Table 1

In Table 1, we define three types of multilayer networks that incorporate spatial variables. Multilayer networks are composed of layers, nodes, interlayer edges and intralayer edges. Layers represent the different types of relationships, individuals or contexts of the social system. Nodes represent individual entities in the network, connected by some association or relationship with edges. Interlayer edges connect layers to other layers or individuals across layers. Intralayer edges connect individuals to other individuals within a network layer.

Depending on the type of network, interlayer edges connect individuals to themselves across different contexts or to different individuals

multilayer networks with layers defined by spatially explicit locations, interspecific interactions, and community or subpopulation structure. Other types of networks, such as intercontexual networks or temporal networks, are likely only to incorporate spatial variables in a hybrid multilayer network and considerations for including those variables will be explored here

An animal's social network is multifaceted and complex, though this system is often examined

How are layers defined, nodes defined, inter layer edges

We list variables affected by spatial and social scale

We use a definition of spatial scale from LE,

social scale is

TODO: find pictures of ML nets to include

	Spatial network	Network of networks	Interspecific network
Layer	Spatially explicit patches, areas, landcovers	Subpopulations, fuzzy patches	Different species
Entities	Individuals	Individuals	Individuals
Nodes	Individual	Individuals and sub-networks	Individuals and species-specific networks
Interlayer edges	Connect individuals to themselves	Connect networks to networks	Connect species to species
Intralayer edges	Association to other individuals within network	Association to other individuals within network	Association to other individuals within network
Social grain	types of interaction, chain rule, spatsoc threshold, hyena sessions	For intra: see left. For inter: similarity, vulnerability	
Spatial grain	resolution		connectivity, clusters
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