Source of *Cryptosporidium* in a rural North Dakotan river

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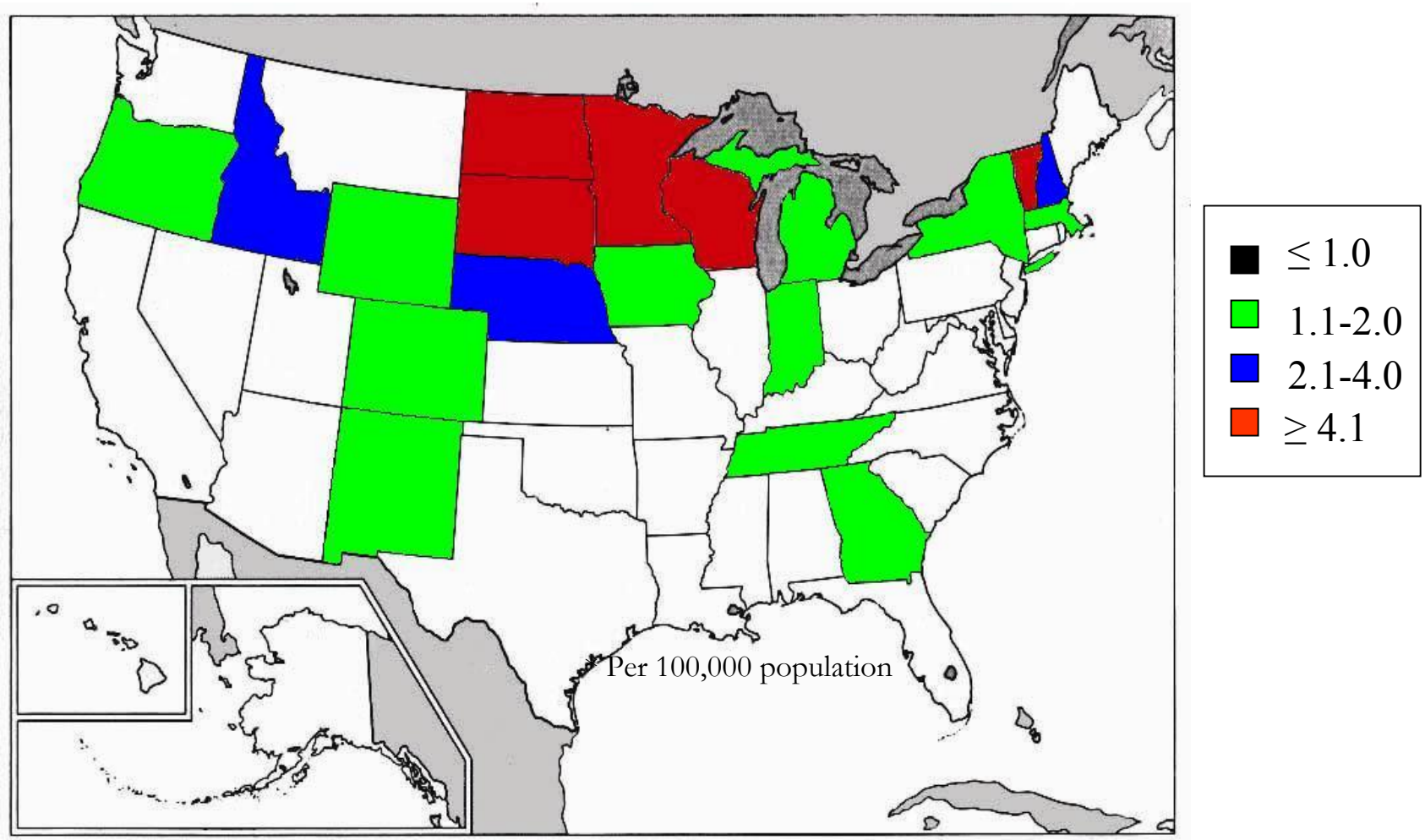
Cryptosporidium

