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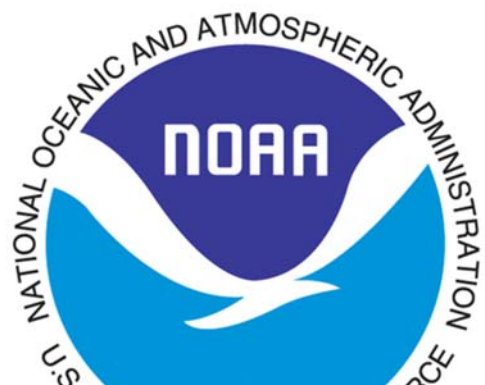
**Institute for
Historical Ecology**

The Historical Range of Beaver (*Castor canadensis*) in Coastal California: An Updated Review of the Evidence

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ABSTRACT

- Based on verifiable (physical) and documented (reliable observational) records, this paper challenges long-held assumptions that North American beaver (*Castor canadensis*) are not native to the watersheds of coastal California or the San Francisco Bay Area.
- Novel findings are facilitated by recently digitized information largely inaccessible prior to the 21st century.
- Understanding that beaver are native to California's coast is important, as their role in groundwater recharge, repairing channel incision, and creating wetlands may be critically important to conservation of threatened salmonids.

Article published in 2013:
California Fish and Game 99(4):193-221

INTRODUCTION

- Based on a limited review of evidence, conducted after more than 100 years of unregulated commercial trapping and conversion of alluvial valley bottoms to agriculture, Grinnell et al. (1937) and Tappe (1942) concluded that beaver were not native to coastal California south of Little River in Humboldt County.
- California's current beaver management policies are based on these mid-20th century assertions.

METHODS

This paper thoroughly re-evaluates historical records of occurrence of beavers in Coastal California using the following sources:

- Museum and archaeological specimens
- Accounts by reliable observers
- Indirect evidence including:
 - Newspaper accounts
 - Geographical place names
 - Native American ethnographic information
 - Assessments of Habitat suitability



All evidence utilized pre-dates the California Fish and Game Commission's 1923-1950 beaver reintroduction program.

DISCUSSION

Why are documented observational records of coastal beaver difficult to find?



- Poor records of sea-based fur trade 1787-1840s
- Beavers nearly extirpated from California prior to establishment of state's first museums and universities
- Fire destroyed almost all of California Academy of Sciences collection in 1906

