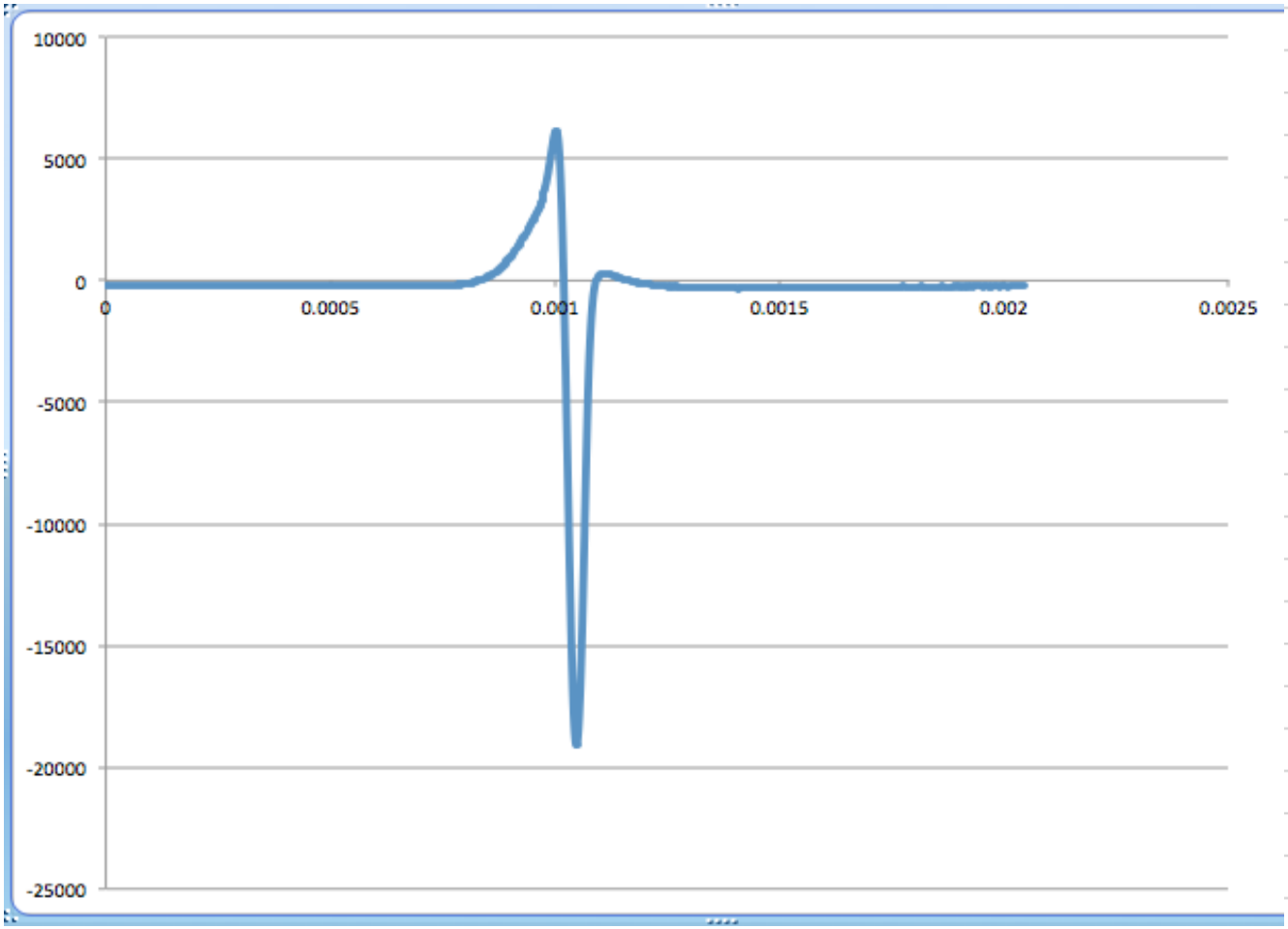


Goal #2: Establish Links Across Collections





Electric Organ Discharges (EODs)



Time (s)	Voltage
0	-233
2.00196E-06	-217
4.00391E-06	-233
6.00587E-06	-233
8.00782E-06	-217
1.00098E-05	-217
1.20117E-05	-217
1.40137E-05	-217
1.60156E-05	-217
1.80176E-05	-233
2.00196E-05	-233
2.20215E-05	-233
2.40235E-05	-217
2.60254E-05	-217
2.80274E-05	-201
3.00293E-05	-217
3.20313E-05	-217
3.40332E-05	-201
3.60352E-05	-217
3.80371E-05	-233
4.00391E-05	-217
4.20411E-05	-233
4.4043E-05	-217
4.6045E-05	-201
4.80469E-05	-217

Next Steps

- Continue with digitization and archival work at ML

- Finalize an one-to-one linkage process, using KU specimens as a model

- Explore best methods for creating population-level links across databases

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