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By Nancy S. Simon and Sarah N. Ingle

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Contents

Figures

Tables

Conversion Factors

SI to Inch/Pound

Multiply	By	To obtain
	Length	
centimeter (cm)	0.3937	inch (in.)
millimeter (mm)	0.03937	inch (in.)
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
	Area	
square meter (m^2)	0.0002471	acre
square kilometer (km^2)	247.1	acre
square centimeter (cm^2)	0.001076	square foot (ft^2)
square meter (m^2)	10.76	square foot (ft^2)
square centimeter (cm^2)	0.1550	square inch (ft^2)
square kilometer (km^2)	0.3861	square mile (mi^2)
	Volume	
liter (L)	1.057	quart (qt)
liter (L)	0.2642	gallon (gal)
cubic meter (m^3)	264.2	gallon (gal)
cubic decimeter (dm^3)	0.2642	gallon (gal)
cubic centimeter (cm^3)	0.06102	cubic inch (in^3)
cubic decimeter (dm^3)	61.02	cubic inch (in^3)
liter (L)	61.02	cubic inch (in^3)
cubic decimeter (dm^3)	0.03531	cubic foot (ft^3)
cubic meter (m^3)	35.31	cubic foot (ft^3)
	Mass	
kilogram (kg)	2.205	pound avoirdupois (lb)
megagram (Mg)	1.102	ton, short (2,000 lb)
megagram (Mg)	0.9842	ton, long (2,240 lb)
	Density	
gram per cubic centimeter (g/cm^3)	62.4220	pound per cubic foot (lb/ft^3)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows: °F=(1.8×°C)+32
Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:°C=(°F-32)/1.8
Concentrations of chemical constituents in water are given either in milligrams per liter (mg L^{-1}) or micrograms per liter (µg L^{-1}).
Use of liter (L) as a special name for cubic decimeter (dm^3) is restricted to the measurement of liquids and gases.

Physical and Chemical Characteristics Including Total and Geochemical Forms of Phosphorus in Sediment from the Top 30 Centimeters of Cores Collected in October 2006 at 26 Sites in Upper Klamath Lake, Oregon

By Nancy S. Simon and Sarah N. Ingle

Abstract

This study of phosphorus (P) cycling in eutrophic Upper Klamath Lake (UKL), Oregon (Oreg.) was conducted by the U.S. Geological Survey in cooperation with the U.S. Bureau of Reclamation. Lakebed sediments from the upper 30-cm of cores collected from 26 sites were characterized. Cores were sampled at 0.5, 1.5, 2.5, 3.5, 4.5, 10, 15, 20, 25, and 30 cm. Prior to freezing, water content and sediment pH were determined. After being freeze-dried, all samples were separated into greater than 63-micron (μm) particle-size (coarse) and less than 63-μm particle-size (fine) fractions. In the surface samples (0.5 to 4.5 cm below the sediment water interface), approximately three-fourths of the particles were larger than 63-μm. The ratios of the coarse particle-size fraction (>63 μm) and the fine particle-size fraction (<63 μm) were approximately equal in samples at depths greater than 10 cm below the sediment water interface.

Chemical analyses included both size fractions of freeze-dried samples. Chemical analyses included determination of total concentrations of aluminum (Al), calcium (Ca), carbon (C), iron (Fe), poorly crystalline Fe, nitrogen (N), P, and titanium (Ti). Total Fe concentrations were the largest in sediment from the northern portion of UKL, Howard Bay, and the southern portion of the lake. Concentrations of total Al, Ca, and Ti were largest in sediment from the northern, central, and southernmost portions of the lake and in sediment from Howard Bay. Concentrations of total C and N were largest in sediment from the embayments and in sediment from the northern arm and southern portion of the lake in the general region of Buck Island. Concentrations of total C were larger in the greater than 63-μm particle-size fraction than in the less than 63-μm particle-size fraction.

Sediments were sequentially extracted to determine concentrations of inorganic forms of P, including loosely sorbed P, P associated with poorly crystalline Fe oxides, and P associated with mineral phases. The difference between the concentration of total P and sum of the concentrations of inorganic forms of P is referred to as residual P. Residual P was the largest fraction of P in all of the sediment samples. In UKL, the correlation between concentrations of total P and total Fe in sediment is poor (R^2<0.1). The correlation between the concentrations of total P and P associated with poorly crystalline Fe oxides is good (R^2=0.43) in surface sediment (0.5 to 4.5 cm below the sediment water interface) but poor (R^2<0.1) in sediments at depths between 10 cm and 30 cm. Phosphorus associated with poorly crystalline Fe oxides is considered bioavailable because it is released when sediment conditions change from oxidizing to reducing, which causes dissolution of Fe oxides.

Introduction

The estimated internal load of phosphorus (P) is larger than the calculated external load of P to Upper Klamath Lake (UKL). Only one-third of the total load of P to UKL has been determined to come from external sources (Oregon Department of Environmental Quality, 2002). Discussions of remediation efforts for eutrophic UKL focus on attenuation of the internal load of P from bottom sediments. Several reports of chemical data including concentrations of P sediment cores have appeared in the literature (Sanville and others, 1974; Wildung and others, 1977; Klamath Consulting Service, Inc., 1983; Eilers and others, 2001; Simon and others, 2009) (table 1). None of these reports includes a set (collected on the same date) of cores collected from multiple sites that is representative of the lake as a whole. This report provides a snapshot of the distribution of total P, geochemical forms of P, and other chemical constituents in sediment cores from sampling sites distributed areally in UKL

Lakebed Phosphorus: A Controlling Factor for Water Quality in Upper Klamath Lake

A National Research Council report found that large-scale adult mortality of two endangered sucker species in Upper Klamath Lake (UKL), Oregon (Oreg.), was attributable to large zones of hypoxia resulting from organic decomposition following blooms of the nitrogen (N)-fixing cyanophyte *Aphanizomenon flos-aquae* (AFA) (National Research Council, 2004). The algal biomass, with its associated P, settles in the water column when large blooms of AFA senesce (decline or collapse). When microorganisms use oxygen dissolved in lake water to decompose algal biomass, dissolved oxygen concentrations in the water column drop to levels insufficient to support fish respiration. The availability of phosphorus (P) is considered the controlling factor in development of algal blooms in UKL (National Research Council, 2004). Management of P concentrations in the water column is considered directly related managing the size and composition of algal blooms

To evaluate the benefits of remediation actions in the watershed and wetlands, including the reduction of external loads of P, and to obtain realistic expectations for recovery time in the ecosystem, it is important to understand processes controlling internal loading and to determine amounts and forms of P stored in the lake sediment.

Although studies have addressed the degree to which anthropogenic factors affected the structure and function of the natural marshes of UKL, the delivery of nutrient loads to the lake, as well as the effect of hydraulic operations on lake water quality and resident aquatic life, little definitive work has been done to quantitatively estimate the amount of total P contained within the lakebed sediment, or more importantly, the bioavailability of P within the sediment. This reservoir of P within the sediment is thought to be the cause of a large internal P load in the lake water each year that results in increased eutrophic impacts (that is, nuisance levels of algae). AFA has been the dominant form of algae in the lake since the 1960s (Dileanis and others, 1996). Blooms of this algae result in extremely high pH and low dissolved-oxygen levels in the water column that are likely influencing fish productivity. The Oregon Department of Environmental Quality (2002) states that P reduction is the most effective, long-term nutrient management option used to control algal biomass in UKL.

Even with stringent TMDLs on inflowing P loads from the tributaries to UKL, the potentially large internal supply of P from the lakebed could produce highly eutrophic conditions for years or even decades to come (Marsden, 1989; Kleeberg and Kozerski, 1997). Upper Klamath Lake is a large, shallow lake with a mean depth of 2.8 m full pool (Wood and others, 2008). Following external nutrient reduction, shallow lakes tend to be more resistant to recovery than deep lakes (Phillips and others, 2005;

Kleeberg and Kozerski, 1997). The current TMDL for P is based, in part, on the hypothesis that P bound to Fe in lakebed sediments will be released rapidly when water column pH rises because of the consumption of carbon dioxide in lake water by multiplying algae, whose growth is fueled by the external loading of P. Work by Fisher and Wood (2004), however, shows that the release of P from bed sediment at higher pH levels could explain no more than 10% of the annual internal loading of phosphorus. Therefore, mechanisms other than those that are being used as the basis for the TMDL are likely controlling the internal release of P into the lake water. The success of the total maximum daily load (TMDL) requirements for UKL is related to whether the model used for internal loading is correct.

Problem

The addition of P from the sediment to the water column occurs at the sediment water interface. Algal cells accumulate on surficial sediment when blooms of the cyanophyte AFA die. When organic matter at depth in the sediment is microbially degraded, the P released in the degradation process is added to sediment interstitial water, creating larger interstitial water concentrations of P and a concentration gradient that results in diffusion of P upward towards the sediment water interface. The deposition of algal debris on the sediment surface and the diffusion of P from depth in sediments results in an increase in P concentrations in the surface layers (<5 cm) of lake bottom. The reservoir of total P in the upper 5 cm of the lakebed most likely will continue to contribute to the annual internal load of P for years to come (Marsden, 1989; Kleeberg and Kozerski, 1997). Determination of P concentrations in the deeper sediments (dating back to the 1800s) provides data to estimate the natural background concentration of P in UKL sediments The background concentrations might be subtracted from P concentrations measured in the upper 5 cm of sediment to determine how much of the P in the surface sediments has been added in modern times.

The analyses done in this study included determining the concentrations of explanatory indicators in sediment samples. The distributions of concentrations of Al and Ti in sediment cores assist investigators in determining changes in the historic delivery of sediments and P from tributaries to the body of a lake. Because Al and Ti have terrestrial sources, concentrations of Al and Ti in sediments can be used to estimate the contribution of detrital mineral matter to lake bottom sediments.

Previous work by the U.S. Geological Survey (USGS) in UKL has provided some insight into possible mechanisms involving the loss and (or) accumulation of P in bottom sediments. Simon and others (2009) report that in a study of cores in 2005 from four sites in UKL (fig. 1), concentrations of P in sequentially extracted geochemical phases changed during the period between the onset (April) and development (July) of an AFA bloom. They found that in the cores collected at the Bare Island site, P concentrations associated with poorly crystalline Fe oxides in the surficial sediment decreased between April and July. This finding indicates that sediment in the vicinity of Bare Island might be actively contributing to the internal loading of P during an AFA bloom. Conversely, however, the cores collected by these investigators at the Mid Lake site had essentially no Fe-bound P and concentrations of organic P increased appreciably between April to July. The data from Simon and others (2009) provided some insight into mechanisms and intersite variability of P release, but their study indicated that a significant number of cores needed to be collected and analyzed in a systematic and representative way to characterize the geospatial extent and the principle mechanism(s) contributing to the internal loading of P from bed sediment to lake water.

Objectives

Task 1 – Determine the mass (reservoir) of total P in the sediment column between the sediment-water interface and 30 cm below the sediment-water interface in sediment cores collected from UKL to evaluate the geospatial distribution of P in UKL lake sediment over approximately the last 100 years. Phosphorus analyses presented in this report include the determination of total P concentrations and concentrations of forms of P, determined by chemical extractions of sediment samples. Concentrations of forms of inorganic P, which includes loosely bound P, P associated with poorly crystalline Fe oxides, and P minerals, will be summed and subtracted from concentrations of total P. This difference, called residual P, includes P associated with organic matter. Loosely bound P and P associated with poorly crystalline Fe oxides are readily added to water associated with sediment solid particles.

Task 2 – Determine the geospatial distribution of explanatory indicators in 1-cm intervals of the upper 5 cm and 5-cm intervals to a depth of 30 cm of UKL bed-sediment cores. With data for the concentrations of metals and C with which P is known to bond, mechanisms for P retention and release can be formulated.

Purpose and Scope

This report describes the methods used to characterize water content and particle size in samples of lakebed sediment. Methods of chemical analysis also are described. Data are tabulated for each of 26 sites by particle size for depth intervals to 30 cm. This report provides information about where and how much P is stored in UKL sediments. The data will help identify locations where remediation might be a management option. In addition, this report provides auxiliary chemical information to assist in examining models of processes that result in the release or retention of P in UKL sediments.

