EDW Design Notes (draft)

The Frogtalk EDW following standard EDW design principles, using the analogy of a manufacturing operation.

Habitats are in the “business” of producing frogs. Successful habitats produce more frogs over a sustained period of time.

The "business processes" of a frog habitat equate to:

- feeding the frogs (i.e., via variable inputs such as good water flow, clean water, insects);
- provide for clear communication between frogs (i.e., to find mates, alert to predators, etc.);
- facilitate breeding;
- provide safety and security;
- provide for winter and dry spell hibernation.

Dimensions to track (using a factory analogy):

Dimension	Proxy (if needed)	Factory Analogy
The habitat	Map coordinates (smoothed)	A shop floor or factory.
Habitat characteristics	Land use type	Characteristics of shop that influence output
	Current water level	
Water availability	Recent rain fall *	Variable Input
Habitat conditions	Weather conditions *	Uncontrollable events that influence productivity
	Noise level	
	Recent construction?	
	Wind level*	

* As a verification step, we can correlate the observed weather conditions and recent rainfall with official records from the National Weather Service.

Food availability is an obvious “input.” However, it is more difficult to track via casual observations. Therefore, overall conditions of the habitat serve as a proxy for food supply.

The grain is an observation, and is analogous to a transaction. More specifically, an observation is a spot (i.e., specific machine), in a specific habitat (factory), of a specific frog species (widget), for a specific number (quantity of widgets), at a particular moment in time.

For the map coordinates, we’ll collect them via location services on a smart phone (i.e., GPS). Because of the precision of the coordinates (i.e., multiple decimal digits), in a single step results in a different coordinate. Therefore, we’ll likely have to do some smoothing of the coordinate pairs by time. That way, if say four specifies are observed within say one minute, but the coordinates have shifted by a few feet, it’s essentially the same location.

The fact to measure is a proxy for the frog population (by species). It’s analogous to a transaction. Since it is not practical or even possible to count the population of frogs on an ongoing basis, we use as a proxy the intensity of the frog sounds (i.e., the amount of talking). This is measured in terms of *calling* codes, like so:

Calling Code	
Code	**Description**
1	Individuals can be counted; there is space between calls.
2	Calls of individuals can be distinguished, but there are some overlapping calls.
3	Full chorus, calls are constant, continuous and overlapping.

Because the measurement unit is a code, we cannot do standard analytical functions such as a summing the measurements. Frequency charts are expected.