# Why sample butterfly populations?

- Butterflies are pollinators

- some serve as food for birds

- High species richness

- High diversity of life history strategies

- can compare trends between habitat generalists and habitat specialists, migrants vs non-migrants etc.

Photos: Ray Moranz

xerces.org

Why sample butterfly populations?

- Transects easy to lay out

- Butterflies are easy to detect

- Easy to identify

- Easy to compare data among sites and years
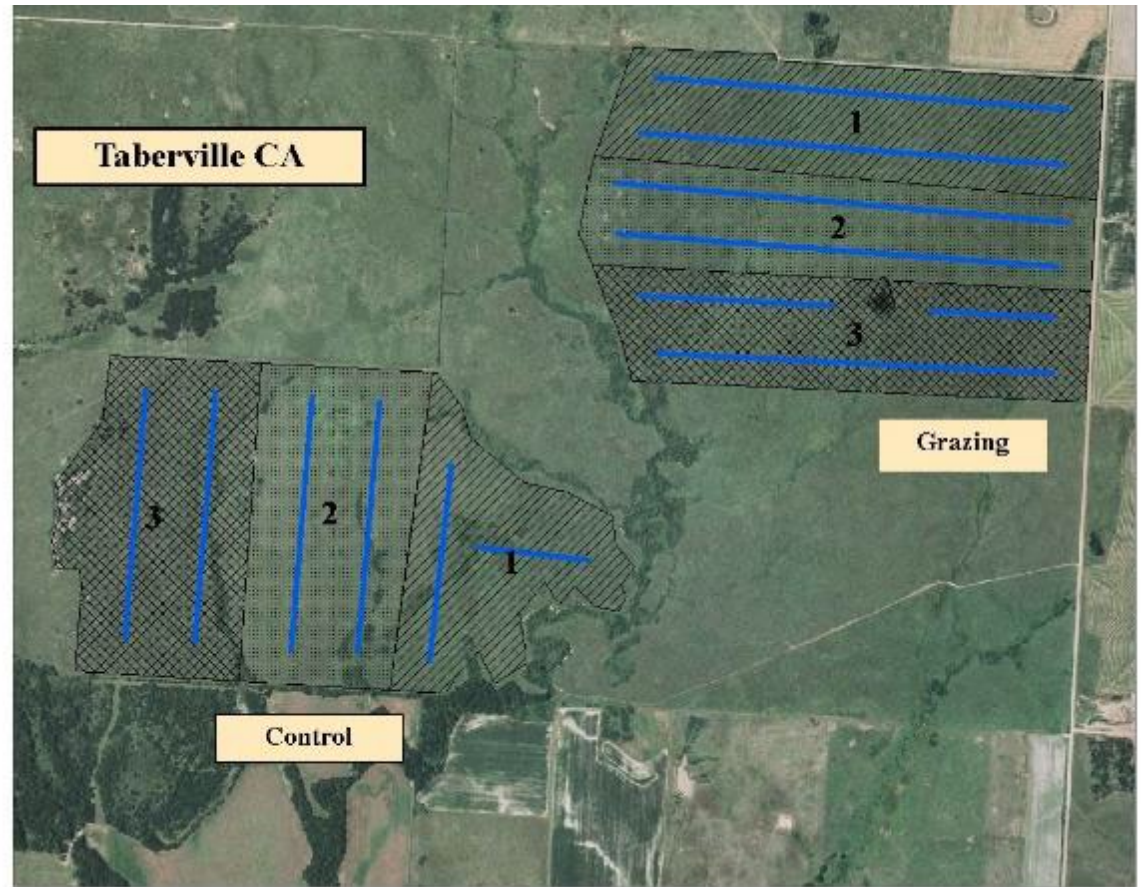
Graphic from Moranz (2010) PhD dissertation

As per Scorecard Goal #3, you can assess population trends of

common
Orange Sulphur
(Colias eurytheme)

declining
Monarch
(*Danaus plexippus*)

in steep decline
Arogos skipper
(*Atrytone arogos*)

How about dung beetles?

- Harder to identify than butterflies or bumblebees

- Species richness similar to bumblebees, lower than butterflies

- Big Plus: we suspect most ranchers care more about the ecosystem service they provide

- Big Plus: we think they could be the "Gateway Invertebrate" to get ranchers to care

xerces.org

Invertebrate biomass sampling

Invertebrates as food for birds

- Sweep nets are easy to use

- You don't have to identify what you catch! Just weigh the contents.

- Or...sort contents to the order level (e.g. Orthoptera (grasshoppers & crickets), Lepidoptera (butterflies and moths))

Photo by Ray Moranz

xerces.org