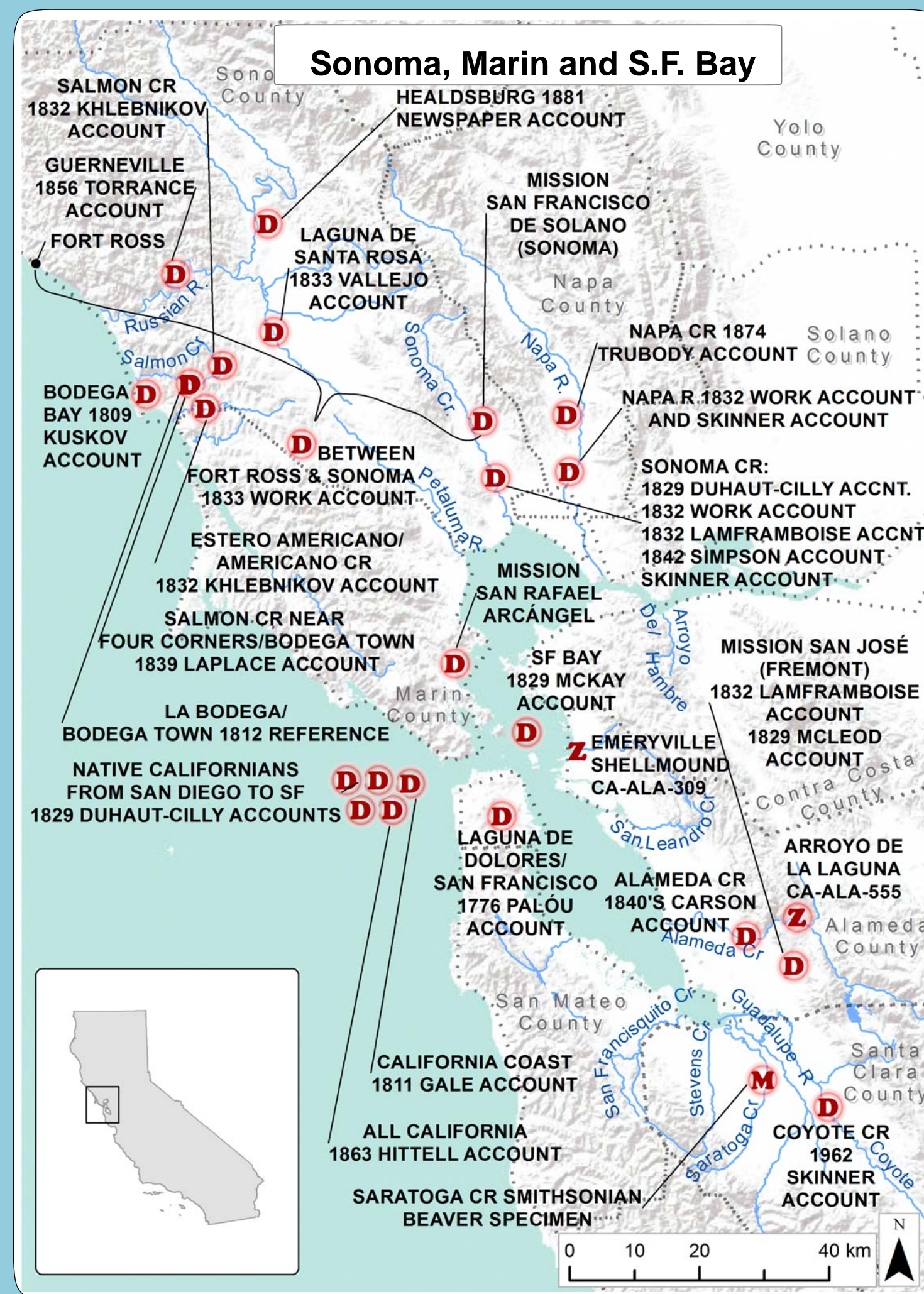
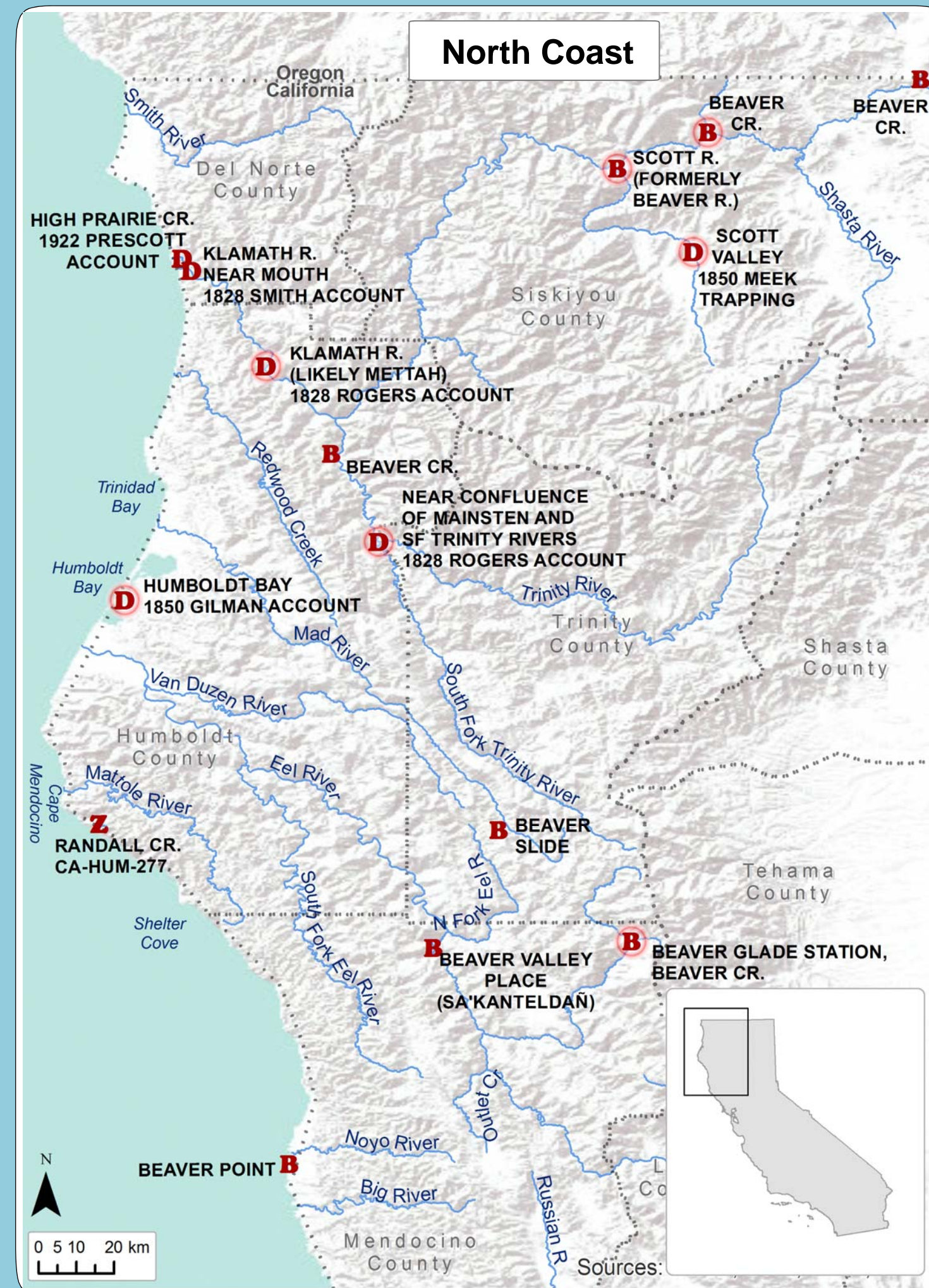
More beaver records may be available from sources not yet digitized/searched:



- Records of foreign museums/companies
- Historical newspapers
- Archaeological records and unsorted small mammal remains
- Radiocarbon dating of buried ancient beaver dams (Lanman and James 2012)

Legend for Historical Evidence

- M** Museum specimen
- Z** Zooarchaeological specimen
- D** Documented records
- B** Beaver place name
- Approximate/ general location
- Cities and historical settlements
- County Boundaries
- Rivers and Streams

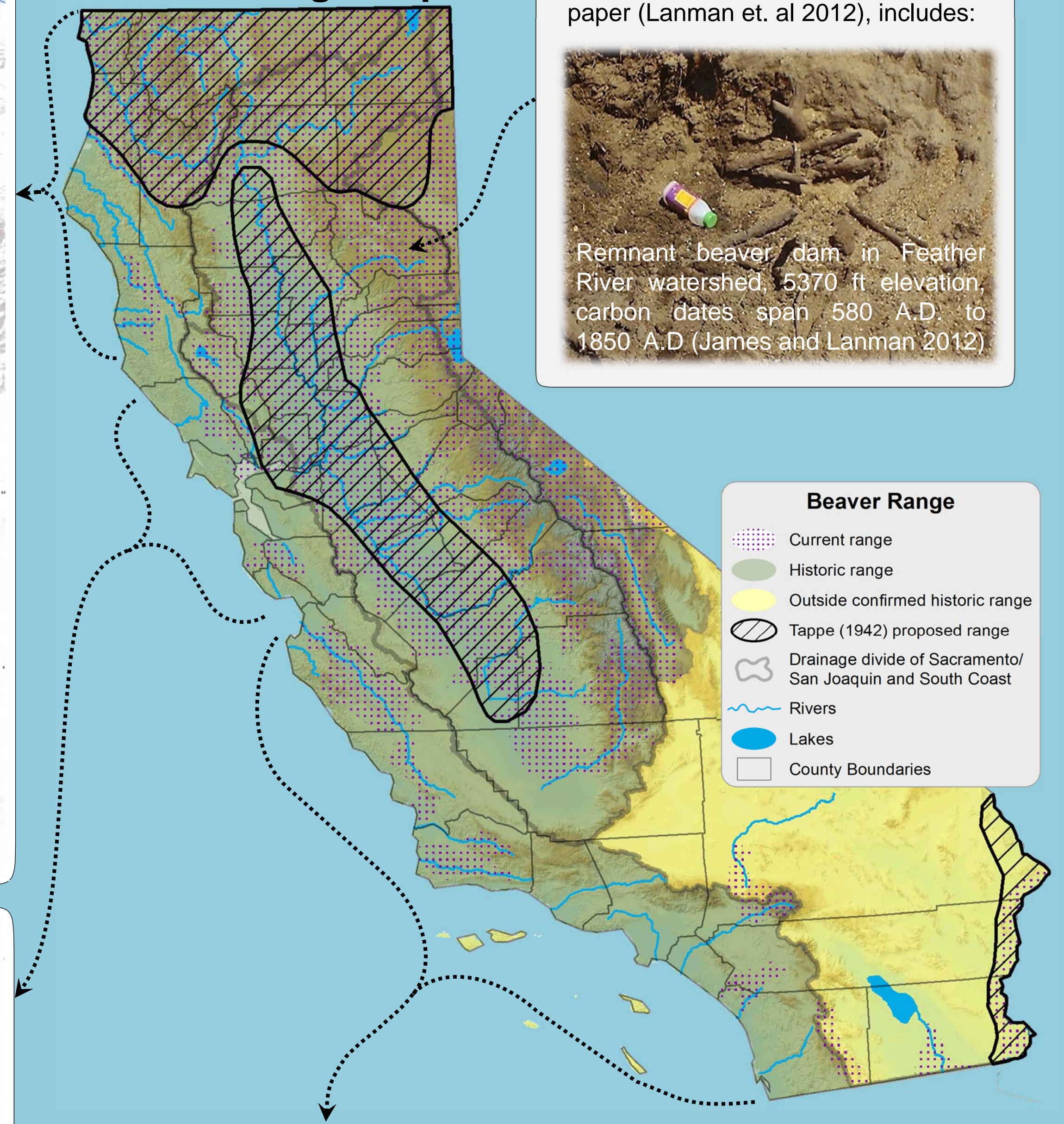


RESULTS

Evidence of historical presence of beavers in each coastal region, including:

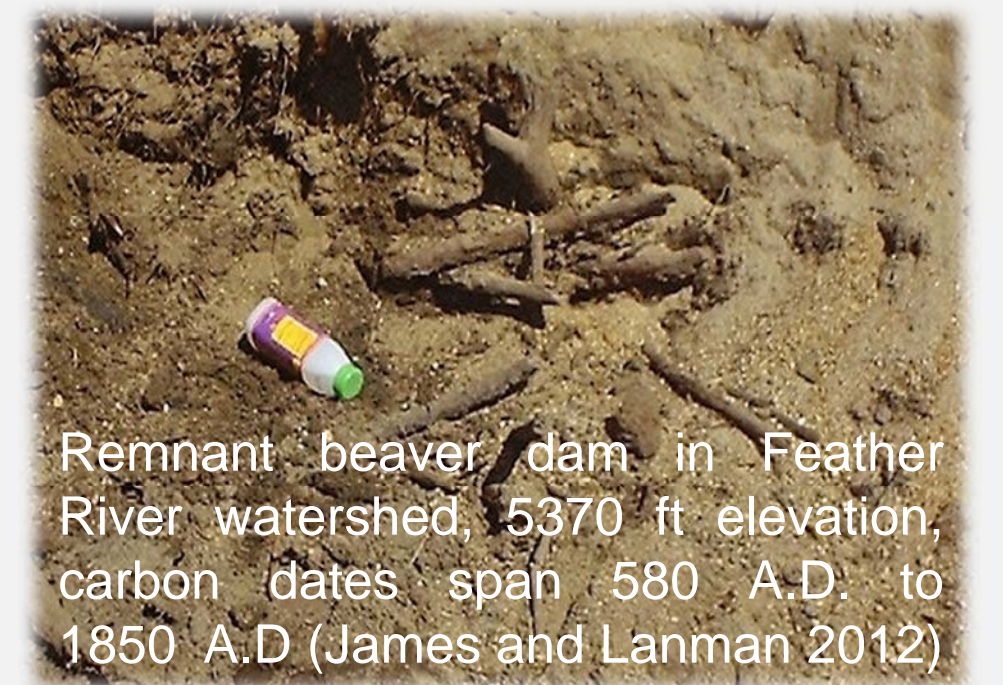
- Museum specimens: Sespe Creek (Ventura County) and Saratoga Creek (Santa Clara County)
- Archaeological sites: Randall Creek (Humboldt County), Alameda Creek and Emeryville Shellmound (Alameda County)

