



**OVERVIEW OF A PROPOSED STUDY TO  
EVALUATE THE POSSIBLE  
HYDROLOGIC EFFECTS OF MINING,  
IRRIGATED AGRICULTURE AND OTHER  
CONSUMPTIVE WATER USES IN  
WESTERN CHIPPEWA COUNTY,  
WISCONSIN**

# Objectives:



1. Collect information to characterize geologic and hydrologic conditions.
2. Apply a groundwater model to:
  - Evaluate impacts on water resources.
  - Evaluate alternative management scenarios.

# Benefits:



Provides all parties with the best available information regarding the affects of mining and irrigation on surface and groundwater, as needed to support informed decision making by:

- Operators.
- Regulatory agencies.
- Local units of government.
- Public.

# Methods:



1. Collect and interpret geologic and hydrologic data.
2. Organize data using groundwater model structure.
3. Apply model to evaluate effects of mining and/or irrigation.  
(scenario testing & predictions).
4. Convey results via scientific report, fact sheets, presentations.

# Data Collection:



1. Use onsite boreholes to record the characteristics and consistency of the sandstone strata.
2. Use stream baseflow monitoring (3 sites – 3 years) to record stream discharge.
3. Use well monitoring networks to characterize groundwater elevations and fluctuations.
4. Gather other data for model inputs (well pump tests, well withdrawal records, stormwater infiltration, etc.)

## MODFLOW.

- Steady state conditions.
- Used for scenario testing and predictions associated with:
  - Hydrologic conditions (i.e. drought/wet cycle).
  - Alternative management options (i.e. pumping rates and duration, new wells, stormwater infiltration).

# Timeframe:



Five (5) year project.

- 7/1/2011 – 12/31/2016

# Costs:



## Range

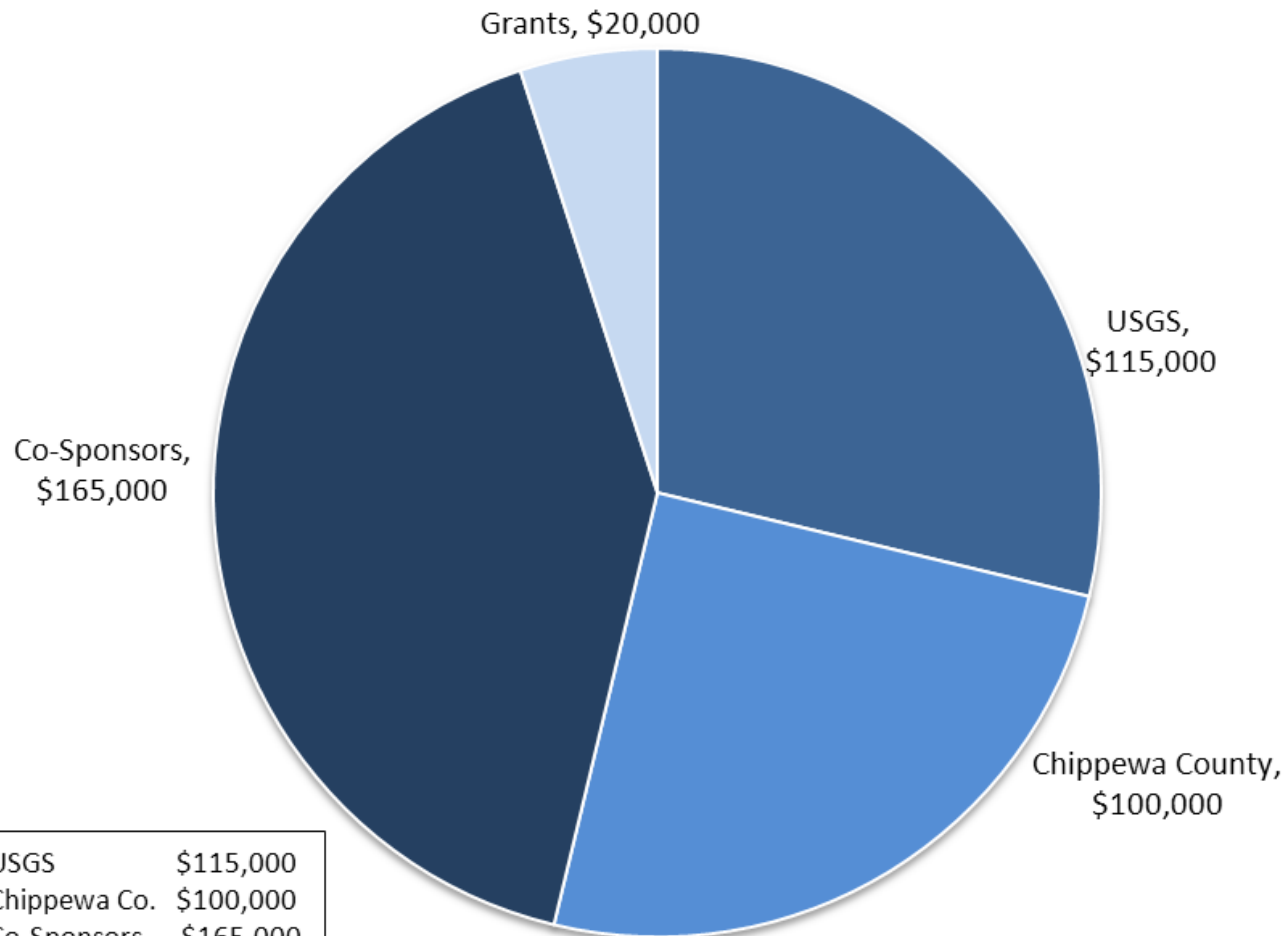
\$300,000 - \$400,000

## Variables

- # of gauging stations, well monitoring networks.
- # of cooperating parties.
- Amount of data and \$ contributed by cooperating parties.



# Proposed Cost Distribution:



USGS	\$115,000
Chippewa Co.	\$100,000
Co-Sponsors	\$165,000
Grants	\$ 20,000