Study Design and Methods

Sampling Locations

Upper Klamath Lake has a surface area of approximately 259 square kilometers (km^2). To obtain a representative set of samples for UKL as a whole, a 10.3-km^2 grid was superimposed on a map of the lake and sampling sites were selected at random with each unit of the grid. The grid indicated that 26 cores would be required to provide representative samples for the whole lake.

Sample Collection

One core, approximately 30 cm in length, was collected in October 2006 at each of 26 sites. A map showing the 26 sites that were sampled between 24 October and 26 October, 2006, is presented in figure 2. Table 3 lists the names and location (latitude and longitude) for each of the sites. The cores were collected using a gravity corer containing a plastic butyrate core liner (6.75 cm). The plastic core liner was removed from the core barrel while the coring assembly was in a vertical position. Cores were sectioned on the boat dock.

Sediment cores were sectioned at 1-cm intervals from the zone of the core closest to the interface between the sediment and the water column to a depth of 5 cm. Samples of sediment between depths of 10 cm and 30 cm were collected by removing 2-cm sections at 5-cm intervals. For example, the 10-cm sample was the material between 9 cm and 11 cm on the tape measuring the length of the core. The central portion of each section was transferred to glass screw-cap jars, placed on ice, and shipped overnight to the lab in Reston, Virginia (Va.), where they were frozen.

Sample Preparation

Samples were weighed before and after freeze drying to determine water content.

Sediment samples were freeze-dried because the most labile form of P, exchangeable P, was shown by Andrieux-Loyer and Aminot (1996) to be stable during the freeze-drying process. In preparation of sediment samples, dry sieving is considered preferable to wet sieving to prevent leaching of exchangeable P by sieving water (Andrieux-Loyer and Aminot, 1996). Each sample of freeze-dried sediment was gently broken up and placed in a 260-mesh (61-μm particle-size) sieve. The sieve was agitated, and the fine particles that passed through the screen were collected until the weight of particles passing through the sieve after one-half hour of shaking weighed no more than 10 mg. Material remaining in the sieve was returned to the mortar and pestle and ground until all of the remaining sample passed through a 60-mesh (230-μm particle-size) screen.

Sample Analysis

Analytical reporting limits, determined for factors measured in this study, are based on the detection limits for the analytical methods (table 4). Quality assurance was addressed in the traditional manner through analyses of sample duplicates and standard reference samples. Standard reference material LKSD–1 was included with each set of microwave digestion samples.

Sediment pH

When the weights of the wet sediment were measured prior to freezing, an aliquot of 1 to 2 cubic centimeters (cm^3) of sediment was transferred to a disposable centrifuge tube. The pH of the wet sediment was measured using an Orion Ross electrode and an Orion Model 525A pH meter. The meter was recalibrated after completion of each subset of 10 samples.

Microwave-Assisted Digestion of Sediment Samples

Samples weighing 0.07 to 0.1 g were digested in concentrated nitric and hydrofluoric acids using microwave digestion equipment (Simon and others, 2009). An acid blank and reference standard LKSD–1 (Lynch, 1990) were included with every set of digest sediments. Ten milliliters (mL) of concentrated nitric acid were added approximately 16 hours before 2 mL of hydrofluoric acid were added to the Teflon vessels containing the weighed sediment samples. Soaking the samples in nitric acid helped wet the samples. The penetration of sediment particles with acid contributes to efficient dissolution of sediment particles. Immediately after addition of hydrofluoric acid, the vessels were closed, put in the instrument round table, and placed in a CEM Microwave Accelerated Reaction System (MARS). After the digestion sequence in the microwave, the samples were brought up to a volume of 100 mL using double deionized water.

A statistical comparison using Welch's t-test indicated that there is no statistical difference between the concentrations of the subject elements determined for LKSD–1 as analyzed in the Reston lab and concentrations of the subject elements as reported by the Canadian Certified Reference Materials Project (CCRMP) (Lynch, 1990). Data from a set of microwave digestion samples were considered acceptable if the concentrations of elements determined in the LKSD–1 standard run with the samples were within two standard deviations of the concentration reported in Lynch (1990). Welch's t-test was used because the two sets of data being compared possibly have unequal variances. In Welch's t-test, the denominator is based on a pooled variance estimate.

Total Phosphorus

The diluted aliquots of microwave digests of sediment samples were analyzed for P concentrations using the method of Murphy and Riley (1962).

Sequential Extraction

Although originally developed for use with marine sediments, the Ruttenberg (1992) method (also known as the SEDEX method) has been used for sequential extraction of P from freshwater sediments (Ruban and others, 1999; Brunberg and others, 2002; Filippelli and others, 2006) and from freshwater and estuarine sediments (Andrieux-Loyer and others, 2008). In this method, P is fractionated into loosely sorbed P and interstitial water P using $MgCl_2$ (1 M, pH 8); easily reducible Fe-bound P using citrate-dithionite-bicarbonate (CDB) solution (pH 7.6); and P associated with carbonates and acid-soluble minerals using 1 N hydrochloric acid (HCl) (fig. 2). The concentrations of loosely sorbed P and P associated with poorly crystalline Fe-oxyhydroxides are operationally defined as bioavailable P (Ruban and others, 1999).

Sediment samples weighing approximately 0.1 g were extracted using the SEDEX method (Ruttenberg, 1992) with the modifications of Anderson and Delaney (2000). The sodium acetate step was omitted, and the extraction time for the CDB extraction was increased to facilitate the dissolution of poorly crystalline Fe-oxyhydroxides. Dissolved reactive P (DRP) concentrations in all fractions were determined by the molybdenum blue method (Murphy and Riley, 1962). Butanol extraction of samples was not required for colorimetric P analysis of CDB extracts because concentrations of P in the CDB extracts were within detection limits of the colorimetric method, and dithionite solutions were heated in air to remove interference from sulfide ion. Residual P concentrations were calculated by subtracting the sum of the concentrations of P recovered in the sequential extraction procedure (inorganic P) from the concentrations of total P. Concentrations of Fe were determined in CDB fractions using a Perkin-Elmer Model 5100 ICP–AES.

Carbon and Nitrogen Concentrations

Sediments were analyzed for total C and total N using 20 mg of freeze-dried, ground samples. Flash oxidation of each sample was followed by separation of the gaseous products using a Carlo Erba EA 1108 Elemental Analyzer. Two aliquots of sediment samples from the Mid Lake (ML) site were analyzed: one aliquot was analyzed without treatment with HCl to determine the total C concentration, and a second aliquot was treated with HCl vapors to remove carbonates before analysis to determine the concentration of organic C. This experiment was done to test the statement in Bradbury and others (2004) that UKL sediments are carbonate free. We analyzed sediment from the ML site where concentrations of Ca in the sediment were determined to be greater than in sediment from other sites sampled in this study. The similarity in C concentrations before and after HCl treatment indicated that total C was organic C, with no detectable carbonates present (data not shown).

Metals Analysis (Aluminum, Calcium, Iron, and Titanium)

Microwave digests were diluted 1:20 with 0.5 percent nitric acid and analyzed for Al, Ca, Fe, and Ti using a Perkin-Elmer Model 5100 ICP–AES.

Physical and Chemical Characteristics of Lakebed Sediment

Data from the 26 cores presented in this report give a geospatial distribution of sediment particle size, total P, loosely bound P, P associated with poorly crystalline Fe oxides; mineral forms of P, Fe, and Fe in poorly crystalline Fe oxides; and Al, C, Ca, N, and Ti (table 2).

Water Content and Particle Size

The percentage of water in sediment samples is inversely related to the percentage of particles. The percentage of water in whole sediment samples is small at sites 9, 21, and 23. At these sites, the concentrations of chemical constituents in sediment solids have more of an effect on the amount of chemical constituent in the sediment than at sites where the percentage of water is larger.

Examination by microscope of the sediment indicates that large numbers of diatom frustules are present. These silicon structures act as a diluent in the calculation of the concentrations of chemical constituents in these sediment samples. Visual examination of sediments indicates that the fine fraction (<63 μm) contains fewer aggregates of diatom frustules than the coarse fraction (>63 μm) of sediment. In general, the fraction of coarse particles is larger in sediment from sites in the northern portion of the lake than in the southern portion of the lake.

Distribution of Phosphorus, Geochemical Fractions of Phosphorus and Chemical Constituents

Concentrations of total Al, Fe, P, and Ti calculated as milligrams per gram (mg g^{-1}) dry weight sediment are largest in cores from sites located in the northern portion of the lake as well in cores from sites in Howard Bay and the southernmost portion of the lake.

Concentrations of total P were largest in the top 1 cm of sediment. This surface sediment is at the sediment water interface and is the contact between bottom sediment and overlying water column. The concentrations of total P in the top 1 cm of sediment at sites 23, 25, and 26 (sites along the northern rim of UKL) are larger than 0.6 mg g^{-1} dry weight. The concentrations of total P in the top 1 cm of sediment at sites 7, 18, and 21 are larger than 0.5 mg g^{-1} dry weight sediment. The concentrations in the top 1 cm of sediment at all other sample sites in this study were less than 0.5 mg g^{-1} dry weight.

In UKL surface sediment, the correlation between concentrations of total P and total Fe is poor ($R^2<0.1$). In the case of simple linear regression, R^2 is the square of the sample correlation coefficient between the outcomes and the values being used for prediction. There is a good correlation between concentrations of total P concentrations of dithionite-extractable Fe (poorly crystalline Fe oxides) for all samples collected for this study. The R^2 for the linear relationship is 0.4, and the R^2 for a second degree polynomial is 0.6, with total P concentrations increasing rapidly with increased concentrations of dithionite-extractable Fe.

The R^2 for the linear regression for the concentrations of total Fe and total Ti is greater than 0.9 for both coarse and fine fractions of the sediment samples. This indicates that Fe and Ti might have a similar (probably terrestrial) source. The largest concentrations of Ti in bottom sediment are at sites 8, 9, 17, 21, and 23, indicating that sediment accumulating at these sites has a terrestrial source.

Summary

Concentrations of chemical constituents in the sediments collected for this study are affected by large numbers of diatom frustules in the sediment. The frustules have a diluent effect. This survey of surface sediment in UKL provides data that indicates that concentrations of total P, geochemical fractions of P, and chemical constituents in sediments of UKL are not uniformly distributed. The distribution of the total P indicates larger concentrations calculated both on a dry weight basis and on a wet weight basis (whole sediment) are present in sediment cores collected from the northern portion of the lake. The largest fraction of P in the sediment cores was residual P. One of the components in the residual fraction is organic P.

The concentrations of organic C in the coarse fraction are larger than the concentrations of organic C in the fine fraction of these sediment samples. Concentrations of C and N in sediment samples have patterns that differ from P concentrations in sediment samples. The largest concentrations of C and N occur in sediment in the southern portion, as well as the northern portion, of the lake. The largest concentrations of Ti, a metal associated with terrestrial material, were determined in sediment in the northeastern portion and the central part of the lake. The distribution of the total concentration of the metals Al, Ca, and Fe, was similar to the distribution of the concentrations of Ti.

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Acknowledgments

We greatly appreciate the excellent work of the field crew from the USGS office in Klamath Falls, Oregon (Oreg.). They collected the cores analyzed in this study, and provided the photograph that appears on the cover of this report. The photo shows coring operations during the October 2006 collection of sediment cores from Upper Klamath Lake, Oregon.