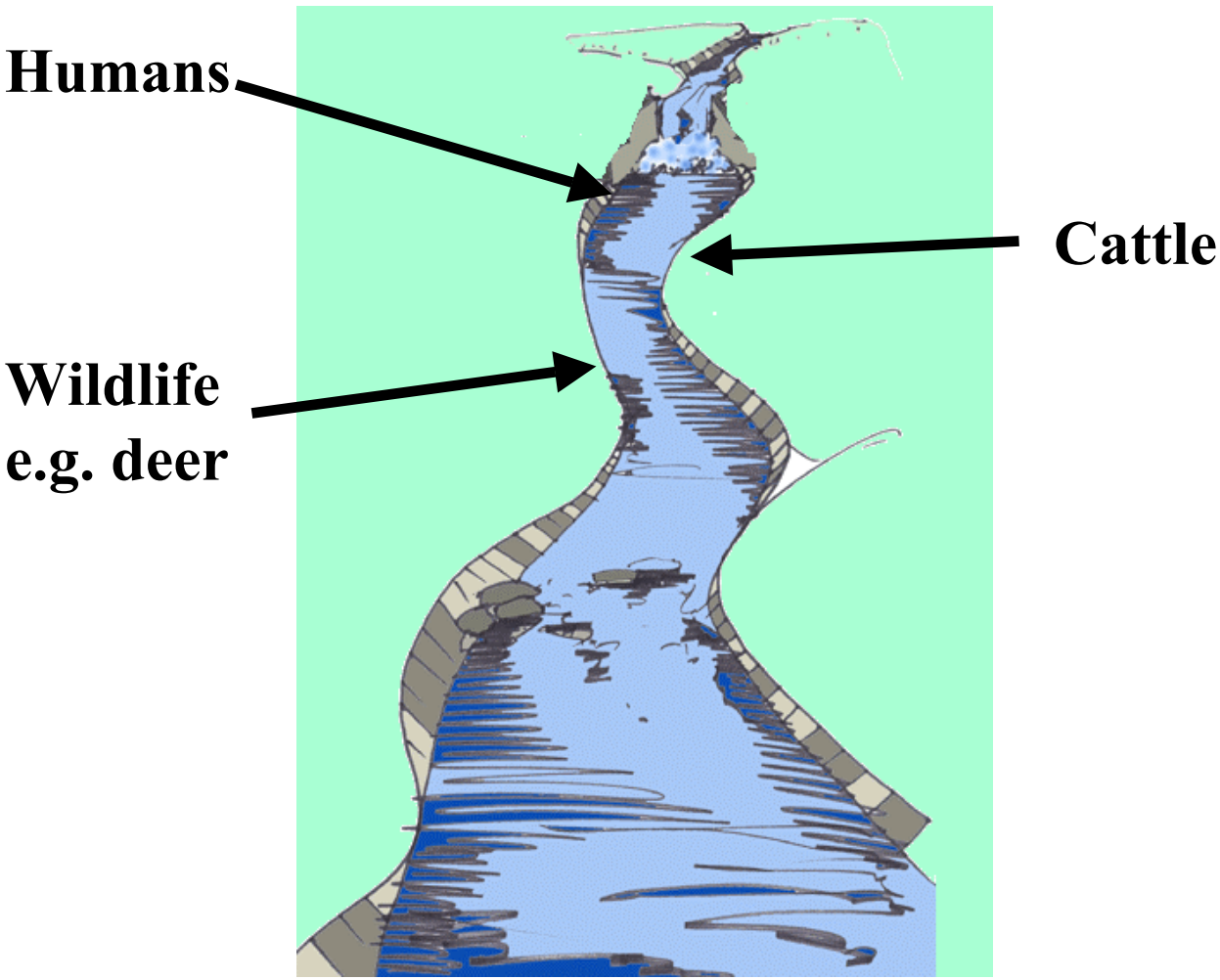
- A parasite that is frequently transmitted in water
  - Facilitated by its environmental robustness and resistance to chlorine
- Many waterborne outbreaks have occurred
- Identifying the source of *Cryptosporidium* in water is critical to prevention efforts

