* **Biodiversity survey at Whole Systems Design Research Farm**
* *Drs. Laura Hill Bermingham and Lucas Bernacki, University of Vermont*
* *August 2012*
* **Rice paddies:**
  + 3 new paddies = soil too compacted and neet trowel to dig
  + 2 larger paddies = took some handfuls of soil no life
    - amphibians probably use paddies in spring
* **Age of ponds:**
  + Lower pond = 4 years old
  + Upper pond by shop = 3 years old
  + Upper upper pond= 7 years old
* **Lower Pond:**
  + Initial sampling deep in center
  + Sampled side slope: no veg/ very clayey, with little substrate, deep 5-6’
  + No inverts
  + Sampled rocky beach area
    - Little veg
    - Crayfish
    - Many isopods
  + Sily clay/rocky, more sun exposure, aquatic veg, good mixed habitat
    - Frog
    - Odonata larvae
    - Dragon flies (not just breeding there)
    - isopods
* **Large upper pond species list:**
  + many green frogs 5+
  + most other amphibians
    - green frog call
  + Dipteral larvae
  + Odonate larvae
  + Red worms
  + Isopod larvae are abundant
  + Huge crayfish

Note: on pond substrate: rockier/sandier base in center, more detritus

* + Center pond bottom sample: deep low light
    - No inverts
  + Sandy, rocky, small, gravelly
    - True flies, dipertans
    - Isopoda
    - Hemiptera
    - Cray fish
  + Large amount of detritus at bottom can sustain large crayfish population
  + This pond is fenced from ducks; may explain higher abundance on inverts
* **Upper upper pond species list**
  + Eastern newt
  + Water boatman
  + Green frog tadpoles
  + Isopods
  + Dipterans
  + Odonate larvae

***Additional notes on upper-upper pond:***

* + - Largely vegetated, older pond with no pond liner, water turbid
    - Sediment sample
      * Boatman
      * Tadpoles
      * Odonate larvae
    - Vegetation sample with very fine clay sediment
      * No inverts
    - Up/up pond is most diverse in terms of substrate
      * Silty bottom
      * Rocky sandy