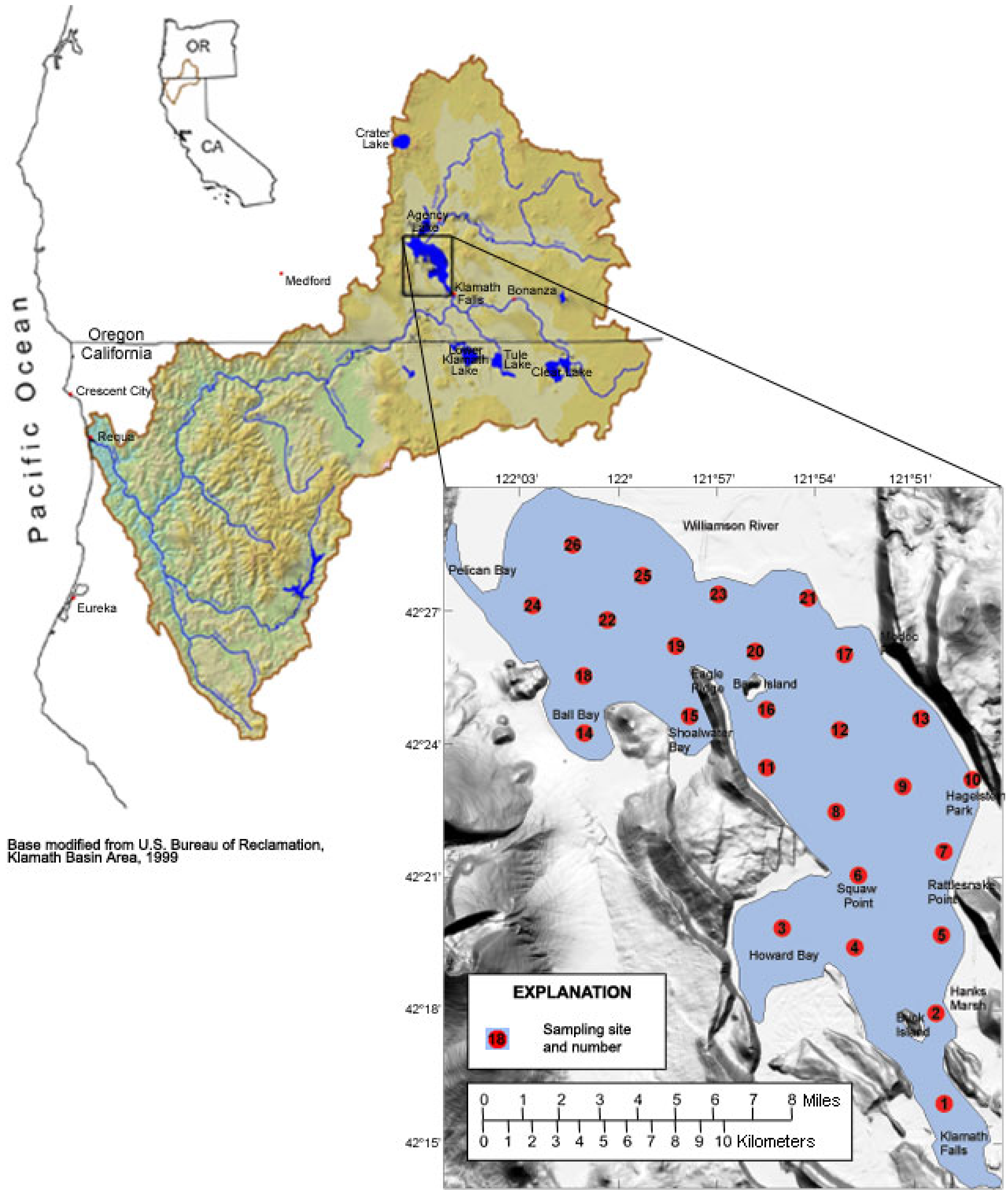

Figure 1. Map showing location of Upper Klamath Lake, Oregon, and sampling sites.

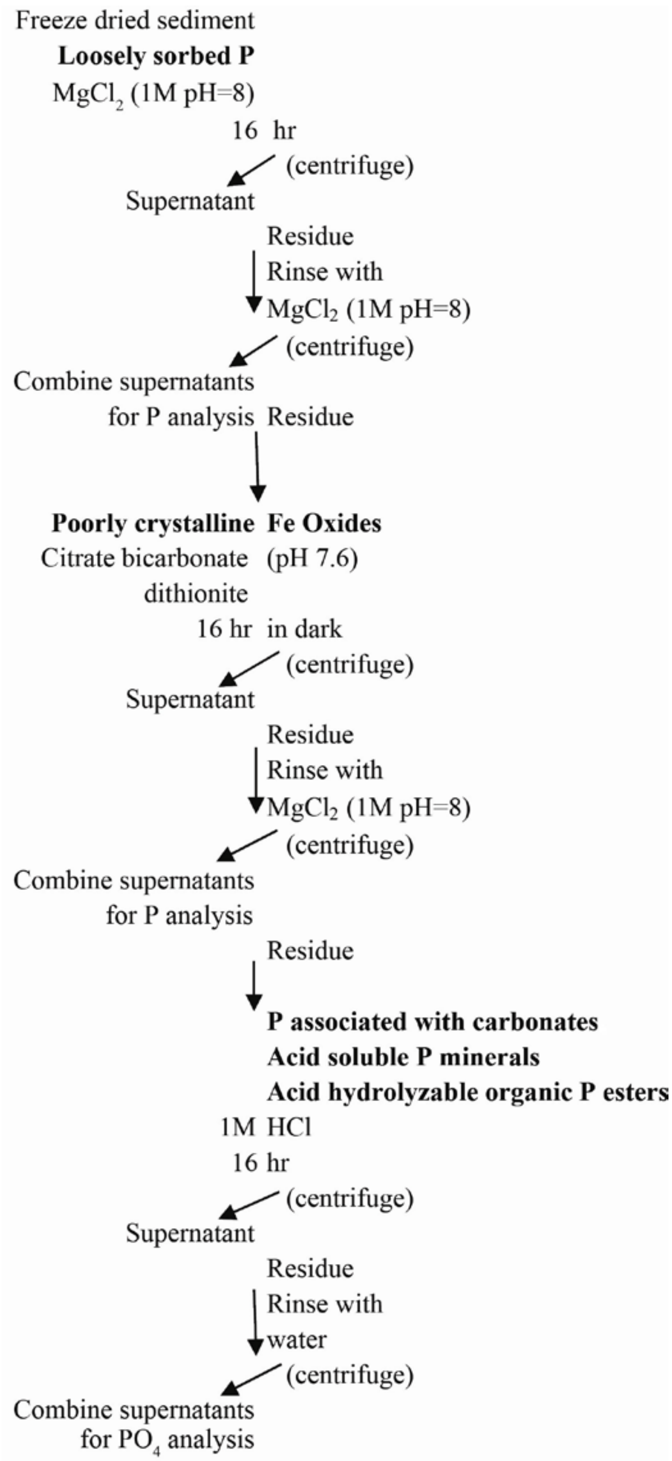

Figure 2. Flow chart of sequential extraction procedure used to separate inorganic phosphorus (P) from sediment samples collected in October 2006 from Upper Klamath Lake, Oregon.

Table 1. Comparison of concentrations of total and inorganic phosphorus (P) in sediment from cores collected October 2006 from Upper Klamath Lake, Oregon, with other data from reports in the literature.

[DW, dry weight; H_3BO_3, boric acid ; HCl, hydrochloric acid; HF, hydrofluoric acid; HNO_3, nitric acid; mg g^{-1}, milligrams per gram; Na_2CO_3, sodium carbonate]

Location in Upper Klamath Lake	Study site nearest to site in published study	Year of sample collection	Authors of study	Method of analysis for total phosphorus	Concentration of total phosphorus mg g^{-1} DW: average of sediment, 1–10 cm	Concentration of inorganic phosphorus , mg g^{-1} DW: average of sediment, 1–10 cm
Lake outlet	Site 1	1968–1969	Sanville and others (1974)	Not reported	0.40±0.86	
Pelican Marina	Site 1	1969 and 1970	Wildung and others (1977)	Na_2CO_3 fusion	0.66±0.018	0.35
Buck Island	Site 2	1968–1969	Sanville and others (1974)	Not reported	0.26±0.65	
Buck Island	Site 2	1969 and 1970	Wildung and others (1977)	Na_2CO_3 fusion	1.03±0.03	0.30±0.03
Howard Bay	Site 3	1968–1969	Sanville and others (1974)	Not reported	0.58±1.16	
Howard Bay	Site 3	1969 and 1970	Wildung and others (1977)	Na_2CO_3 fusion	1.03±0.05	0.57±0.05
Howard Bay	Site 3	2005	Simon and others (2009)	Microwave digestion, HNO_3 + HF	0.63±0.10 April 0.46±0.14 July	0.16±0.05 April 0.14±0.07 July
Mid Lake	Site 9	2005	Simon and others (2009)	Microwave digestion, HNO_3 + HF	0.37±0.11 April 0.46±0.14 July	0.09±0.02 April 0.08±0.05 July
Bare Island	Site 16	2005	Simon and others (2009)	Microwave digestion, HNO_3 + HF	0.66±0.15 April 0.62±0.07 July	0.21±0.17 April 0.12±0.13 July
Mouth of Shoalwater Bay	Site 19	1998	Eilers and others (2001)	Microwave digestion, HNO_3 + HF + HCl + H_3BO_3	0.9	
Ball Bay	Site 14	2005	Simon and others (2005)	Microwave digestion, HNO_3 + HF	0.81±0.10 April 0.85±0.11 July	0.23±0.12 April 0.13±0.08 July

Table 2. Analytical data for sediment cores collected October 24–26, 2006, from Upper Klamath Lake, Oregon

[Al, aluminum; Ca, calcium; DW, dry weight; Fe, iron; HCl, hydrochloric acid; m, meter; mg g^{-1}, milligram per gram; NA, not available; P, phosphorus; Ti, titanium]

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg g^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 1: North of the city of Klamath Falls																	
			-0.5	> 63 µm	0.52	0.48	0.04	0.20	0.05	0.19	7.04	0.93	29.55	1.59	48.00	12.15	2.78
			-1.5		0.80	0.35	0.03	0.20	0.05	0.06	6.64	0.85	28.20	1.39	46.71	12.19	2.64
			-2.5		0.58	0.48	0.03	0.20	0.04	ND	6.69	0.86	13.28	1.27	22.39	6.96	1.29
			-3.5		0.69	0.40	0.02	0.16	0.05	0.17	6.20	0.83	29.84	1.11	48.65	13.14	2.78
			-4.5		0.59	0.40	0.01	0.14	0.04	0.21	6.43	0.84	30.31	1.22	50.74	13.63	2.85
			-0.5	< 63 µm	0.48	0.50	0.05	0.19	0.05	0.21	6.41	0.82	27.02	1.65	41.30	11.13	2.46
			-1.5		0.20	0.33	0.04	0.15	0.06	0.08	6.28	0.76	27.23	1.41	45.24	11.95	2.64
			-2.5		0.43	0.32	0.02	0.13	0.06	0.24	5.94	0.77	25.51	1.01	37.36	10.62	2.49
			-3.5		0.31	0.32	0.02	0.12	0.04	0.20	5.60	0.69	25.47	1.07	38.06	10.16	2.50
			-4.5		0.42	0.34	0.01	0.11	0.04	0.19	5.55	0.71	26.66	1.01	36.68	9.88	2.54
1.8	0.92	6.67	-0.5	All particles		0.49	0.05	0.19	0.05	0.20	6.74	0.88	28.34	1.62	44.80	11.66	2.62
1.8	0.91	6.18	-1.5			0.34	0.03	0.19	0.05	0.07	6.57	0.83	28.01	1.40	46.42	12.15	2.64
1.8	0.90	6.05	-2.5			0.42	0.03	0.17	0.05	0.09	6.46	0.83	18.76	1.18	29.19	8.64	1.83
1.8	0.90	6.33	-3.5			0.37	0.02	0.15	0.05	0.18	6.04	0.79	28.57	1.10	45.50	12.25	2.70
1.8	0.90	6.19	-4.5			0.38	0.01	0.12	0.04	0.21	6.14	0.80	29.19	1.15	45.48	12.23	2.76
			-10	> 63 µm	0.46	0.29	0.01	0.08	0.05	0.15	5.04	0.67	31.95	1.45	73.49	22.52	2.99
			-15		0.47	0.29	0.01	0.06	0.04	0.10	4.05	0.56	23.50	0.74	46.00	13.62	2.47
			-20		0.34	0.29	0.01	0.06	0.05	0.10	5.03	0.67	33.36	1.08	56.65	11.99	3.05
			-25		0.31	0.29	0.01	0.04	0.05	0.09	4.89	0.65	33.18	0.87	66.08	15.29	3.31
			-30		0.37	0.29	0.01	0.03	0.06	0.04	4.60	0.61	31.67	0.90	62.55	13.88	3.27
			-10	< 63 µm	0.54	0.14	0.01	0.05	0.04	0.13	4.06	0.56	22.10	1.28	32.07	7.81	2.00
			-15		0.53	0.19	0.01	0.04	0.03	0.11	3.94	0.59	20.30	0.77	31.66	7.32	1.94
			-20		0.66	0.14	0.00	0.03	0.04	0.11	3.85	0.56	30.73	1.06	34.86	7.05	2.32
			-25		0.69	0.16	0.01	0.02	0.04	0.08	3.59	0.53	25.48	0.76	32.30	6.93	2.18
			-30		0.63	0.18	0.01	0.02	0.05	0.10	3.39	0.47	25.99	0.79	34.26	7.77	2.32
1.8		4.90	-10	All particles		0.21	0.01	0.06	0.05	0.14	4.52	0.61	26.64	1.36	51.16	14.59	2.46
1.8		5.57	-15			0.24	0.01	0.05	0.04	0.10	3.99	0.57	21.81	0.76	38.43	10.29	2.19
1.8		5.52	-20			0.19	0.01	0.04	0.04	0.11	4.25	0.60	31.62	1.07	42.20	8.71	2.56
1.8		5.65	-25			0.20	0.01	0.03	0.04	0.09	4.00	0.57	27.87	0.80	42.82	9.53	2.53
1.8		6.02	-30			0.22	0.01	0.03	0.05	0.08	3.84	0.52	28.10	0.83	44.76	10.03	2.67

