

**SCOPING “GETTING THE WATER RIGHT” FOR LAKE OKEECHOBEE MEANS 2 SEPARATE GOALS**

**GOAL 1.** EVERGLADES ECOSYSTEM’S WATER QUANTITY FLOWS CLOSER TO PRE-IMPACT [BEFORE 1890]

**GOAL 2.** REDUCING NUTRIENT POLLUTANTS OF TOTAL PHOSPHORUS [TP] AND TOTAL NITROGEN [TN] AS CLOSE TO PRE-IMPACT CONCENTRATIONS AS POSSIBLE.

**LORI IS CONCERNED WITH GOAL 2.**

**ASSUMPTIONS:** PRE-IMPACT TOTAL PHOSPHORUS WAS AROUND 40 UG/L [40PPB]TP.  
PRE-IMPACT TOTAL NITROGEN WAS ABOUT 600 UG/L [600 PPB]TN.

**LORI ESTABLISHED FACTS:**

- LAKE OPEN WATER TP IS 160 UG/L [160 PPB] IN 2020. TP IS 4 X PRE-IMPACT CONCENTRATION
- LAKE OPEN WATER TN IS 1,300 UG/L [1,300 PPB] IN 2020. TN IS 2.2 X PRE-IMPACT CONC.

TP IN OPEN WATER OF LAKE IS **INCREASING** 2.1 UG/L/YR. OR +13,000 LBS./YR. INCREASE  
TN IN OPEN WATER OF LAKE IS **DECREASING** 10 UG/L/YR. OR – 62,000 LBS./YR. INCREASE

**TN/TP RATIO DECREASED FROM 18 TO 5 [1972-2020.] TN/TP LESS THAN 10 MAY INDUCE HAB’S**

**LAKE SCIENCE FACTS:**

MOST LAKES DIE BY FILL FROM INFLOWS AND WITHIN AS ORGANIC AND INORGANIC MATTER SETTLES.

**LAKE OKEECHOBEE’S 1<sup>ST</sup> APPROXIMATION TP MASS BALANCES PRE-IMPACT VS. 2020 SHOWS:**

**PRE-IMPACT INFLOW** = 105 METRIC TONS [MT] TP/YR. + 35 MT RAIN/WIND FDEP [2002]

**= 140 MT/YR. [308,000 LBS./YR.] AS NATURAL INFLOW.**

**TOTAL PHOSPHORUS INCREASE IN WATER COLUMN : INFLOW OR INTERNAL RECYCLING**

**INFLOW POST-IMPACT 1972-2020**

**INFLOW INTO LAKE ~ 500 MT TP/YR.** estimated SFWMD data \*

PELAGIC GAIN [**+ 6 MT TP/ YR.**] LORI calculations

**OUTFLOW FROM LAKE ~ 200 MT TP/YR** estimated SFWMD data \*

**ESTIMATED INFLOW TP FROM MAN 500 MT TP/YR. LESS 140MT/YR. = 360 MT/YR**

**ESTIMATED OUTFLOW FROM LAKE 500 MT TP/YR. LESS 200 MT/YR. = ~ 300 MT TP/YR. SEDIMENT/YR.**

**OR**

**INTERNAL RECYCLING**

**ALMOST CONSTANT SEDIMENT STIRRING FROM WIND FETCH RELEASES TP BACK INT WATER COLUMN.**

**BASIC QUESTION OF TP INCREASE SOURCE: INFLOW, RECYCLING OR BOTH AS YET UNANSWERED.**

- NEEDS LORI VALIDATION