**Objective #1: Estimate inflow (water volumes) by water input source (by subwatershed, from precip, and anthropogenic e.g., septic/well use) on an annual (hydrological year June 1?) basis over the study period (2021-2022, 2022-2023, 2023-2024).**

* We are going to use this to answer “where does Lake Dalrymple get its water from during an average year?”
* We are going to use this as the base for calculating contaminant loading, based on our WQ sampling, in particular phosphorus and sediments.
  + We calculate annual loading by water source (e.g., subwatersheds and precip), and by sector (e.g., we break down the subwatersheds loading into: natural, urban, septics, agriculture)
* We will be estimating water loading from septics, and precip, but we will need help with calculating volumes from subwatersheds.

Re Objective #1: Below are some example figures from our Four Mile Lake Management Plan:

**Objective #2: Provide data-driven evidence on key drivers of lake level fluctuations**

* We want to answer the question: “what causes the lake to go up and down”?
* Some people think water levels are ‘natural’ i.e., controlled by weather, and some people think that there is human water control structures downstream,, other think beavers at the outlet have an impact.
* We would like to compare inflow/precip etc. with lake water level data and any downstream dam (Head River @ Washago?) data to help provide some explanation for water level fluctuations.

**Regarding water quantity data available:**

* See attached KMZ file for google earth points
* Trib data:
  + 2 gauged tributaries, we are out everyother week monitoring discharge May to Nov (see attached data)

* Lake data:
  + 1 lake level staff gauge at the bridge near boat launch, we check this every other week from May to Nov, since 2021, and during out monthly boating water quality surveys (attached data – manual)
  + 1 lake level logger on north east shore, installed June 2022, removed for winter (attached data – logger)
  + Volunteer-based lake level data (Kevin Flow), late 2020 and 2022 (not attached)

* Precip data:
  + 1 precipitation gauge, since 2021, no winter data, but we have a station close by (Indian Point) with winter data (attached)