LaPrelle Park Water Quality Investigation

CELYN ROGERS
AUSTIN YAHN

Introduction

- Huck Finn Pond (HFP) is located in LaPrelle Park.
- Spring fed pond
- Locations of springs not obvious

Problem

- Concerns over HFP water quality
- "Sea foam" at head gate

- The water quality in HFP important for
  - Aesthetics
  - Recreational Activities

Day of samples 10/25/2018


9
8
7
10
6
1
2
LaPrele Park
5
4
3

YSI Probe Data

Parameter	HF-01	HF-02	HF-03	HF-04	HF-05	HF-06	HF-07	HF-08	HF-09	HF-10
Temperature (C˚)	7.3	7.5	7.6	7.3	7.6	7.7	7.7	7.7	9.2	7.8
Disolved Oxygen (%)	72.9	78.6	76.7	77.7	75.3	83.2	83	94	58	94.4
Conductivity (µS/cm)	992	1008	1004	1002	1011	1006	1010	1015	1016	1020
pH	7.9	7.65	7.65	7.67	7.69	7.74	7.79	7.87	7.61	7.68
TDS (mg/L)	975	981.5	975	981.5	981.5	981.5	981.5	988	949	981.5
Approx. Depth (ft)	2	2	2	2	2	2	2	0.3	0.5	2

