

Nitrate and Phosphate Contents of Kelp Runoff from Sugar Kelp and Bull Kelp Grown in Prince William Sound, Alaska

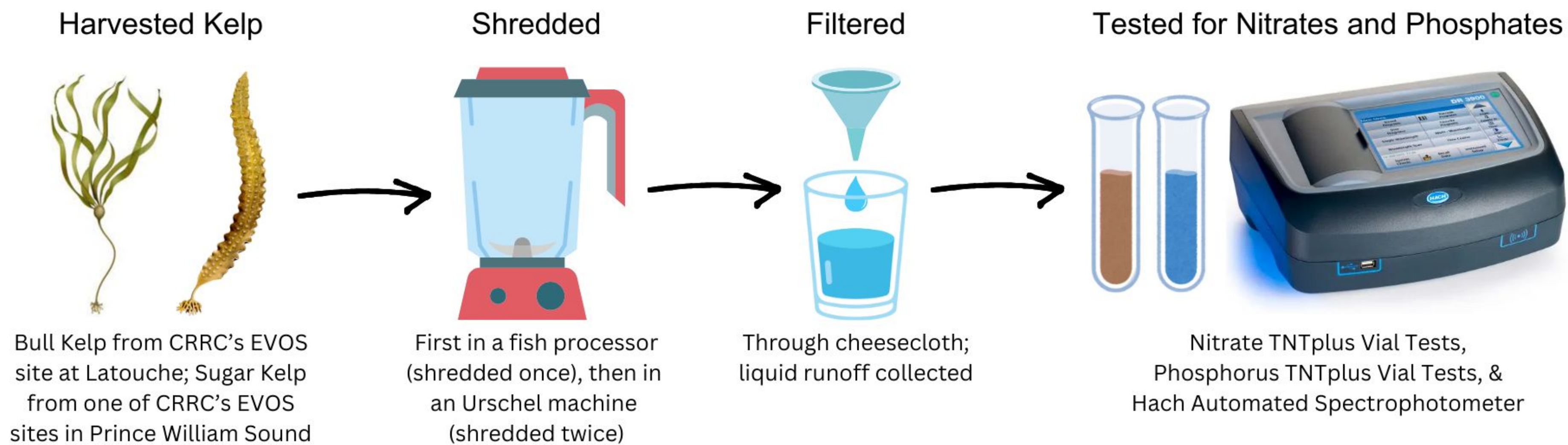
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Abstract

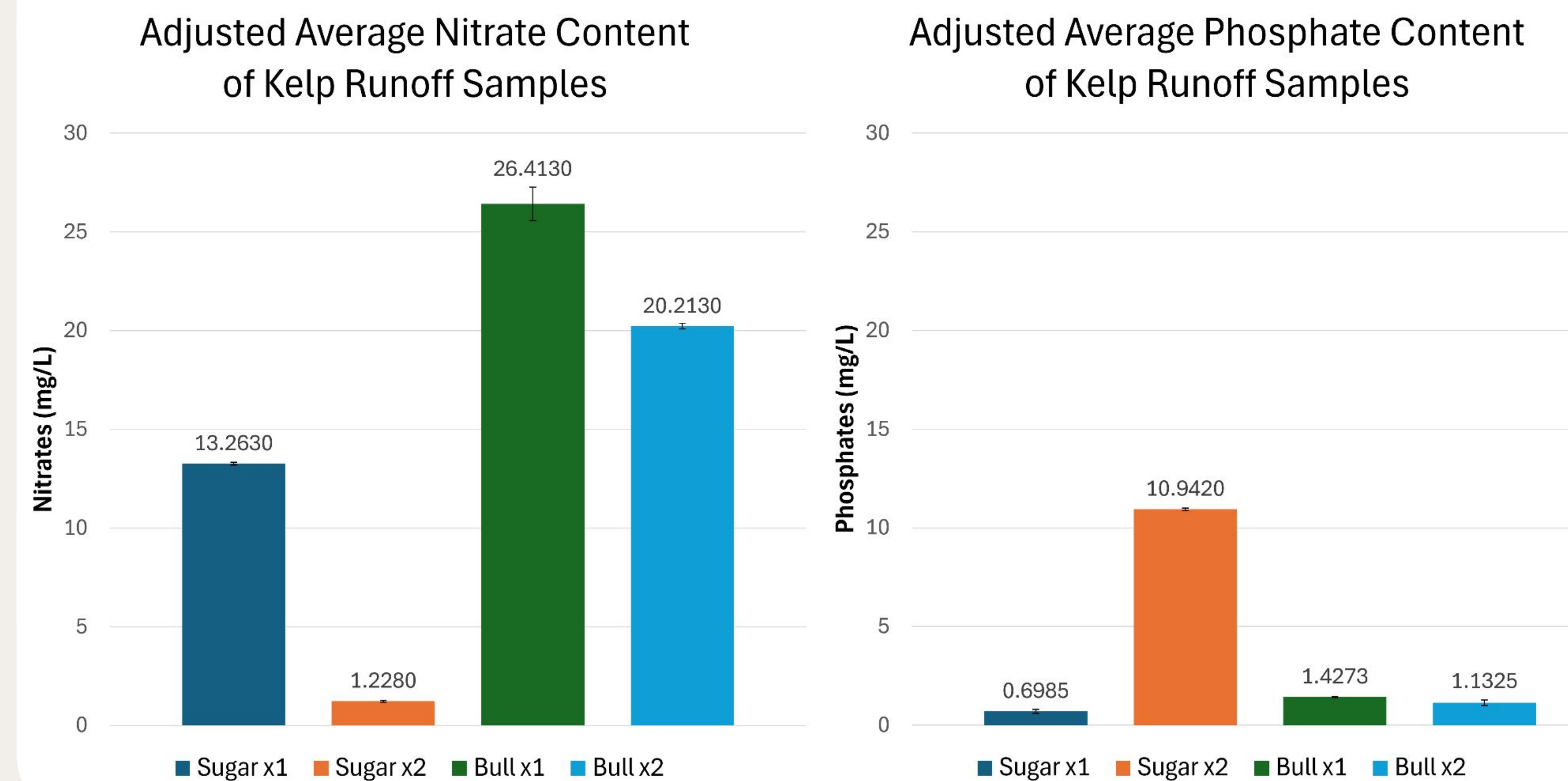
Kelp is vital to the ecosystems and subsistence in Alaska, containing important nutrients such as nitrates and phosphates. The nutritional value of kelp is valuable in agriculture and food. Sugar kelp (*Saccharina latissima*) and bull kelp (*Nereocystis luetkeana*) are popular species for commercial production. Our kelp samples were harvested in CRRC's EVOS sites in Prince William Sound. They were processed through shredding and filtering methods that produced kelp runoff. We compared the nitrate and phosphate contents of kelp runoff between bull and sugar kelp. Additionally, we compared the differences between kelp samples that were shredded once versus shredded twice during processing.

Methodology



Results

The following data has been adjusted with the average nitrate and phosphate contents of deionized water blanks. On the x-axis, "x1" refers to kelp shredded once, and "x2" refers to kelp shredded twice.



Conclusion

The average nitrate and phosphate content of bull kelp runoff decreased after a second shredding. The bull kelp runoff included more nitrates than the sugar kelp runoff both before and after a second shredding. The average nitrate content of sugar kelp runoff decreased while the average of phosphate content increased after a second shredding. The runoff from sugar kelp shredded twice included more phosphates than the bull kelp runoff in general.

Fig. 1 (left): Filtering a kelp runoff sample through a syringe

Fig. 2 (right): Adding reagents to samples for phosphate testing



Acknowledgements

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