

# Development of Water Quality Standards for Willard Spur

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## Overview of Food Web

October 28, 2015



# Key Observations – Bird Use

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- **56 species identified using Willard Spur**
- **Bird species & use correlated to water level**
  - More shorebirds during impoundment
  - More waterbirds during flowing conditions
- **Results in high diversity of bird species & use patterns**



# Key Observations – Bird Use

- **Strong links between**
  - Water level and habitat dynamics
  - Habitat and available food
  - Water level and bird use



John Cavitt



# Key Observations – Fish Use

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- **Fish are present**
- **Closely linked to upstream fisheries**
- **Dominated by fish more tolerant of extremes**





# Key Observations – Macroinvertebrates & Zooplankton

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- **Similar in composition and response to other GSL wetlands**
- **Abundance and composition varies seasonally**
  - Water level and presence of SAV
- **Highly resilient even after drought**



# Key Observations - Vegetation

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- **Vegetation are a critical element of the habitat**
- **Linked closely to freshwater inflows, water levels, and salinity**
- **Observed increase in *phragmites* is of concern**
  - Potential link to nutrients





# Conclusions

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- **Highly dynamic, complex & resilient**
- **Flora & fauna representative of other GSL wetlands**
- **Vary significantly during the year**
- **Water inflows and water levels are common driver of change**
- **Nutrient enrichment is of concern but no direct impact observed**