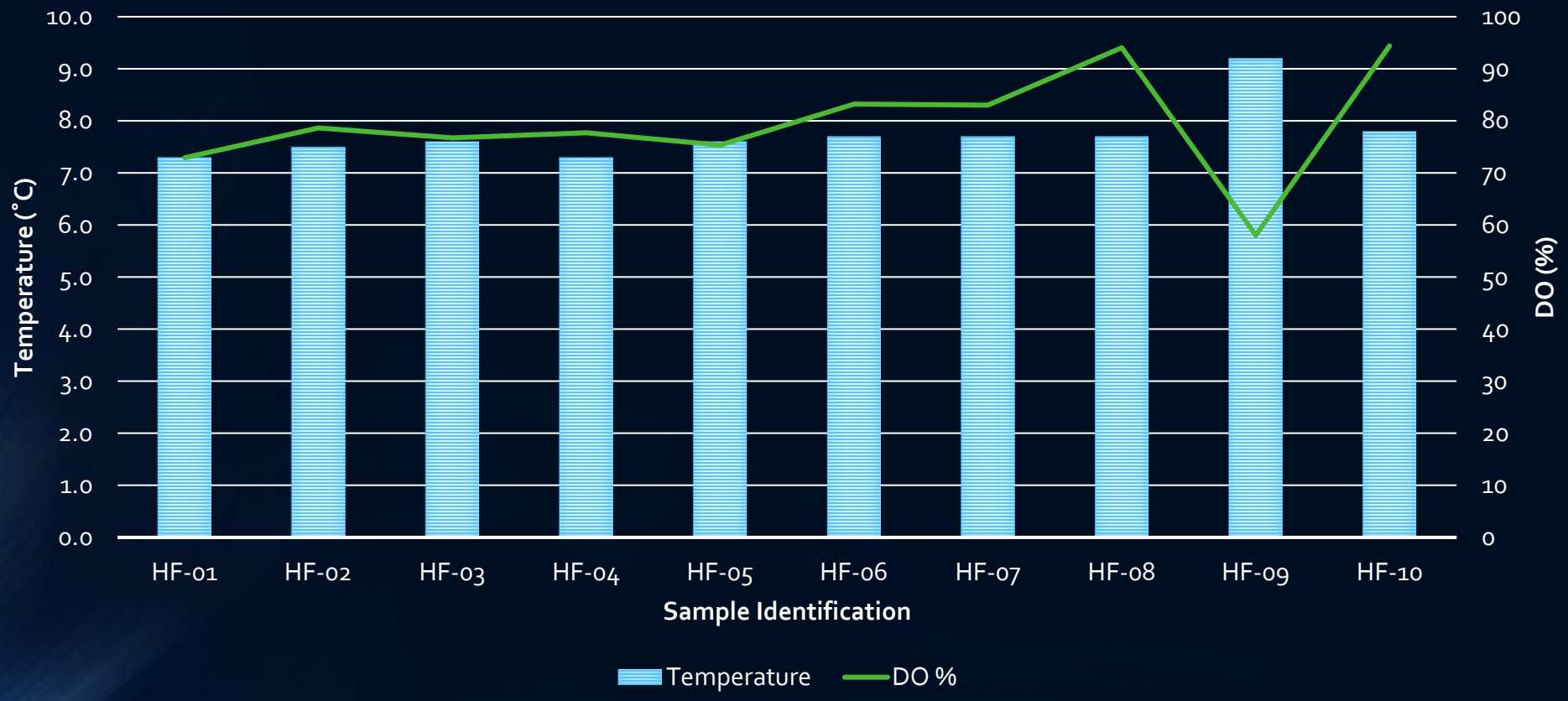
Data Collection

Data Collection

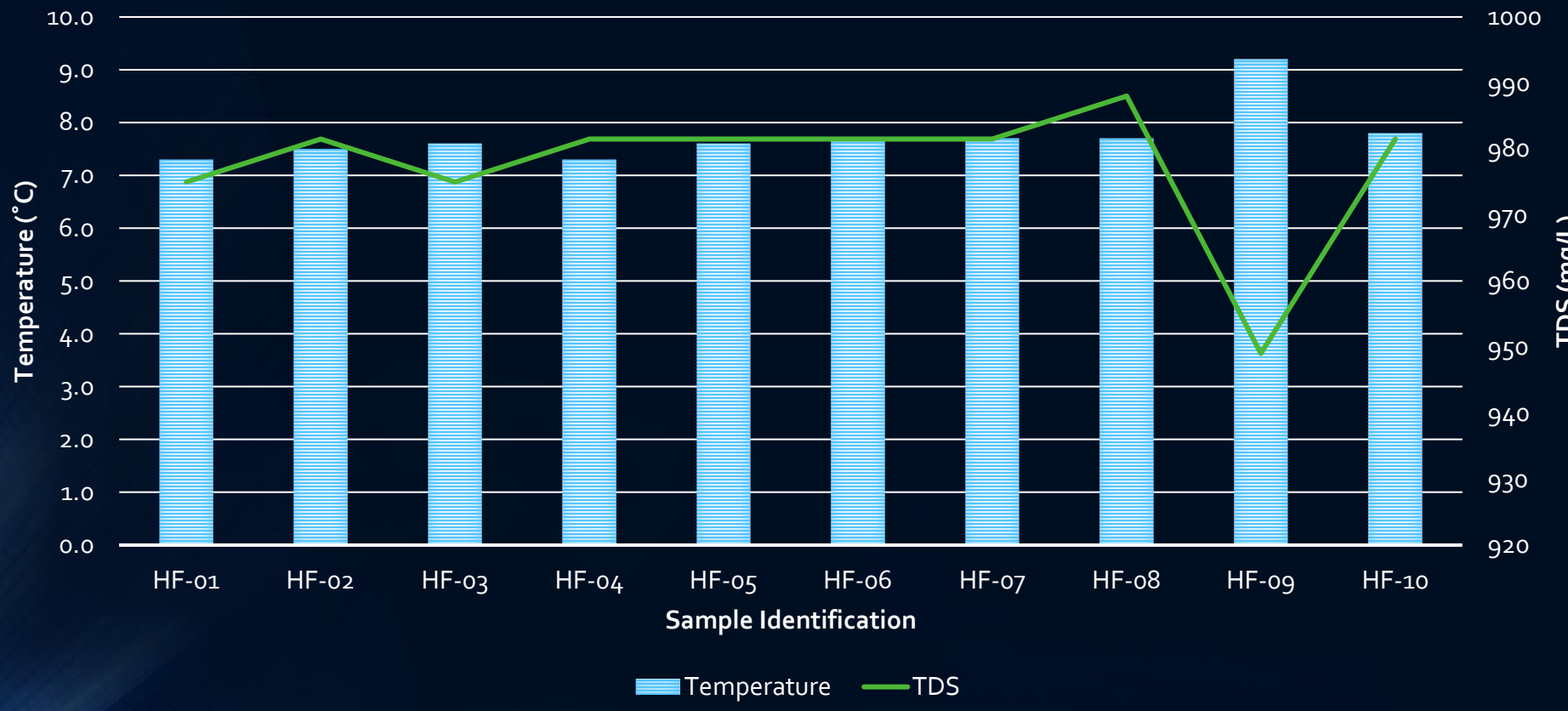
Data Collection

SPRING!