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g-1 DW	Loosely bound P mg g-1 DW	P bound to poorly crystalline Fe oxides mg g-1 DW	P extracted with 1M HCl mg g-1 DW	Residual P mg-1 DW	Percent carbon	Percent nitrogen	Total Fe mg g-1 DW	Fe in poorly crystalline Fe oxides mg g-1 DW	Total Al mg g-1 DW	Total Ca mg g-1 DW	Total Ti mg g-1 DW
								Site 2: Buck Island									
			-0.5	> 63 μm	0.80	0.58	0.04	0.11	0.04	0.39	7.53	0.96	27.37	1.93	36.65	9.96	2.55
			-1.5		0.93	0.46	0.03	0.09	0.05	0.30	7.06	0.90	27.10	1.53	40.27	10.17	2.60
			-2.5		0.52	0.48	0.02	0.05	0.05	0.37	7.38	0.94	28.12	1.50	37.52	10.50	2.76
			-3.5		0.86	0.40	0.01	0.04	0.04	0.32	6.65	0.83	27.60	1.28	42.19	10.24	2.64
			-4.5		0.64	0.38	0.01	0.03	0.04	0.29	6.73	0.88	29.33	1.15	38.86	10.91	2.79
			-0.5	< 63 μm	0.20	0.59	0.04	0.07	0.05	0.43	6.71	0.83	28.98	2.10	43.08	13.08	2.73
			-1.5		0.06	NA	0.03	0.06	0.06	NA	6.28	0.76	NA	1.61	NA	NA	NA
			-2.5		0.50	0.40	0.01	0.06	0.05	0.28	5.94	0.78	27.16	1.26	40.55	10.73	2.59
			-3.5		0.13	0.40	0.01	0.03	0.05	0.31	4.80	0.66	26.26	1.14	46.15	13.16	2.59
			-4.5		0.37	0.44	0.02	0.03	0.04	0.36	5.93	0.78	27.44	1.22	39.00	10.79	2.57
1.8	0.89	6.36	-4.5	All particles		0.58	0.04	0.10	0.04	0.40	7.37	0.94	27.68	1.96	37.91	10.57	2.58
1.8	0.90	6.46	-3.5			0.43	0.03	0.08	0.05	0.28	6.95	0.88	25.22	1.52	37.47	9.47	2.42
1.8	0.91	6.41	-2.5			0.45	0.02	0.05	0.05	0.33	6.82	0.88	28.21	1.41	39.79	10.83	2.73
1.8	0.92	6.42	-1.5			0.40	0.01	0.04	0.04	0.31	6.36	0.81	27.22	1.26	42.40	10.54	2.61
1.8	0.93	6.50	-0.5			0.40	0.01	0.03	0.04	0.31	6.46	0.84	28.73	1.18	39.03	10.90	2.72
			-10	> 63 μm	0.66	0.37	0.01	0.05	0.04	0.27	6.40	0.84	28.73	1.08	38.70	9.91	2.53
			-15		0.67	0.23	0.02	0.02	0.03	0.17	5.12	0.72	22.08	0.90	38.33	9.85	2.11
			-20		0.53	0.26	0.01	0.03	0.03	0.19	4.81	0.66	21.84	0.70	34.03	8.29	1.99
			-25		0.39	0.27	0.01	0.03	0.04	0.19	5.64	0.75	22.11	0.72	34.43	8.51	2.28
			-30		0.51	0.18	0.01	0.01	0.03	0.12	5.10	0.73	18.87	0.45	30.55	7.06	1.89
			-10	< 63 μm	0.34	0.35	0.01	0.03	0.06	0.24	4.49	0.60	24.05	1.00	38.83	10.50	2.30
			-15		0.33	0.15	0.01	0.02	0.04	0.08	3.92	0.56	19.07	0.73	37.33	11.54	1.84
			-20		0.47	0.14	0.01	0.02	0.04	0.07	3.79	0.53	20.55	0.65	33.75	10.25	1.86
			-25		0.61	0.21	0.01	0.03	0.03	0.15	3.25	0.46	16.01	0.52	27.66	6.16	1.42
			-30		0.49	0.15	0.02	0.02	0.04	0.09	3.85	0.55	17.41	0.39	30.29	7.02	1.64
1.8		6.66	-10	All particles		0.36	0.01	0.04	0.05	0.26	5.74	0.76	27.12	1.06	38.74	10.11	2.45
1.8		6.14	-15			0.21	0.02	0.02	0.04	0.14	4.73	0.67	21.08	0.84	38.00	10.41	2.02
1.8		6.50	-20			0.20	0.01	0.02	0.03	0.13	4.33	0.60	21.23	0.67	33.90	9.21	1.93
1.8		6.66	-25			0.23	0.01	0.03	0.03	0.17	4.18	0.57	18.37	0.59	30.28	7.07	1.75
1.8		7.10	-30			0.17	0.01	0.01	0.03	0.10	4.49	0.64	18.15	0.42	30.42	7.04	1.77

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 3: Howard Bay (Wocus Bay)																	
			-0.5	> 63 µm	0.66	0.59	0.03	0.11	0.05	0.40	8.39	1.04	27.55	1.07	37.29	9.84	2.47
			-1.5		0.75	0.51	0.02	0.10	0.05	0.33	7.76	0.97	28.18	0.92	38.21	9.73	2.49
			-2.5		0.61	0.35	0.02	0.09	0.05	0.20	7.47	0.92	28.04	0.92	40.45	10.53	2.49
			-3.5		0.81	0.36	0.02	0.10	0.05	0.20	7.04	0.79	28.85	0.73	37.92	10.11	2.53
			-4.5		0.53	0.29	0.01	0.08	0.05	0.15	7.11	0.82	29.68	0.61	41.75	10.72	2.64
			-0.5	< 63 µm	0.34	0.55	0.02	0.10	0.06	0.37	7.17	0.75	26.73	0.95	41.11	11.44	2.40
			-1.5		0.20	0.53	0.02	0.10	0.05	0.36	6.28	0.64	25.55	0.99	39.90	11.49	2.35
			-2.5		0.40	0.52	0.03	0.08	0.05	0.36	6.44	0.70	27.16	1.27	37.55	10.56	2.40
			-3.5		0.17	0.42	0.02	0.07	0.06	0.28	6.22	0.77	26.43	0.66	37.55	11.94	2.55
			-4.5		0.50	0.48	0.01	0.09	0.06	0.32	6.43	0.79	26.90	0.80	31.71	9.65	2.37
0.6	0.95	6.34	-0.5	All particles		0.58	0.03	0.11	0.06	0.39	7.97	0.94	27.27	1.03	38.60	10.39	2.44
0.6	0.94	5.95	-1.5			0.49	0.02	0.10	0.05	0.32	7.08	0.86	26.29	0.89	36.70	9.61	2.34
0.6	0.93	6.36	-2.5			0.42	0.02	0.08	0.05	0.27	7.18	0.85	28.16	1.08	39.96	10.72	2.50
0.6	0.93	6.54	-3.5			0.37	0.02	0.09	0.05	0.21	6.81	0.78	28.07	0.71	37.39	10.30	2.50
0.6	0.92	6.14	-4.5			0.40	0.01	0.09	0.06	0.24	7.00	0.83	29.25	0.72	38.07	10.54	2.59
			-10	> 63 µm	0.53	0.27	0.01	0.01	0.05	0.20	6.99	0.96	31.18	0.51	38.77	9.99	2.54
			-15		0.59	0.27	0.01	0.06	0.04	0.17	6.99	1.00	30.51	0.49	36.25	9.06	2.45
			-20		0.61	0.25	0.00	0.06	0.03	0.16	6.74	0.99	26.33	0.45	37.01	8.52	2.14
			-25		0.57	0.11	0.00	0.05	0.03	0.03	6.74	0.99	21.77	0.57	32.45	7.71	1.99
			-30		0.56	0.08	0.00	0.01	0.03	0.05	6.39	0.90	21.76	0.54	32.66	7.80	2.03
			-10	< 63 µm	0.47	0.36	0.01	0.06	0.05	0.25	5.28	0.69	26.30	0.42	35.60	10.24	2.38
			-15		0.41	0.32	0.00	0.06	0.05	0.21	4.83	0.65	25.56	0.44	35.80	10.01	2.27
			-20		0.39	0.19	0.00	0.07	0.04	0.08	4.47	0.64	22.51	0.39	35.00	9.12	1.97
			-25		0.43	0.29	0.00	0.08	0.03	0.18	3.99	0.59	17.65	0.42	31.49	8.10	1.62
			-30		0.44	0.28	0.00	0.04	0.03	0.22	3.97	0.59	17.48	0.36	32.40	8.38	1.63
0.6		6.20	-10	All particles		0.32	0.01	0.03	0.05	0.22	6.18	0.83	28.86	0.47	37.27	10.11	2.46
0.6		6.46	-15			0.29	0.01	0.06	0.05	0.18	6.10	0.86	28.48	0.47	36.07	9.45	2.37
0.6		6.47	-20			0.23	0.00	0.06	0.04	0.13	5.84	0.85	24.82	0.43	36.22	8.75	2.07
0.6		5.59	-25			0.19	0.00	0.06	0.03	0.09	5.57	0.82	20.01	0.51	32.04	7.88	1.83
0.6		5.58	-30			0.17	0.00	0.02	0.03	0.12	5.32	0.76	19.88	0.46	32.54	8.06	1.86

