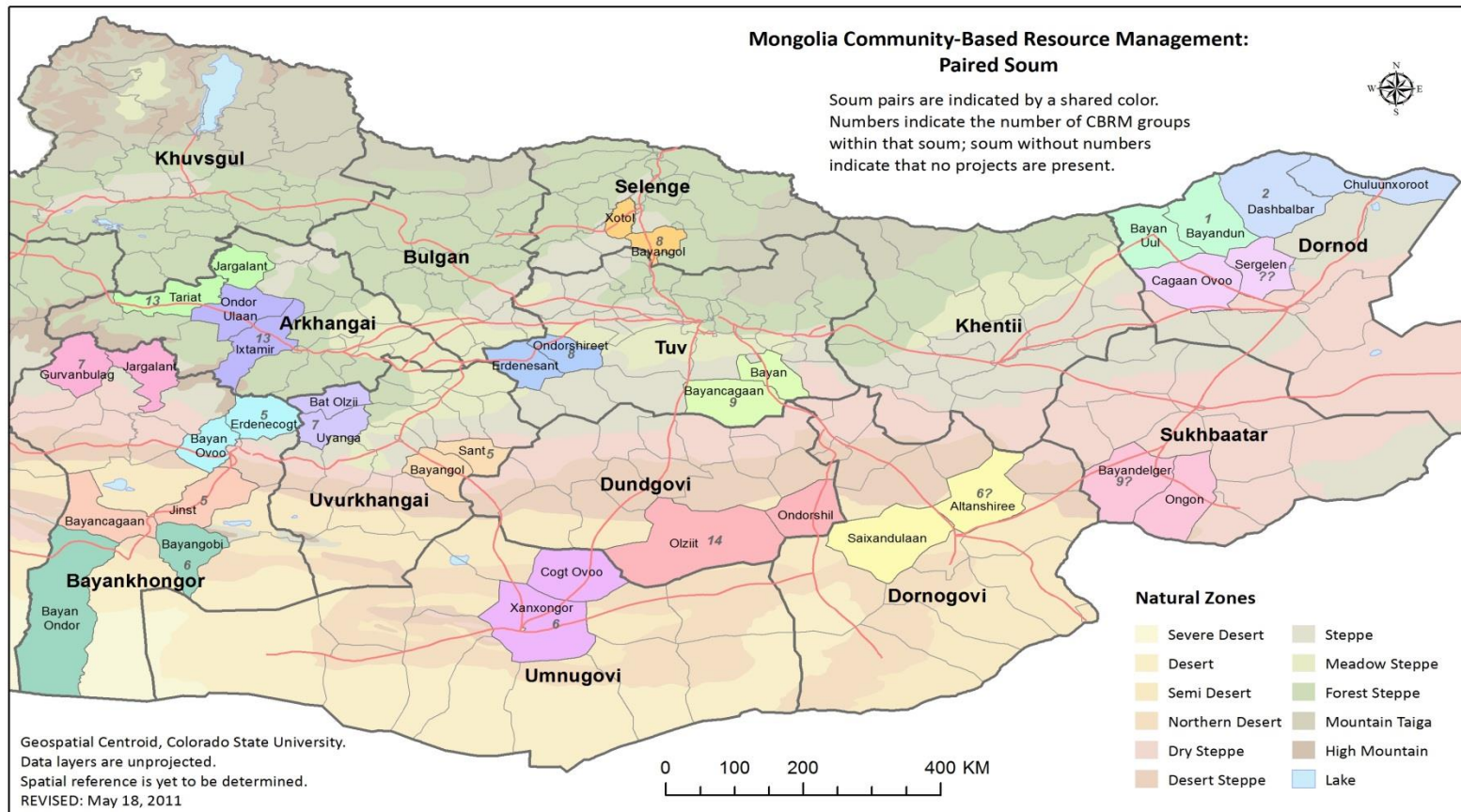


Boundary Analysis: Project Integration

June 2012 Workshop

Study Sites



Boundary Hypothesis

- Hypothesis 1: Units of analysis
 - Overlay-patchwork analysis of physical, ecological, social, and political boundaries using GIS
- Hypothesis 2: Cross boundary migration
 - Edge effects of boundaries
 - Ecological and social gradients
 - Cross-scale temporal and spatial linkages
- 3-D Visualization

Geospatial Analysis

- Typology of boundaries
 - Identify social, ecological, physical boundaries
- Intersect physical and social environment
 - Map landscape, ecosystem, watershed, institutional boundaries
- Overlay patchwork analysis
 - Identify areas of overlap, coincidence, gaps of formal and informal organizations (political, physical, social patterns)
- Identify boundary relationships
 - Vertical linkages via institutional agreements
 - Horizontal linkages via migratory patterns
- Areas of Cooperation/Conflict
- Visualization and mapping
 - Density mapping of pasturage use

