

Advantages using our COLORIMETER



A look at Results



The analysis was preformed of our duplicate field measurements using the HACH field kits from the CCPaSEC database 2002 – 2011.

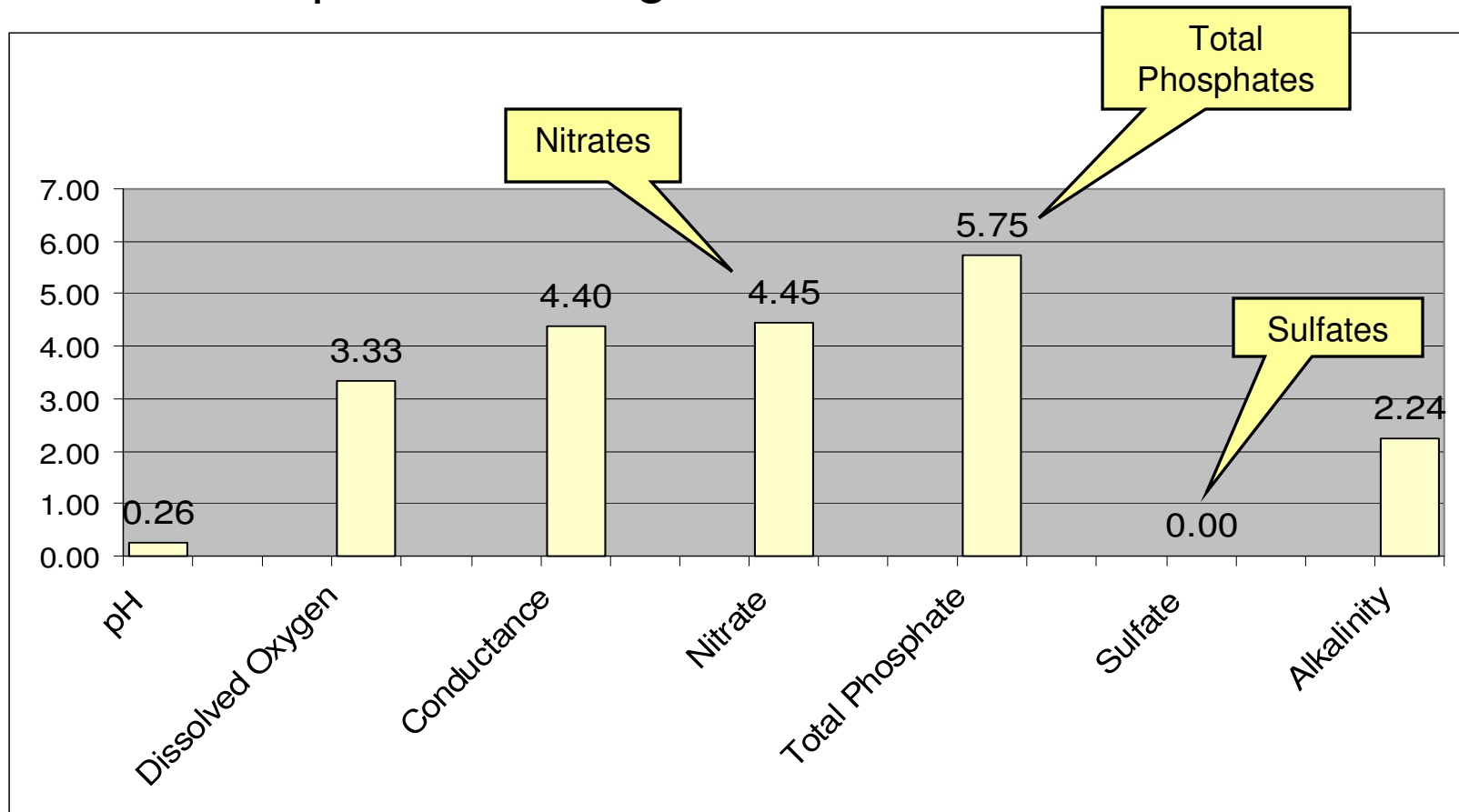
Our field test equipment has limited range and accuracy.

The recommended criteria established under EASI is for Relative Percent Difference (RPD) be within 20%.