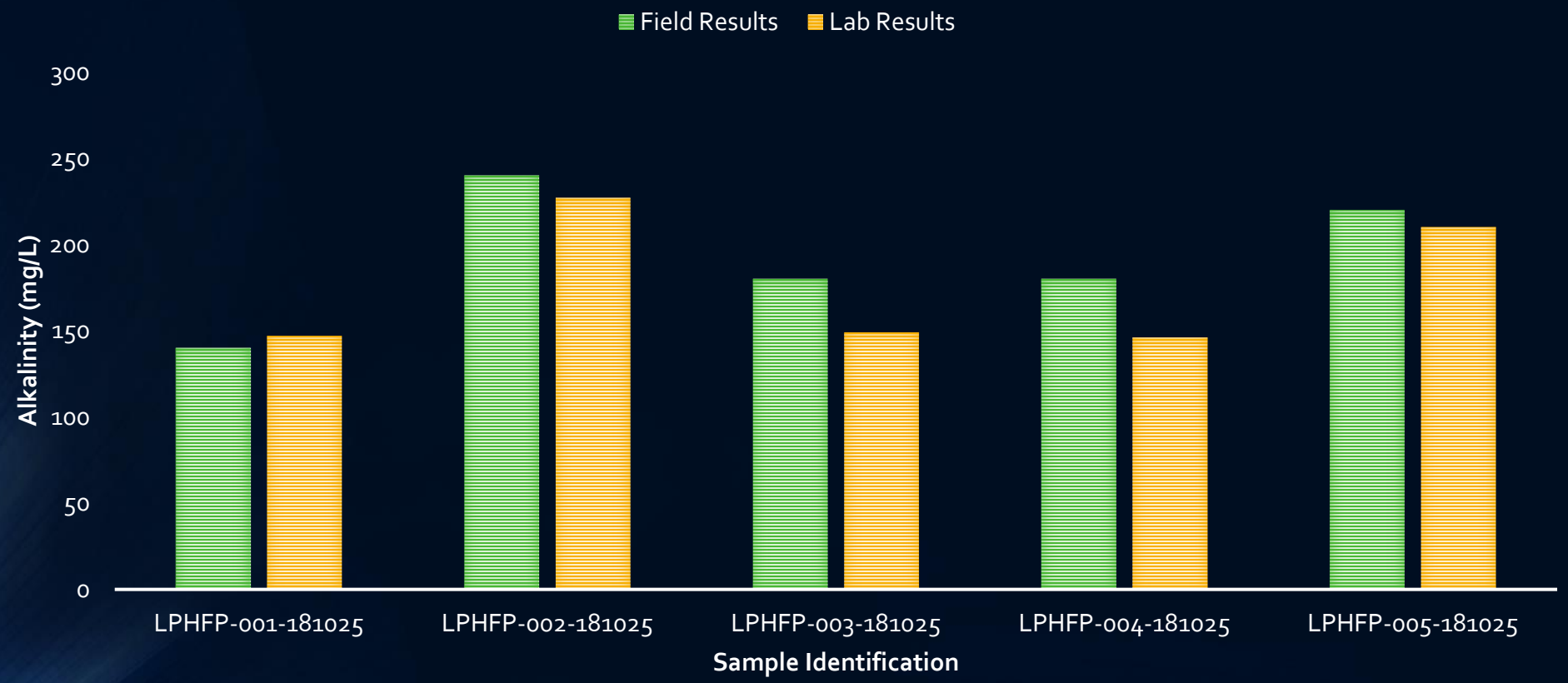
Trends in Dissolved Oxygen and Temperature