Boundaries

Spatial Scale/
Ecological & Physical
Levels of Organization

Country

Ecological Zone

Watershed

**Soum Administrative
Boundaries**

Grazing Territory

**Winter Camps &
Pastures**

Ecological Plots



Social Organization/
Governance

National Government

Aimag

Soum Government

Bag

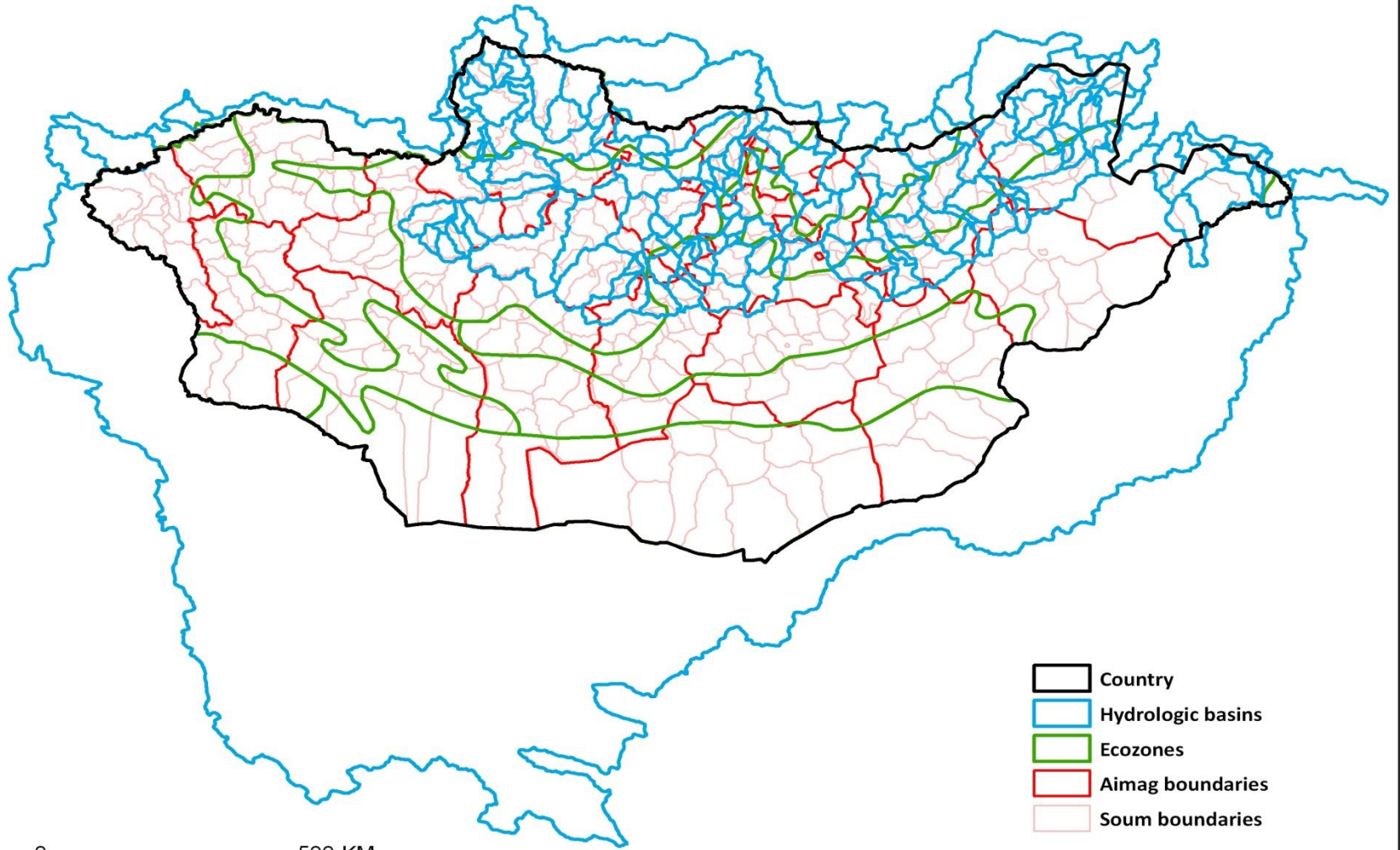
**CBRM Group or Traditional
"Neighborhood"**