2002 – 2011



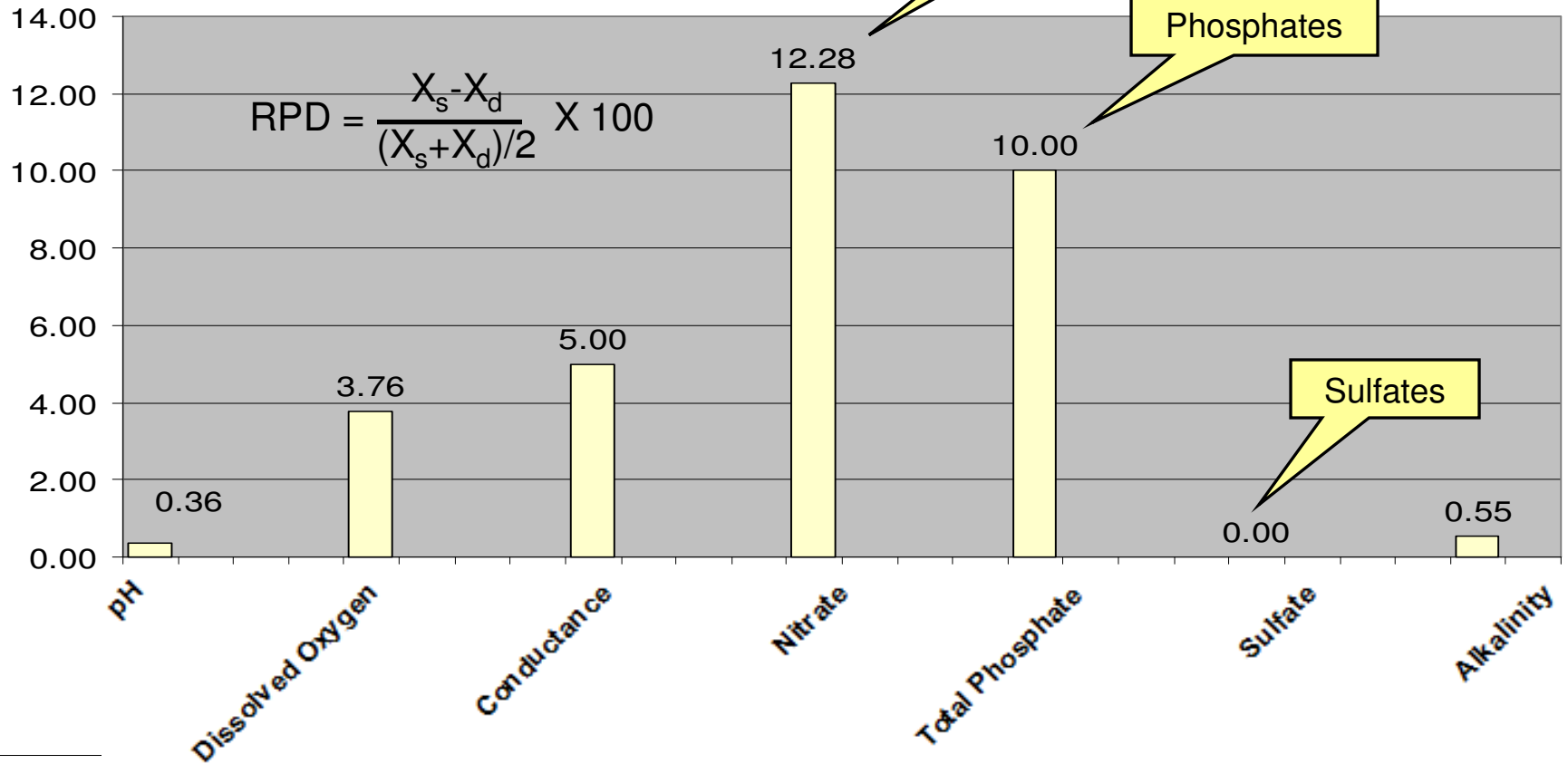
Duplicate testing Percent Difference



Our Goal: Less than 10%

RPD 2002 - 2011

Relative Percent Difference



EASI Quality Objective for RPD = +/- 20%

Comments



The results of duplicate testing are all within the recommended limits.

The largest differences in duplicate testing were for Nitrates and Total Phosphates.

The result for Sulfate = 0.00 is due to the limitations of the HACH dipstick test which cannot determine values less than 50 mg/L.

The original and duplicate results were all < 50.

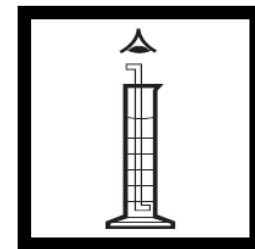
Our nitrate, sulfate and phosphate testing can be improved

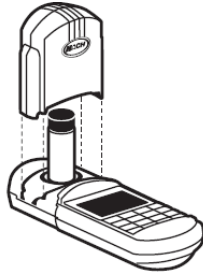


Up to now the **nitrate** test used a color wheel to determine the value. It is difficult for some observers to perform the comparison and read the results.

The **phosphate** test has been for total phosphate. The sample preparation is long and difficult requiring boiling the sample and adding distilled water to maintain volume.

The **sulfate** levels in our streams are typically below 50 mg/L which is the limit of our HACH kits using the Using PermaChem®* Powder Pillows and the dipstick method.





Nature Abounds is providing us with new digital colorimeters.



Nitrate: After sample preparation, The colorimeter displays mg/L $\text{NO}_3\text{-N}$ and the alternate form NO_3

Phosphate: Most other PaSECs have discontinued doing the total phosphate test and are now relying on a simpler orthophosphate test that does not require boiling of the sample. The colorimeter provides a direct reading mg/L PO_4

Sulfate: The colorimeter can measure (0 to 70 mg/L) using the SulfaVer 4 Method – below the HACK field kit.

Questions?