Current/Historic Beaver Range Map



Sierra Nevada

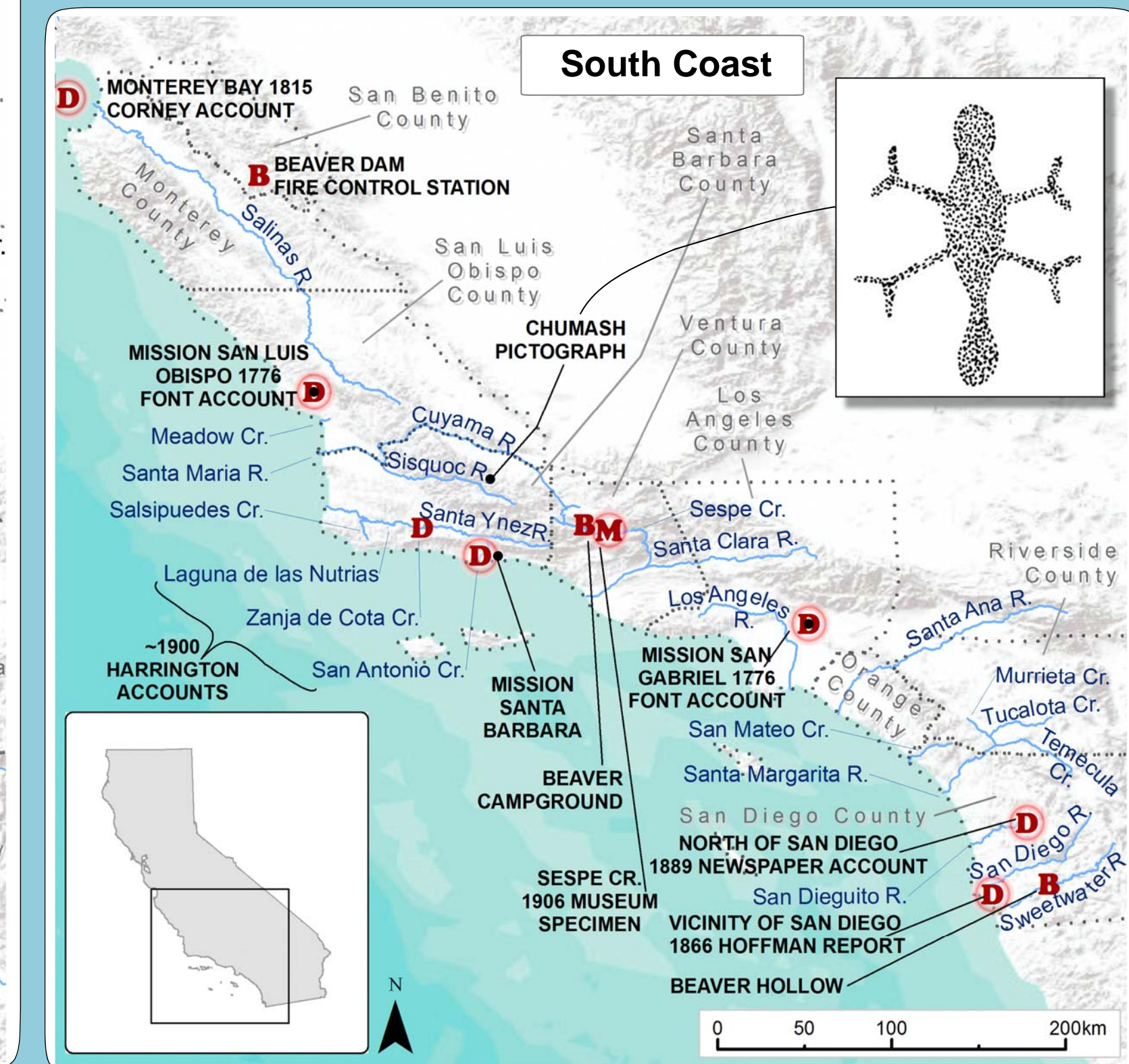
Evidence summarized in previous paper (Lanman et. al 2012), includes:



Remnant beaver dam in Feather River watershed, 5370 ft elevation, carbon dates span 580 A.D. to 1850 A.D. (James and Lanman 2012)

Beaver Range

- Current range
- Historic range
- Outside confirmed historic range
- Tappe (1942) proposed range
- Drainage divide of Sacramento/ San Joaquin and South Coast
- Rivers
- Lakes
- County Boundaries



County	Tribes with word for beaver
Del Norte	Tolowa
Siskiyou	Karuk
Humboldt	Coast Yurok, Wiyot, Whilkut, Lolankok/ Sinkiyone
Mendocino	Pomo, Northern Pomo/ Tabata, Central Pomo/ Yokai/ Yukai, Central Pomo/ Shanell
Lake	Northern Pomo/ Kaiyu
Sonoma	Pomo/ Gallinero, Southern Pomo/ Makahmo, Kashaya Pomo/ Venaambakaila/ Chwachamaju, Bodega Miwok/ Olamentke, Mutsun Costanoan/ Tcho-ko-yem
Marin	Coast Miwok
Santa Cruz	Mutsun Costanoan
Monterey	Rumsen Costanoan
Santa Barbara	Chumash Ineseño, Chumash Barbareño
Ventura	Chumash Ventureño
Los Angeles	Gabrieleño/ Tongva
San Diego	Luiseño, Kumeyaay (Diegueño)

REFERENCES

- Grinnell, J., J. S. Dixon, and J. M. Linsdale. 1937. Fur-bearing mammals of California: their natural history, systematic status, and relations to man. University of California Press, Berkeley, USA
- James, C. D., and R. B. Lanman. 2012. Novel physical evidence that beaver were historically native to the Sierra Nevada. *California Fish and Game* 98:129-132.
- Lanman CW, Lundquist K, Perryman H, Asarian JE, Dolman B, Lanman RB, Pollock MP. 2013. The historical range of beaver (*Castor canadensis*) in coastal California and the San Francisco Bay Area: An updated review of the evidence. *California Fish and Game* 99(4): 193-221.
- Lanman, R. B., H. Perryman, B. Dolman, and C. D. James. 2012. The historical range of beaver in the Sierra Nevada: a review of the evidence. *California Fish and Game* 98:65-80.
- Tappe, D. T. 1942. The status of beavers in California. California Department of Fish and Game, Game Bulletin 3:1-59.



CALIFORNIA BEAVER WEBSITES:

Worth A Dam: www.martinezbeavers.org/

Riverbend Sciences' Beaver Mapper: www.riverbendsci.com/projects/beavers

OAEC WATER Institute's Bring Back the Beaver Campaign: www.oaecwater.org/beaver

California Fur Rush: en.wikipedia.org/wiki/California_Fur_Rush