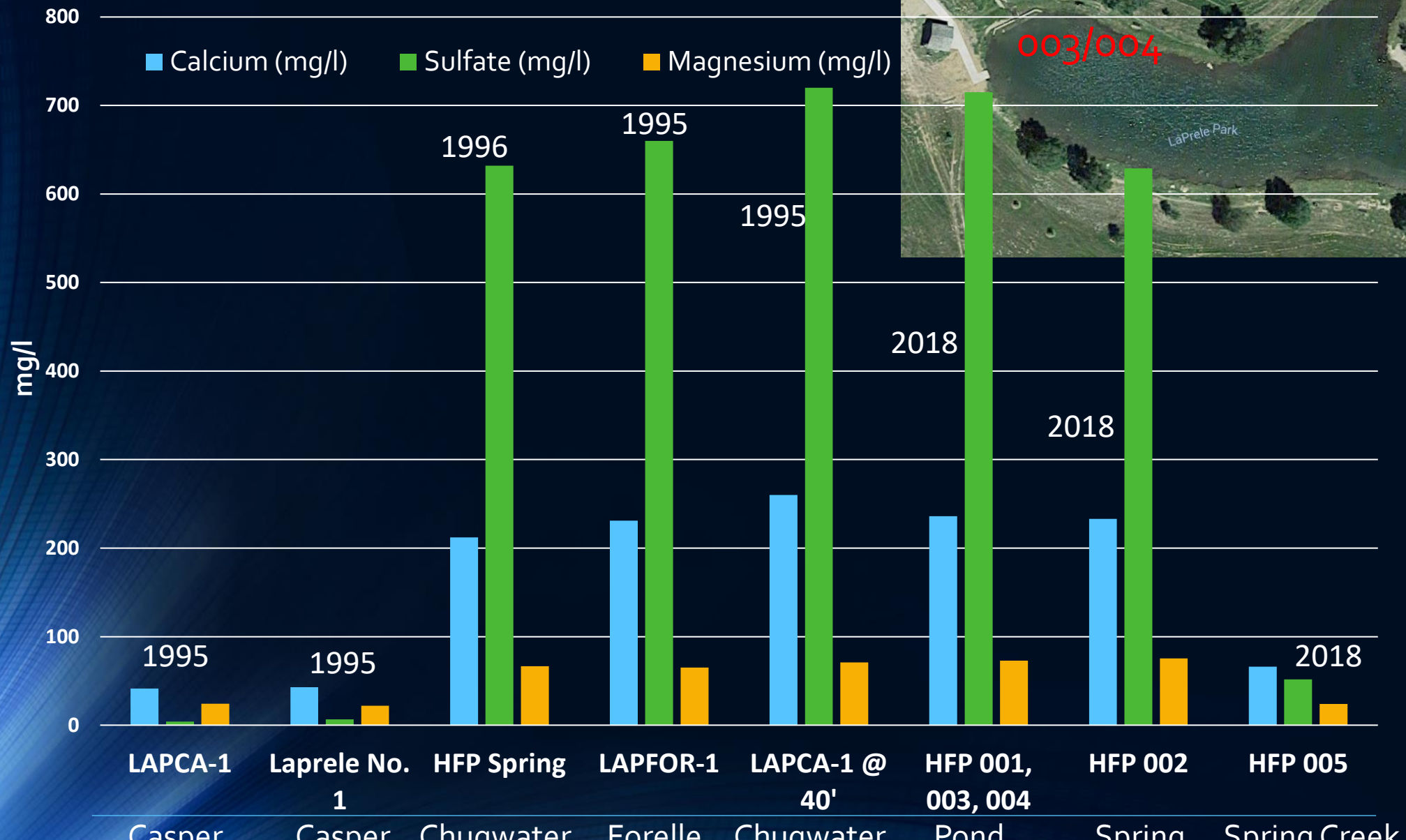
Trends in Total Dissolved Solids and Temperature



Alkalinity Field and Laboratory Results Comparison



Comparison with 1997 Report



What is the source of HFP?

- Under initial assumption that Casper AQ was source of the pond.
- Lab results show water chemistry more similar to Forelle and Chugwater formations and not Casper AQ

Possible Foam Cause

- Nitrate levels within “natural” range.
- Organic matter decomposition in the water (trees/ plants) around pond
- Biological matter in pond (high quantity of fish) could contribute nutrients
- Pond water quality (inorganics) within WYDEQ and WYGF requirements.
- DOM foam cause

Resources

- Thank you to Chris Moody for 1996 report and feedback
- Darren Parkin
- Dr. Kevin Befus
- WWC 1997 Hydrogeologic Investigation of LaPrele Park Project
- WYGF water quality standards
- WYDEQ water quality standards

Questions?