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 4: Mouth of Howard Bay, South																	
			-0.5	> 63 µm	0.78	0.35	0.01	0.09	0.07	0.18	6.42	0.77	15.14	0.99	36.19	9.13	1.47
			-1.5		0.81	0.35	0.00	0.08	0.06	0.20	6.51	0.77	14.32	0.98	29.22	7.96	1.37
			-2.5		0.77	0.33	0.01	0.02	0.06	0.25	6.57	0.78	14.59	0.94	28.37	7.13	1.33
			-3.5		0.84	0.37	0.00	0.07	0.06	0.24	6.71	0.80	14.64	0.92	27.88	6.85	1.30
			-4.5		0.82	0.36	0.00	0.07	0.05	0.23	6.80	0.83	14.99	0.88	29.98	7.91	1.34
			-0.5	< 63 µm	0.21	0.27	0.01	0.07	0.09	0.10	5.22	0.59	13.44	0.78	34.72	10.38	1.49
			-1.5		0.19	0.41	0.00	0.04	0.08	0.29	5.67	0.63	14.03	0.69	26.25	6.07	1.40
			-2.5		0.22	0.35	0.00	0.02	0.07	0.26	5.47	0.60	12.74	0.78	19.86	9.81	1.36
			-3.5		0.16	0.34	0.01	0.04	0.08	0.22	5.13	0.55	13.37	0.48	20.59	11.44	1.33
			-4.5		0.17	0.22	0.01	0.06	0.07	0.08	5.03	0.55	13.00	0.72	31.25	9.60	1.37
1.7	0.91	6.26	-0.5	All particles		0.33	0.01	0.08	0.08	0.16	6.08	0.72	14.56	0.93	35.35	9.26	1.45
1.7	0.90	5.60	-1.5			0.36	0.00	0.07	0.06	0.22	6.35	0.74	14.27	0.92	28.64	7.59	1.37
1.7	0.90	5.92	-2.5			0.34	0.00	0.02	0.06	0.25	6.29	0.74	14.10	0.90	26.31	7.69	1.33
1.7	0.90	5.98	-3.5			0.37	0.00	0.06	0.06	0.24	6.45	0.76	14.42	0.85	26.68	7.58	1.31
1.7	0.90	6.01	-4.5			0.34	0.00	0.07	0.06	0.21	6.43	0.77	14.50	0.84	29.89	8.11	1.33
			-10	> 63 µm	0.58	0.37	0.01	0.06	0.04	0.26	6.41	1.12	9.29	2.11	15.63	3.58	0.90
			-15		0.51	0.48	0.02	0.09	0.04	0.33	6.72	0.97	9.38	1.04	14.32	3.61	0.92
			-20		0.53	0.48	0.03	0.08	0.05	0.32	6.77	1.00	9.32	0.86	15.01	3.68	0.95
			-25		0.59	0.44	0.03	0.11	0.05	0.26	6.40	0.95	9.58	0.84	14.29	4.43	0.93
			-30		0.56	0.42	0.04	0.13	0.04	0.21	5.62	0.82	9.28	0.71	13.99	4.28	0.87
			-10	< 63 µm	0.42	0.39	0.01	0.07	0.05	0.26	5.20	0.75	9.02	0.86	18.72	4.59	0.95
			-15		0.49	0.40	0.02	0.09	0.05	0.25	5.18	0.75	8.60	0.86	16.64	4.31	0.90
			-20		0.47	0.38	0.02	0.07	0.04	0.24	5.18	0.77	8.13	0.72	16.21	4.03	0.87
			-25		0.41	0.37	0.03	0.09	0.05	0.21	4.66	0.69	7.89	0.62	14.96	3.95	0.82
			-30		0.44	0.35	0.04	0.07	0.05	0.19	4.18	0.62	7.96	0.59	12.69	4.05	0.74
1.7		6.36	-10	All particles		0.38	0.01	0.06	0.04	0.26	5.91	0.97	9.18	1.59	16.92	4.00	0.92
1.7		6.85	-15			0.44	0.02	0.09	0.04	0.29	5.97	0.86	8.99	0.95	15.45	3.95	0.91
1.7		7.22	-20			0.43	0.03	0.08	0.04	0.28	6.03	0.89	8.76	0.80	15.57	3.84	0.91
1.7		7.12	-25			0.41	0.03	0.10	0.05	0.24	5.69	0.84	8.88	0.75	14.56	4.23	0.88
1.7		7.73	-30			0.39	0.04	0.11	0.04	0.20	5.00	0.73	8.71	0.66	13.42	4.18	0.82

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg g^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 5: Rattlesnake Point, South																	
			-0.5	> 63 μm	0.77	0.54	0.01	0.12	0.05	0.36	7.89	0.89	15.92	3.64	23.08	4.83	1.23
			-1.5		0.83	0.33	0.01	0.13	0.05	0.14	7.60	0.87	12.06	1.72	17.64	4.09	1.19
			-2.5		0.89	0.34	0.01	0.04	0.04	0.26	7.17	0.80	13.50	1.14	22.14	5.04	1.11
			-3.5		0.84	0.33	0.00	0.06	0.04	0.23	6.56	0.71	13.35	0.82	21.96	5.08	1.12
			-4.5		0.81	0.31	0.00	0.07	0.05	0.19	6.62	0.73	13.41	0.79	20.30	5.60	1.16
			-0.5	< 63 μm	0.21	0.48	0.01	0.26	0.06	0.15	6.34	0.67	13.09	1.13	14.12	5.71	1.15
			-1.5		0.17	0.26	0.01	0.17	0.00	0.08	6.40	0.70	7.75	1.03	11.35	2.02	1.15
			-2.5		0.10	0.41	0.01	0.13	0.06	0.21	5.82	0.61	13.01	0.65	21.89	4.66	1.20
			-3.5		0.16	0.24	0.00	0.06	0.06	0.12	5.50	0.58	12.72	0.80	26.38	7.40	1.23
			-4.5		0.19	0.19	0.00	0.05	0.05	0.10	5.35	0.57	12.26	0.75	24.66	7.13	1.19
1.0	0.94	5.88	-0.5	All particles		0.51	0.01	0.14	0.05	0.31	7.39	0.82	14.97	3.03	20.67	4.91	1.19
1.0	0.91	6.30	-1.5			0.32	0.01	0.14	0.04	0.13	7.40	0.84	11.34	1.60	16.59	3.75	1.18
1.0	0.92	6.34	-2.5			0.35	0.01	0.05	0.04	0.25	6.99	0.78	13.38	1.09	22.00	4.97	1.11
1.0	0.91	6.47	-3.5			0.32	0.00	0.06	0.04	0.21	6.39	0.69	13.25	0.82	22.65	5.45	1.14
1.0	0.90	6.15	-4.5			0.29	0.00	0.06	0.05	0.17	6.38	0.70	13.20	0.78	21.13	5.89	1.16
			-10	> 63 μm	0.66	0.40	0.01	0.06	0.04	0.28	6.36	0.85	13.46	2.10	17.71	4.32	1.13
			-15		0.64	0.32	0.01	0.04	0.03	0.24	5.78	0.84	11.53	0.86	16.11	3.94	0.97
			-20		0.65	0.26	0.01	0.05	0.03	0.17	5.16	0.75	10.63	0.73	16.85	3.96	0.90
			-25		0.57	0.30	0.02	0.04	0.04	0.20	3.70	0.53	10.05	1.10	17.19	4.04	0.96
			-30		0.46	0.33	0.02	0.08	0.05	0.18	4.67	0.65	11.84	0.65	22.99	5.42	1.18
			-10	< 63 μm	0.34	0.37	0.02	0.06	0.06	0.23	4.55	0.60	10.65	1.22	17.72	4.86	1.04
			-15		0.36	0.42	0.01	0.03	0.03	0.34	4.06	0.57	14.86	0.98	15.35	4.56	0.87
			-20		0.35	0.35	0.02	0.01	0.04	0.28	4.29	0.59	9.75	0.73	20.97	4.37	0.87
			-25		0.43	0.23	0.01	0.01	0.03	0.17	3.64	0.50	10.70	0.39	20.99	4.35	0.96
			-30		0.54	0.23	0.02	0.03	0.03	0.15	3.09	0.45	11.24	0.69	19.15	4.19	0.92
1.0		6.16	-10	All particles		0.39	0.01	0.06	0.05	0.27	5.74	0.77	12.50	1.80	17.71	4.50	1.10
1.0		6.33	-15			0.36	0.01	0.04	0.03	0.28	5.16	0.74	12.74	0.91	15.84	4.16	0.93
1.0		7.09	-20			0.29	0.01	0.04	0.03	0.21	4.85	0.69	10.32	0.73	18.30	4.10	0.89
1.0		7.11	-25			0.27	0.02	0.03	0.04	0.19	3.67	0.52	10.33	0.80	18.81	4.17	0.96
1.0		7.19	-30			0.27	0.02	0.05	0.04	0.17	3.83	0.54	11.52	0.67	20.93	4.76	1.04

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 6: Mouth of Howard Bay, North (Squaw Point)																	
			-0.5	> 63 μm	0.90	0.55	0.05	0.18	0.05	0.28	7.25	0.83	12.70	1.63	17.28	4.63	1.17
			-1.5		0.87	0.50	0.03	0.14	0.05	0.29	6.75	0.79	12.38	1.05	19.33	5.52	1.23
			-2.5		0.77	0.46	0.03	0.14	0.05	0.24	6.52	0.78	12.91	0.80	21.01	5.15	1.24
			-3.5		0.76	0.42	0.02	0.12	0.05	0.23	6.29	0.74	12.42	0.82	20.81	5.52	1.25
			-4.5		0.78	0.44	0.02	0.10	0.05	0.28	6.17	0.71	12.61	0.68	18.21	5.22	1.20
			-0.5	< 63 μm	0.09	0.71	NA	NA	NA	NA	6.64	0.68	12.72	NA	19.50	4.99	1.18
			-1.5		0.13	0.47	0.03	0.14	0.05	0.25	6.01	0.65	11.47	0.92	18.39	5.14	1.13
			-2.5		0.22	0.47	0.02	0.11	0.04	0.30	5.74	0.63	11.54	0.72	20.60	5.26	1.13
			-3.5		0.23	0.40	0.02	0.05	0.05	0.28	5.40	0.58	11.48	0.69	19.47	4.78	1.13
			-4.5		0.21	0.42	0.02	0.05	0.05	0.31	5.33	0.57	11.57	0.61	19.83	4.76	1.11
4.9	0.93	6.21	-0.5	All particles		0.56	0.04	0.16	0.04	0.25	7.13	0.81	12.60	1.46	17.34	4.15	1.16
4.9	0.91	6.61	-1.5			0.49	0.03	0.14	0.05	0.28	6.65	0.77	12.26	1.03	19.20	5.47	1.22
4.9	0.91	7.15	-2.5			0.46	0.03	0.13	0.05	0.25	6.26	0.74	12.44	0.77	20.65	5.11	1.20
4.9	0.90	6.57	-3.5			0.41	0.02	0.10	0.05	0.24	6.03	0.70	12.09	0.78	20.31	5.30	1.21
4.9	0.89	6.67	-4.5			0.43	0.02	0.08	0.05	0.28	5.95	0.68	12.30	0.66	18.43	5.08	1.17
			-10	> 63 μm	0.62	0.35	0.02	0.08	0.04	0.22	5.66	0.80	10.39	0.53	19.33	4.77	0.96
			-15		0.63	0.26	0.03	0.03	0.04	0.16	5.34	0.77	8.42	0.82	15.75	4.06	0.79
			-20		0.66	0.22	0.04	0.07	0.05	0.06	5.63	0.79	9.26	0.67	16.70	4.43	0.88
			-25		0.64	0.26	0.05	0.07	0.07	0.06	5.47	0.75	10.28	0.77	18.78	5.38	0.98
			-30		0.64	0.28	0.06	0.09	0.05	0.07	4.82	0.65	8.94	0.46	15.55	4.23	0.82
			-10	< 63 μm	0.38	0.52	0.02	0.06	0.04	0.40	4.67	0.57	9.43	0.49	16.25	3.97	0.87
			-15		0.37	0.36	0.02	0.05	0.04	0.24	4.72	0.60	8.98	0.73	16.09	4.64	0.85
			-20		0.34	0.51	0.04	0.06	0.05	0.36	4.41	0.57	8.67	0.54	16.25	3.94	0.81
			-25		0.36	0.47	0.04	0.05	0.04	0.34	4.15	0.55	8.57	0.55	14.02	3.56	0.73
			-30		0.36	0.35	0.06	0.06	0.05	0.18	3.97	0.50	8.69	0.51	16.79	3.98	0.76
4.9		7.08	-10	All particles		0.42	0.02	0.07	0.04	0.29	5.28	0.71	10.02	0.51	18.16	4.47	0.93
4.9		6.96	-15			0.30	0.03	0.04	0.04	0.19	5.12	0.71	8.63	0.79	15.88	4.27	0.81
4.9		7.83	-20			0.32	0.04	0.07	0.05	0.16	5.22	0.72	9.06	0.63	16.55	4.26	0.85
4.9		7.95	-25			0.34	0.05	0.06	0.06	0.16	4.99	0.68	9.66	0.69	17.06	4.72	0.89
4.9		7.42	-30			0.30	0.06	0.08	0.05	0.11	4.51	0.60	8.85	0.48	16.00	4.14	0.80