Incidence of Cryptosporidiosis in the US 1999-2002

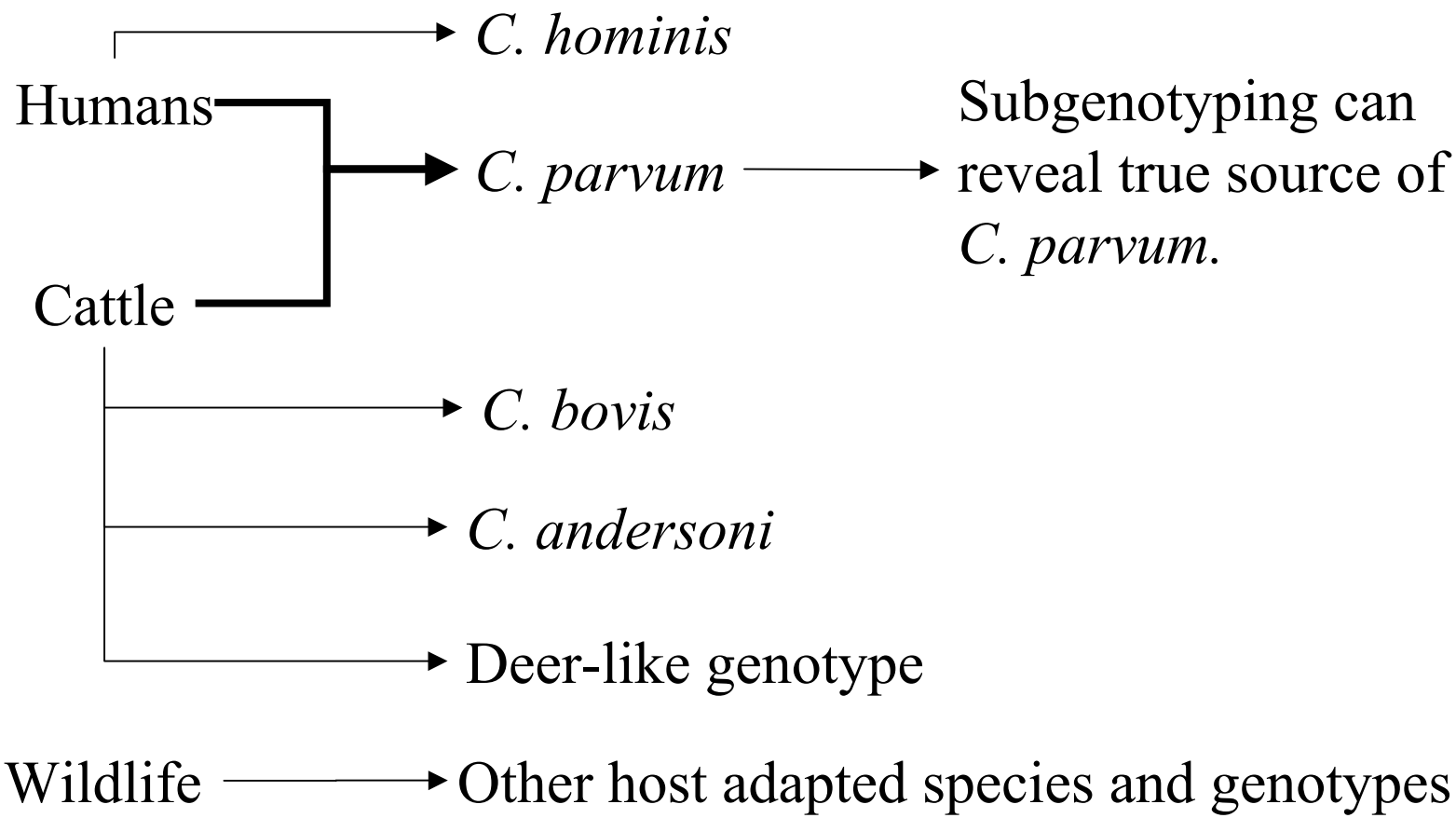


Source: Hlavsa et al, 2005, MMWR, 54, 1-8

Possible sources of *Cryptosporidium* in rivers



Identifying sources



Objectives of this project

- Determine the species/genotype of *Cryptosporidium* from the Red River and from cattle in the Red River Valley

- Determine the genetic relatedness of *C. parvum* isolates from river and cattle samples (subgenotyping)

Results to date

- Adult cattle are infected with *C. bovis*, *C. andersoni* and deer-like genotype
- Neonate cattle are infected with *C. parvum*
- No river samples positive to date….but early days
- *C. parvum* subgenotypes in cattle are similar to human isolates from the area