Khot Ail

Household

Person

Mongolia: Boundaries



0 500 KM

- Country
- Hydrologic basins
- Ecozones
- Aimag boundaries
- Soum boundaries

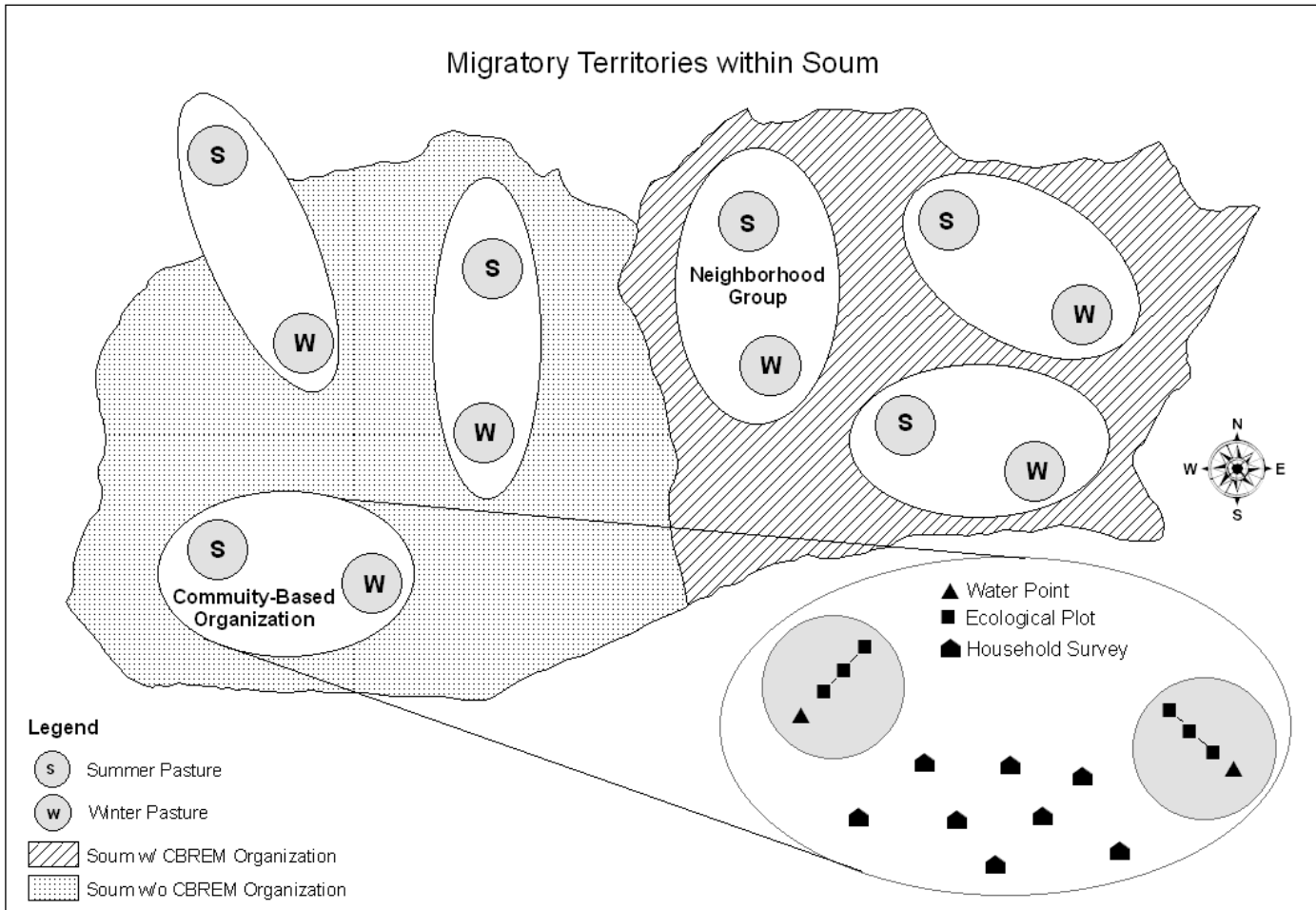
Gradients

- Socio-ecological gradients
 - Seasonal migration patterns linked to pasture and water
 - Institutional arrangements
 - Kinship relationships
 - Water points: access to water
- Networks
 - Kinship networks, infrastructure networks, river networks

Crossing boundaries

- Edge effects of boundaries
 - Filters, inhibitors, heterogeneity of boundaries
- Migration and movement
- Cultural differences
- Disciplinary divides
- Scale mismatches
 - Conflict
- Cross-scale linkages
 - Indicators of change

Migratory Territories within Soum



Participatory Mapping

- Comparison between CBNRM orgs and neighborhood orgs across ecological zones
- How do herders “read” the landscape?
- Are boundaries important?
- What facilitates cross-boundary movement?
 - Typology of boundary movement types