Why study phenology? Phenology can inform management and early detection strategies.

Where, When, What

- **Lake Koronis** (Stearns Co.)
- **Moose Lake** (Beltrami Co.)

- Sampled most frequently (~monthly) during summer and 1-2 times in the winter.

We revisited 5 locations in each lake and measured:

- **Biomass** using the spun-rake method (Fig. 2;3)
  * weight taken after removing excess water.

- **Bulbil counts**
  * counted on spun-rake vegetation in year 1 and via sediment cores in year 2.

- 3-4 replicate samples taken per location.

Starry stonewort has been known in MN since 2015, but much of its biology and ecology is still unknown. So what is this invasive alga up to in Minnesota lakes?

To investigate this, we tracked its **annual growth and reproduction patterns** – otherwise known as **phenology**.

Our research is the first to document trends in starry stonewort biomass and bulbil production – two metrics important to population maintenance/spread.

Growing season is ~ late June - October.
- Maximum average biomass and bulbils occurred during September in both years and lakes.
- Phenology in both lakes fairly consistent, despite differences in latitude.
- Late spring/early summer management may be able to pre-empt high biomass and bulbil production.
- Biomass present year-round, but detectability of new populations likely highest in late summer.