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 7: West of Hanks Marsh																	
			-0.5	> 63 µm	0.77	0.58	0.06	0.13	0.05	0.33	6.71	0.75	15.25	2.01	22.09	6.90	1.33
			-1.5		0.76	0.53	0.03	0.12	0.06	0.32	6.93	0.79	15.77	2.40	20.48	6.11	1.32
			-2.5		0.76	0.52	0.03	0.18	0.06	0.26	6.94	0.82	16.19	2.29	21.23	6.25	1.34
			-3.5		0.81	0.52	0.03	0.19	0.05	0.26	6.75	0.79	16.14	2.37	20.88	7.18	1.35
			-4.5		0.78	0.52	0.02	0.15	0.05	0.30	6.91	0.80	15.57	2.45	19.23	5.29	1.26
			-0.5	< 63 µm	0.21	0.53	0.07	0.13	0.08	0.26	5.37	0.56	15.01	1.74	27.35	9.20	1.42
			-1.5		0.24	0.49	0.04	0.11	0.07	0.27	5.53	0.62	14.91	1.92	22.16	7.71	1.32
			-2.5		0.24	0.53	0.03	0.12	0.06	0.32	5.36	0.59	14.79	2.28	22.98	8.08	1.35
			-3.5		0.19	0.49	0.03	0.15	0.07	0.24	5.34	0.60	15.20	2.06	23.96	8.31	1.38
			-4.5		0.21	0.50	0.02	0.18	0.06	0.23	4.37	0.62	14.99	2.29	23.57	7.29	1.32
0.8	0.93	6.84	-0.5	All particles		0.56	0.06	0.13	0.06	0.31	6.29	0.69	14.90	1.91	22.77	7.25	1.33
0.8	0.92	6.56	-1.5			0.52	0.03	0.12	0.06	0.31	6.56	0.75	15.48	2.27	20.75	6.45	1.31
0.8	0.91	6.64	-2.5			0.53	0.03	0.17	0.06	0.27	6.56	0.76	15.85	2.29	21.65	6.69	1.35
0.8	0.91	6.84	-3.5			0.51	0.03	0.18	0.06	0.25	6.46	0.75	15.89	2.30	21.35	7.36	1.35
0.8	0.91	6.40	-4.5			0.52	0.02	0.16	0.05	0.29	6.33	0.76	15.36	2.40	20.07	5.70	1.27
			-10	> 63 µm	0.46	0.48	0.01	0.07	0.06	0.34	6.65	0.87	14.97	2.09	23.19	5.46	1.26
			-15		0.56	0.40	0.00	0.12	0.03	0.25	5.84	0.76	14.88	1.68	20.05	7.39	1.21
			-20		0.56	0.34	0.00	0.10	0.04	0.20	6.07	0.80	15.01	1.46	20.54	7.83	1.28
			-25		0.60	0.41	0.00	0.11	0.05	0.26	6.32	0.82	14.58	1.52	18.17	7.25	1.27
			-30		0.63	0.36	0.00	0.11	0.04	0.22	6.32	0.84	15.05	1.63	19.62	7.73	1.29
			-10	< 63 µm	0.54	0.55	0.01	0.13	0.05	0.36	4.87	0.60	12.86	1.57	23.78	6.11	1.16
			-15		0.44	0.39	0.00	0.08	0.06	0.26	4.30	0.51	12.80	1.39	22.69	6.44	1.16
			-20		0.44	0.43	0.00	0.05	0.06	0.33	4.28	0.51	13.35	1.30	25.08	6.62	1.20
			-25		0.40	0.37	0.00	0.07	0.06	0.24	4.54	0.55	13.40	1.28	26.44	7.21	1.25
			-30		0.37	0.37	0.00	0.08	0.05	0.23	4.52	0.54	13.23	1.31	23.76	6.67	1.21
0.8		6.38	-10	All particles		0.52	0.01	0.10	0.05	0.35	5.69	0.72	13.83	1.81	23.51	5.81	1.20
0.8		6.30	-15			0.40	0.00	0.10	0.04	0.25	5.17	0.65	13.97	1.55	21.20	6.98	1.19
0.8		6.44	-20			0.38	0.00	0.07	0.05	0.25	5.29	0.67	14.28	1.39	22.52	7.30	1.25
0.8		6.64	-25			0.39	0.00	0.09	0.05	0.25	5.60	0.71	14.11	1.43	21.51	7.24	1.26
0.8		5.76	-30			0.36	0.00	0.10	0.05	0.22	5.65	0.73	14.38	1.51	21.15	7.34	1.26

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 8: Near channel north west of Squaw Point																	
			-0.5	> 63 µm	0.86	0.43	0.01	0.08	0.12	0.21	3.34	0.39	19.63	0.99	46.43	21.14	2.26
			-1.5		0.87	0.45	0.01	0.08	0.13	0.23	3.30	0.37	19.86	0.96	50.14	21.24	2.37
			-2.5		0.83	0.40	0.00	0.09	0.07	0.24	3.87	0.43	15.38	1.35	32.85	12.41	1.68
			-3.5		0.87	0.36	0.00	0.08	0.09	0.19	4.28	0.49	15.93	1.43	32.62	13.44	1.78
			-4.5		0.92	0.31	0.01	0.08	0.08	0.14	4.50	0.50	12.71	1.07	24.92	9.76	1.34
			-0.5	< 63 µm	0.15	0.36	0.02	0.14	0.06	0.14	4.63	0.53	11.32	1.19	18.07	6.34	1.08
			-1.5		0.13	0.35	0.02	0.12	0.06	0.16	4.13	0.46	11.39	0.84	19.35	7.05	1.16
			-2.5		0.17	0.32	0.01	0.06	0.06	0.18	3.65	0.37	9.99	0.96	17.87	6.23	0.97
			-3.5		0.16	0.29	0.01	0.04	0.07	0.17	3.15	0.35	10.09	0.77	19.74	6.55	0.97
			-4.5		0.11	0.30	0.01	0.09	0.06	0.14	2.89	0.33	8.89	0.57	17.76	6.16	0.85
3.0	0.86	6.33	-0.5	All particles		0.42	0.01	0.09	0.11	0.20	3.56	0.41	18.52	1.03	42.50	19.07	2.10
3.0	0.87	6.53	-1.5			0.44	0.01	0.08	0.12	0.22	3.41	0.38	18.73	0.95	46.03	19.34	2.21
3.0	0.89	4.86	-2.5			0.38	0.00	0.08	0.07	0.23	3.83	0.42	14.45	1.28	30.28	11.35	1.56
3.0	0.90	5.22	-3.5			0.36	0.00	0.08	0.09	0.19	4.24	0.48	15.53	1.38	31.66	12.79	1.71
3.0	0.91	5.76	-4.5			0.32	0.01	0.09	0.08	0.15	4.46	0.50	12.67	1.05	24.88	9.66	1.32
			-10	> 63 µm	0.59	0.32	0.01	0.04	0.04	0.22	5.10	0.64	16.70	0.41	30.95	9.49	1.59
			-15		0.59	0.24	0.01	0.05	0.04	0.14	4.52	0.58	11.21	1.20	21.53	5.59	1.14
			-20		0.44	0.26	0.02	0.04	0.04	0.15	4.76	0.61	12.42	0.82	23.85	6.15	1.28
			-25		0.53	0.28	0.02	0.04	0.05	0.17	4.69	0.61	11.54	0.78	26.76	6.36	1.21
			-30		0.56	0.35	0.02	0.01	0.05	0.27	3.10	0.60	11.46	0.89	26.22	6.00	1.23
			-10	< 63 µm	0.41	0.28	0.01	0.04	0.03	0.20	3.88	0.45	9.70	0.78	16.03	3.73	0.88
			-15		0.41	0.26	0.01	0.01	0.03	0.21	4.03	0.47	10.02	0.78	17.66	4.36	0.96
			-20		0.56	0.21	0.01	0.03	0.03	0.14	3.75	0.39	9.50	0.66	17.82	4.34	0.91
			-25		0.47	0.23	0.02	0.02	0.03	0.16	3.70	0.42	9.90	0.49	17.64	4.50	0.97
			-30		0.44	0.20	0.02	0.02	0.03	0.13	3.54	0.37	10.83	0.57	21.76	4.95	1.03
3.0		5.87	-10	All particles		0.30	0.01	0.04	0.04	0.21	4.60	0.56	13.85	0.56	24.87	7.14	1.30
3.0		6.33	-15			0.25	0.01	0.03	0.04	0.17	4.32	0.53	10.72	1.02	19.94	5.08	1.07
3.0		7.06	-20			0.23	0.02	0.04	0.03	0.14	4.20	0.49	10.79	0.73	20.49	5.14	1.07
3.0		7.58	-25			0.26	0.02	0.03	0.04	0.17	4.22	0.52	10.77	0.64	22.45	5.48	1.10
3.0		7.54	-30			0.28	0.02	0.01	0.04	0.21	3.30	0.49	11.18	0.75	24.24	5.54	1.14

