1. Opening

1.1. **Attention Getter.** Lakes and streams can be healthy, and they can be unhealthy. (Lake Hollingsworth)

1.2. **Need.** NNC and LVI rely on correlation between plants and reference waters. We need causal links between nutrient levels and shifts in population and community dynamics of plants.

1.3. **Task.** Look for differences among species in response to increasing nutrient levels from within NNC to exceeding NNC

1.4. **Main message.** Population models can be used to predict responses to nutrient levels.

1.5. **Preview.** I will show you

(1) Population growth models as a tool for prediction
(2) Response of three floating plants to nutrients
(3) Sneak peek at two-species models

2. Body

Exceeding NNC changes population dynamics of floating plants

(1) Population growth models
(2) Lemna
(3) Salvinia
(4) Azolla
(5) Sneak peek

3. Closing

3.1. **Review.**

- I have shown you that population growth models can be used to predict shifts in dynamics at appropriate nutrient levels.
- These three species of floating plants all show strong evidence of logistic growth.
- Two species models will help predict community dynamics

3.2. **Conclusion.** Aquatic plant population dynamics are sensitive to nutrient levels surrounding the NNC, but a lot more research is needed to support using plants as indicators of water quality.

3.3. **Close.**