Antecedents of the Community Distribution Model

Classic Ethnographers Reported their Ethnogeographic Data In Text and on Maps
Kroeber 1925

The San Joaquin River belonged to the Yokuts, the Sacramento to the Maidu and Wintun. At the point where these two streams debouch into San Francisco Bay, Costanoan territory begins. [Kroeber 1925:462]

Initiation record studies, such as Bennyhoff (1977) and Gibson (1983), used clues from baptism and marriage records to reconstruct the homeland areas of groups that were mentioned in the Franciscan mission records by name only.

Having mapped the tribes with known locations, one attempts to find...the unplaced names which best fit a vacant space on the map. All the available data are brought to bear on the first attempt—do the marriage and alliances make sense in terms of distance or known ethnic affiliation? [Bennyhoff 1977:21]

Major Rancherias named in the Mission Registers
Milliken and Johnson 2005

We undertook our study (1) to verify Gibson's rancheria locations, and (2) to determine whose language map, Gibson's or Kroeber's, was correct...we feel that most language boundaries in the South Coast Ranges are now clear. [Milliken and Johnson 2005:147]
Development of the Community Distribution Model

In 2006, Milliken shifted from “hexagon” modeling to the polygons of the Community Distribution Model, based on ridges and watersheds, to better reflect the Native world. The model reconstructs ethnographic boundaries from Central Place inferences and the logic of the local landscape.

Two new composite databases are used, containing the names of more than 37,000 tribal people.

**STEPS:**
- Database consolidation
- Inferred population density
- Rancheria coalescence
- Topographic regions
- Apportion rancherias to regions
- Adjust regions for variable effects of pre-mission population collapse
- Iterative corrections for regional boundaries

Regional population densities were reconstructed by multiplying the “total baptized population” by a factor based upon “baptized adult/baptized child ratio” (a proxy for increased pandemic-based infant mortality in the tribal area) and “length of time between initial Spanish settlement and regional group migration to the missions” (a proxy for population reduction due to European-introduced epidemics).

An example of processing mission record and ethnographic data into polygons in the Point Reyes Area, a local transition zone.
Future Development of the Community Distribution Model

The Community Distribution Model is merely a step towards the most accurate possible reconstruction of [Native American] ethnogeography. Each region should be debated and re-evaluated in the future.

[Milliken 2006:25]