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g-1 DW	Loosely bound P mg g-1 DW	P bound to poorly crystalline Fe oxides mg g-1 DW	P extracted with 1M HCl mg g-1 DW	Residual P mg-1 DW	Percent carbon	Percent nitrogen	Total Fe mg g-1 DW	Fe in poorly crystalline Fe oxides mg g-1 DW	Total Al mg g-1 DW	Total Ca mg g-1 DW	Total Ti mg g-1 DW
Site 9: Mid Lake																	
			-0.5	> 63 µm	0.85	0.30	0.00	0.06	0.11	0.13	2.23	0.23	17.76	1.02	55.99	21.33	2.16
			-1.5		0.88	0.24	0.01	0.03	0.08	0.12	3.75	0.38	16.60	1.16	40.80	16.00	1.86
			-2.5		0.88	0.21	0.01	0.02	0.07	0.11	3.82	0.39	16.26	0.96	30.70	9.00	1.54
			-3.5		0.92	0.15	0.00	0.01	0.06	0.08	4.21	0.41	15.11	1.00	25.70	6.20	1.36
			-4.5		0.94	0.08	0.00	0.00	0.05	0.02	4.29	0.44	15.53	1.07	23.13	4.47	1.23
			-0.5	< 63 µm	0.17	0.34	0.00	0.08	0.10	0.16	3.85	0.42	13.10	1.33	25.50	13.09	1.61
			-1.5		0.15	0.29	0.00	0.02	0.07	0.19	3.59	0.38	13.40	1.02	51.50	9.81	1.64
			-2.5		0.15	0.20	0.01	0.03	0.06	0.10	2.73	0.25	12.04	0.81	20.20	10.14	1.21
			-3.5		0.11	0.11	0.00	0.01	0.06	0.05	2.61	0.24	9.17	0.60	14.81	9.23	0.79
			-4.5		0.09	0.16	0.01	0.01	0.00	0.14	2.79	0.24	12.63	NA	24.49	8.60	1.17
2.90	0.86	6.05	-0.5	All particles		0.31	0.00	0.06	0.11	0.14	2.55	0.27	17.32	1.09	51.98	20.37	2.11
2.90	0.87	5.73	-1.5			0.25	0.01	0.03	0.08	0.14	3.84	0.39	16.61	1.18	43.69	15.53	1.88
2.90	0.87	5.94	-2.5			0.21	0.01	0.02	0.07	0.11	3.76	0.38	16.08	0.96	29.99	9.41	1.53
2.90	0.88	5.64	-3.5			0.15	0.00	0.01	0.06	0.07	4.16	0.40	14.90	0.99	25.25	6.69	1.33
2.90	0.87	5.40	-4.5			0.08	0.00	0.01	0.05	0.03	4.28	0.44	15.72	1.01	23.92	4.96	1.27
			-10	> 63 µm	0.74	0.18	0.00	0.04	0.05	0.08	4.50	0.60	16.23	0.89	20.49	3.51	1.55
			-15		0.77	0.18	0.00	0.06	0.09	0.03	4.69	0.63	15.61	1.16	20.26	3.46	1.53
			-20		0.75	0.19	0.00	0.05	0.08	0.06	5.09	0.66	17.93	1.09	18.72	3.16	1.68
			-25		0.75	0.16	0.00	0.05	0.06	0.05	4.46	0.58	16.77	1.03	22.32	3.15	1.46
			-30		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			-10	< 63 µm	0.26	0.15	0.00	0.02	0.07	0.06	3.13	0.43	16.31	0.84	23.60	5.10	<1.52
			-15		0.23	0.15	0.00	0.03	0.06	0.06	3.50	0.48	15.20	0.72	24.27	5.43	<1.54
			-20		0.25	0.17	0.00	0.01	0.06	0.10	3.36	0.45	15.61	0.77	84.82	5.10	2.15
			-25		0.25	0.14	0.00	0.05	0.07	0.02	3.23	0.44	17.93	0.92	21.41	4.78	<1.53
			-30		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2.90		6.20	-10	All particles		0.17	0.00	0.04	0.05	0.08	4.15	0.56	16.25	0.88	21.30	3.92	1.55
2.90		6.25	-15			0.17	0.00	0.05	0.08	0.04	4.42	0.60	15.51	1.06	21.17	3.91	1.53
2.90		6.85	-20			0.19	0.00	0.04	0.08	0.07	4.65	0.60	17.34	1.01	35.36	3.65	1.80
2.90		6.51	-25			0.16	0.00	0.05	0.06	0.04	4.15	0.55	17.06	1.00	22.09	3.57	1.48
2.90		NA	-30			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 10: Near Hagelstein Park																	
			-0.5	> 63 µm	0.82	0.53	0.03	0.21	0.07	0.22	6.52	0.76	15.83	1.32	25.88	5.98	1.28
			-1.5		0.82	0.36	0.02	0.19	0.07	0.09	6.78	0.80	14.54	1.01	23.80	4.73	1.24
			-2.5		0.86	0.30	0.01	0.12	0.06	0.11	6.32	0.72	14.18	0.90	26.14	5.84	1.30
			-3.5		0.77	0.32	0.01	0.14	0.06	0.11	6.36	0.74	14.89	1.22	24.83	6.02	1.34
			-4.5		0.78	0.38	0.00	0.04	0.06	0.27	6.18	0.71	14.80	0.80	24.57	6.17	1.32
			-0.5	< 63 µm	0.21	0.33	0.03	0.10	0.10	0.10	5.13	0.59	10.52	1.22	41.88	8.89	1.35
			-1.5		0.21	0.46	0.01	0.11	0.08	0.26	4.88	0.58	13.66	0.95	21.10	11.83	1.24
			-2.5		0.14	0.45	0.00	0.31	0.09	0.05	5.33	0.61	11.09	0.69	28.68	7.66	1.30
			-3.5		0.23	0.35	0.01	0.15	0.09	0.11	5.05	0.58	11.01	0.88	36.39	7.91	1.26
			-4.5		0.22	0.38	0.01	0.10	0.08	0.19	5.08	0.58	12.29	0.75	25.18	7.26	1.35
1.6	0.92	6.48	-0.5	All particles		0.50	0.03	0.19	0.08	0.20	6.40	0.74	15.13	1.34	29.93	6.75	1.33
1.6	0.92	6.67	-1.5			0.40	0.02	0.18	0.07	0.13	6.61	0.78	14.86	1.03	24.05	6.38	1.28
1.6	0.91	6.40	-2.5			0.33	0.01	0.15	0.07	0.10	6.18	0.70	13.74	0.87	26.50	6.10	1.30
1.6	0.90	6.33	-3.5			0.32	0.01	0.14	0.07	0.11	6.06	0.70	14.01	1.14	27.45	6.45	1.32
1.6	0.89	6.50	-4.5			0.38	0.00	0.05	0.07	0.26	5.94	0.68	14.25	0.79	24.70	6.41	1.33
			-10	> 63 µm	0.49	0.23	0.00	0.03	0.06	0.14	4.24	0.58	16.37	1.09	31.01	8.36	1.38
			-15		0.46	0.17	0.00	0.04	0.05	0.08	3.33	0.49	18.72	1.00	29.42	6.97	1.40
			-20		0.40	0.17	0.00	0.06	0.15	-0.04	4.30	0.59	24.82	2.07	41.44	12.22	1.93
			-25		0.44	0.60	0.00	0.03	0.48	0.10	1.00	0.21	29.77	1.46	84.77	35.84	3.64
			-30		0.90	1.21	0.00	0.02	0.55	0.64	0.20	0.09	32.28	1.05	104.15	44.75	4.44
			-10	< 63 µm	0.51	0.16	0.00	0.04	0.05	0.08	3.37	0.46	13.50	0.90	24.44	4.92	1.06
			-15		0.54	0.18	0.00	0.05	0.05	0.08	2.99	0.40	16.82	0.85	25.99	5.15	1.23
			-20		0.60	0.10	0.00	0.04	0.06	0.00	2.97	0.40	18.57	1.13	27.42	4.91	1.23
			-25		0.56	0.17	0.00	0.07	0.08	0.02	3.46	0.47	27.56	1.63	29.28	5.96	1.74
			-30		0.10	0.72	0.00	0.14	0.29	0.29	3.20	0.41	43.51	4.69	44.65	11.89	4.35
1.6		6.46	-10	All particles		0.20	0.00	0.04	0.05	0.11	3.80	0.52	14.90	0.99	27.65	6.60	1.22
1.6		6.43	-15			0.18	0.00	0.05	0.05	0.08	3.14	0.44	17.69	0.92	27.55	5.98	1.31
1.6		6.23	-20			0.13	0.00	0.05	0.09	ND	3.50	0.48	21.07	1.51	33.02	7.83	1.51
1.6		5.99	-25			0.36	0.00	0.05	0.26	0.05	2.38	0.36	28.53	1.55	53.66	19.09	2.58
1.6		4.24	-30			1.15	0.00	0.03	0.52	0.60	0.51	0.12	33.45	1.43	97.92	41.31	4.43

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 11: Midway between Squaw Point and Eagle Ridge																	
			-0.5	> 63 μm	0.80	0.50	0.01	0.19	0.04	0.26	7.11	0.83	13.23	1.89	23.03	5.57	1.14
			-1.5		0.79	0.49	0.01	0.18	0.04	0.26	7.26	0.83	12.84	1.39	20.92	4.11	1.13
			-2.5		0.81	0.43	0.00	0.07	0.04	0.31	6.83	0.78	12.82	1.19	22.82	4.27	1.17
			-3.5		0.81	0.35	0.01	0.11	0.04	0.19	6.64	0.78	10.31	0.95	21.34	6.51	0.99
			-4.5		0.80	0.39	0.01	0.13	0.04	0.21	6.60	0.74	13.04	0.92	20.14	6.12	1.17
			-0.5	< 63 μm	0.20	0.51	0.01	0.17	0.00	0.33	6.14	0.72	12.38	1.84	17.82	3.36	1.11
			-1.5		0.21	0.46	0.01	0.12	0.04	0.29	6.11	0.68	11.84	1.37	17.60	4.99	1.12
			-2.5		0.19	0.43	0.01	0.04	0.02	0.36	5.83	0.64	11.99	1.20	17.74	2.70	1.14
			-3.5		0.19	0.44	0.02	0.11	0.04	0.27	5.83	0.66	11.40	0.95	21.43	4.22	1.13
			-4.5		0.20	0.36	0.01	0.10	0.05	0.21	5.45	0.61	11.60	0.87	20.82	2.43	1.15
2.3	0.93	6.16	-0.5	All particles		0.50	0.01	0.19	0.03	0.27	6.91	0.81	13.06	1.88	21.97	5.12	1.14
2.3	0.92	6.02	-1.5			0.49	0.01	0.17	0.04	0.26	7.02	0.80	12.63	1.38	20.24	4.29	1.13
2.3	0.91	5.84	-2.5			0.43	0.01	0.06	0.04	0.32	6.64	0.75	12.66	1.20	21.84	3.97	1.16
2.3	0.90	6.61	-3.5			0.37	0.01	0.11	0.04	0.20	6.48	0.76	10.52	0.95	21.35	6.07	1.02
2.3	0.90	6.35	-4.5			0.39	0.01	0.13	0.04	0.21	6.37	0.71	12.76	0.91	20.27	5.39	1.17
			-10	> 63 μm	0.58	0.39	0.05	0.07	0.04	0.23	6.66	0.95	13.00	0.59	20.19	12.80	1.09
			-15		0.59	0.32	0.04	0.04	0.03	0.21	6.33	0.92	12.38	0.55	20.83	12.92	1.07
			-20		0.58	0.33	0.03	0.05	0.04	0.20	6.41	0.95	11.81	0.74	21.34	13.59	1.05
			-25		0.64	0.30	0.03	0.05	0.04	0.19	5.75	0.85	11.16	0.70	20.55	13.90	1.01
			-30		0.64	0.21	0.04	0.05	0.04	0.08	5.36	0.77	10.55	1.38	21.26	14.13	0.97
			-10	< 63 μm	0.42	0.39	0.07	0.07	0.07	0.19	5.13	0.69	11.64	0.64	19.92	4.45	1.08
			-15		0.41	0.28	0.03	0.04	0.05	0.16	4.83	0.68	11.55	0.54	21.48	13.21	0.99
			-20		0.42	0.24	0.03	0.03	0.04	0.15	4.64	0.65	9.55	0.52	17.66	12.68	0.83
			-25		0.36	0.28	0.02	0.03	0.03	0.19	4.07	0.58	8.76	0.49	17.77	13.35	0.80
			-30		0.36	0.25	0.03	0.04	0.05	0.12	3.75	0.53	8.77	0.56	16.79	13.90	0.79
2.3		6.62	-10	All particles		0.39	0.06	0.07	0.05	0.21	6.02	0.84	12.43	0.61	20.08	9.30	1.08
2.3		6.72	-15			0.30	0.03	0.04	0.04	0.19	5.72	0.82	12.04	0.54	21.09	13.04	1.04
2.3		6.65	-20			0.29	0.03	0.04	0.04	0.18	5.66	0.82	10.85	0.65	19.78	13.20	0.96
2.3		6.48	-25			0.29	0.03	0.04	0.03	0.19	5.15	0.75	10.31	0.62	19.56	13.70	0.94
2.3		6.57	-30			0.23	0.04	0.05	0.05	0.10	4.78	0.68	9.91	1.08	19.65	14.04	0.90

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g-1 DW	Loosely bound P mg g-1 DW	P bound to poorly crystalline Fe oxides mg g-1 DW	P extracted with 1M HCl mg g-1 DW	Residual P mg-1 DW	Percent carbon	Percent nitrogen	Total Fe mg g-1 DW	Fe in poorly crystalline Fe oxides mg g-1 DW	Total Al mg g-1 DW	Total Ca mg g-1 DW	Total Ti mg g-1 DW
Site 12: North of Mid Lake																	
			-0.5	> 63 µm	0.75	0.37	0.01	0.15	0.08	0.13	5.95	0.66	15.84	1.49	32.56	10.45	1.72
			-1.5		0.79	0.35	0.01	0.09	0.07	0.18	5.28	0.57	15.34	1.09	24.85	8.73	1.51
			-2.5		0.76	0.40	0.00	0.09	0.06	0.25	5.25	0.59	14.96	1.23	26.71	9.82	1.56
			-3.5		0.77	0.44	0.00	0.04	0.06	0.33	5.52	0.61	15.74	0.89	29.67	10.24	1.62
			-4.5		0.79	0.45	0.01	0.10	0.06	0.29	5.76	0.61	16.91	0.87	34.70	11.56	1.76
			-0.5	< 63 µm	0.25	0.42	0.02	0.11	0.10	0.18	5.18	0.50	15.67	1.36	31.08	10.70	1.63
			-1.5		0.21	0.34	0.02	0.07	0.09	0.17	4.37	0.46	14.29	0.87	27.70	9.17	1.53
			-2.5		0.24	0.34	0.01	0.07	0.08	0.19	4.84	0.46	14.34	0.85	28.13	8.58	1.49
			-3.5		0.23	0.34	0.01	0.08	0.08	0.17	4.55	0.43	15.12	0.71	28.03	8.28	1.52
			-4.5		0.21	0.33	0.01	0.08	0.09	0.15	4.70	0.42	15.28	0.70	29.34	8.86	1.57
2.2	0.90	6.16	-0.5	All particles		0.38	0.02	0.14	0.09	0.14	5.75	0.62	15.80	1.46	32.19	10.51	1.69
2.2	0.89	5.70	-1.5			0.35	0.01	0.08	0.08	0.18	5.09	0.55	15.13	1.05	25.44	8.82	1.51
2.2	0.89	5.66	-2.5			0.39	0.00	0.08	0.07	0.23	5.15	0.56	14.81	1.14	27.06	9.51	1.55
2.2	0.88	5.88	-3.5			0.42	0.00	0.05	0.06	0.30	5.29	0.57	15.60	0.85	29.29	9.79	1.60
2.2	0.89	5.83	-4.5			0.42	0.01	0.09	0.06	0.26	5.53	0.57	16.57	0.84	33.56	10.99	1.72
			-10	> 63 µm	0.63	0.22	0.00	0.03	0.04	0.15	5.61	0.80	9.92	0.69	17.72	3.73	0.93
			-15		0.61	0.29	0.01	0.04	0.04	0.20	5.32	0.74	9.59	0.71	18.90	4.04	0.92
			-20		0.57	0.33	0.00	0.04	0.06	0.23	5.11	0.70	9.78	0.94	21.15	5.37	1.00
			-25		0.54	0.21	0.01	0.05	0.04	0.11	4.56	0.59	10.66	0.73	24.22	5.02	1.13
			-30		0.51	0.17	0.01	0.04	0.04	0.09	3.66	0.54	9.68	0.68	21.53	3.75	1.03
			-10	< 63 µm	0.37	0.27	0.00	0.02	0.04	0.20	3.26	0.51	10.02	0.51	21.40	14.15	0.94
			-15		0.39	0.22	0.01	0.03	0.05	0.13	3.15	0.51	10.89	0.70	24.13	6.47	1.12
			-20		0.43	0.35	0.00	0.02	0.06	0.27	3.01	0.49	10.96	0.69	25.09	6.54	1.22
			-25		0.46	0.18	0.01	0.03	0.05	0.08	2.86	0.47	10.20	0.61	22.93	4.94	1.04
			-30		0.49	0.25	0.01	0.03	0.04	0.18	3.65	0.42	8.92	0.54	20.27	3.63	0.92
2.2		6.55	-10	All particles		0.24	0.00	0.02	0.04	0.17	4.74	0.69	9.96	0.62	19.08	7.57	0.93
2.2		6.61	-15			0.26	0.01	0.03	0.04	0.18	4.47	0.65	10.09	0.70	20.94	4.99	1.00
2.2		5.99	-20			0.34	0.00	0.03	0.06	0.24	4.20	0.61	10.29	0.83	22.86	5.88	1.10
2.2		6.76	-25			0.20	0.01	0.04	0.05	0.10	3.79	0.53	10.45	0.67	23.63	4.98	1.09
2.2		6.64	-30			0.21	0.01	0.03	0.04	0.13	3.65	0.48	9.30	0.61	20.91	3.69	0.97

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 13: South of Modoc Point																	
			-0.5	> 63 µm	0.75	0.35	0.04	0.13	0.09	0.09	4.69	0.47	18.47	1.01	40.49	13.62	1.78
			-1.5		0.78	0.33	0.01	0.15	0.09	0.08	4.85	0.47	17.63	1.20	34.65	11.96	1.71
			-2.5		0.80	0.32	0.01	0.14	0.07	0.09	4.80	0.47	17.47	1.05	33.82	11.24	1.70
			-3.5		0.82	0.31	0.01	0.08	0.07	0.16	5.07	0.51	16.96	0.92	30.24	9.09	1.56
			-4.5		0.81	0.39	0.02	0.04	0.05	0.28	6.51	0.80	13.78	0.76	20.96	4.57	1.28
			-0.5	< 63 µm	0.25	0.43	0.03	0.02	0.10	0.28	4.47	0.42	17.58	1.06	34.29	11.58	1.78
			-1.5		0.22	0.37	0.02	0.02	0.10	0.23	4.36	0.38	16.94	0.94	33.23	10.41	1.71
			-2.5		0.20	0.36	0.01	0.02	0.09	0.24	3.86	0.34	16.54	0.96	29.35	10.48	1.70
			-3.5		0.18	0.38	0.01	0.02	0.09	0.26	4.20	0.37	17.19	0.91	31.32	11.35	1.56
			-4.5		0.19	0.45	0.03	0.05	0.06	0.31	5.47	0.52	14.06	0.69	23.10	6.56	1.28
1.5	0.91	6.81	-0.5	All particles		0.37	0.04	0.10	0.09	0.14	4.64	0.46	18.25	1.02	38.94	13.11	1.78
1.5	0.90	6.48	-1.5			0.34	0.01	0.12	0.09	0.11	4.74	0.45	17.48	1.14	34.33	11.62	1.71
1.5	0.89	6.41	-2.5			0.33	0.01	0.12	0.07	0.12	4.61	0.44	17.28	1.03	32.91	11.09	1.70
1.5	0.89	6.41	-3.5			0.32	0.01	0.07	0.07	0.17	4.91	0.48	17.00	0.92	30.43	9.50	1.56
1.5	0.91	6.22	-4.5			0.40	0.02	0.04	0.05	0.29	6.32	0.75	13.83	0.75	21.36	4.94	1.28
			-10	> 63 µm	0.55	0.23	0.02	0.04	0.05	0.13	5.30	0.64	14.09	0.91	26.56	5.74	1.35
			-15		0.59	0.22	0.03	0.04	0.04	0.12	5.35	0.66	12.56	0.72	24.08	4.85	1.14
			-20		0.57	0.21	0.03	0.04	0.03	0.12	5.40	0.65	10.91	0.66	20.57	4.53	1.05
			-25		0.62	0.27	0.03	0.02	0.04	0.18	5.46	0.82	9.86	0.63	18.95	4.03	0.92
			-30		0.62	0.28	0.03	0.04	0.04	0.17	4.81	0.69	9.93	0.72	17.56	4.36	0.88
			-10	< 63 µm	0.45	0.66	0.02	0.04	0.06	0.53	4.66	0.63	14.48	0.86	29.98	6.78	1.53
			-15		0.41	0.28	0.03	0.02	0.05	0.18	4.33	0.61	11.33	0.62	21.32	4.62	1.12
			-20		0.43	0.32	0.02	0.03	0.04	0.23	4.45	0.64	9.68	0.53	20.14	4.07	1.01
			-25		0.38	0.29	0.02	0.05	0.04	0.18	4.31	0.62	9.12	0.52	18.35	5.51	0.93
			-30		0.38	0.15	0.02	0.03	0.05	0.05	4.12	0.59	10.32	0.65	25.27	5.14	1.00
1.5		6.65	-10	All particles		0.43	0.02	0.04	0.05	0.31	5.01	0.64	14.26	0.89	28.09	6.20	1.43
1.5		6.72	-15			0.25	0.03	0.03	0.04	0.15	4.94	0.64	12.06	0.68	22.96	4.76	1.13
1.5		6.99	-20			0.26	0.02	0.03	0.04	0.17	4.99	0.64	10.38	0.60	20.38	4.33	1.03
1.5		7.10	-25			0.27	0.02	0.03	0.04	0.18	5.02	0.75	9.58	0.59	18.73	4.59	0.92
1.5		6.99	-30			0.23	0.02	0.03	0.04	0.13	4.55	0.65	10.08	0.69	20.52	4.66	0.92

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 14: Ball Bay																	
			-0.5	> 63 µm	0.82	0.56	0.02	0.20	0.05	0.31	7.77	0.98	15.08	1.71	22.52	3.14	1.33
			-1.5		0.75	0.57	0.02	0.20	0.04	0.31	7.73	0.98	14.86	1.26	23.18	3.09	1.36
			-2.5		0.77	0.52	0.02	0.20	0.06	0.24	8.35	1.05	14.99	1.37	22.39	3.01	1.31
			-3.5		0.83	0.45	0.01	0.16	0.05	0.23	8.49	1.10	16.21	1.07	22.43	3.27	1.33
			-4.5		0.79	0.51	0.01	0.14	0.04	0.33	8.23	1.06	17.02	0.84	22.66	2.94	1.34
			-0.5	< 63 µm	0.18	0.48	0.02	0.19	0.05	0.23	6.64	0.80		1.82			
			-1.5		0.25		0.02	0.15	0.04		6.36	0.78	13.62	1.15	21.26	5.10	1.19
			-2.5		0.23	0.47	0.01	0.13	0.04	0.29	6.36	0.76		0.87			
			-3.5		0.17	0.39	0.02	0.12	0.04	0.21	6.20	0.74	14.05	0.81	22.08	5.30	1.20
			-4.5		0.21	0.41	0.01	0.11	0.04	0.26	6.17	0.74	14.43	0.77	22.42	5.25	1.23
1.0	0.88	5.99	-0.5	All particles		0.55	0.02	0.19	0.05	0.29	7.57	0.95	12.39	1.73	18.49	2.58	1.09
1.0	0.91	6.72	-1.5			0.43	0.02	0.19	0.04	0.23	7.38	0.93	14.54	1.23	22.69	3.60	1.32
1.0	0.88	6.25	-2.5			0.50	0.02	0.18	0.05	0.25	7.88	0.98	11.48	1.25	17.15	2.31	1.00
1.0	0.90	6.20	-3.5			0.44	0.02	0.15	0.05	0.23	8.10	1.04	15.84	1.03	22.37	3.62	1.31
1.0	0.88	6.17	-4.5			0.49	0.01	0.13	0.04	0.31	7.80	1.00	16.49	0.83	22.61	3.42	1.32
			-10	> 63 µm	0.76	0.22	0.00	0.08	0.03	0.11	6.80	0.96	13.66	0.89	18.77	<2.49	1.08
			-15		0.57	0.22	0.00	0.06	0.02	0.13	5.94	0.79	10.82	0.71	19.18	<2.48	1.02
			-20		0.66	0.16	0.01	0.06	0.02	0.07	5.75	0.77	12.16	0.44	19.67	<2.50	1.06
			-25		0.65	0.12	0.01	0.04	0.02	0.05	6.24	0.86	10.83	0.35	17.91	<2.49	1.00
			-30		0.67	0.13	0.01	0.03	0.02	0.07	5.94	0.85	9.49	0.32	15.73	<2.49	0.90
			-10	< 63 µm	0.24	0.29	0.00	0.05	0.02	0.21	4.69	0.65	11.00	0.58	17.67	4.10	0.88
			-15		0.43	0.19	0.00	0.04	0.02	0.14	3.87	0.52	8.09	0.44	14.46	2.87	0.70
			-20		0.34	0.22	0.00	0.03	0.02	0.17	3.63	0.49	9.16	0.29	14.24	2.72	0.68
			-25		0.35	0.21	0.00	0.02	0.02	0.16	4.21	0.56	8.34	0.25	12.92	<2.49	0.67
			-30		0.33	0.14	0.00	0.02	0.01	0.11	3.73	0.50	7.29	0.19	11.52	<2.50	0.59
1.0		5.76	-10	All particles		0.24	0.00	0.07	0.03	0.14	6.29	0.88	13.02	0.82	18.50	1.36	1.03
1.0		5.89	-15			0.21	0.00	0.05	0.02	0.13	5.04	0.67	9.64	0.60	17.13	1.51	0.88
1.0		6.48	-20			0.18	0.01	0.05	0.02	0.10	5.03	0.67	11.14	0.39	17.82	1.26	0.93
1.0		6.55	-25			0.15	0.01	0.03	0.02	0.09	5.52	0.75	9.95	0.32	16.16	0.49	0.88
1.0		7.05	-30			0.13	0.01	0.03	0.02	0.08	5.21	0.74	8.77	0.28	14.35	0.50	0.80

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 15: Shoalwater Bay																	
			-0.50	> 63 μm	0.59	0.59	0.06	0.15	0.05	0.34	9.17	1.05	15.00	4.30	21.10	5.73	1.25
			-1.50		0.75	0.55	0.04	0.14	0.04	0.33	8.48	1.00	14.26	1.82	21.43	5.52	1.24
			-2.50		0.73	0.47	0.05	0.10	0.04	0.28	8.36	1.01	14.98	1.28	22.11	5.48	1.28
			-3.50		0.68	0.47	0.03	0.08	0.04	0.32	8.38	1.00	15.97	1.26	23.01	5.65	1.35
			-4.50		0.61	0.47	0.03	0.07	0.04	0.32	8.45	1.02	14.95	1.12	22.10	5.29	1.29
			-0.50	< 63 μm	0.41	0.62	0.06	0.14	0.05	0.36	7.47	0.85	12.78	2.34	19.57	5.28	1.11
			-1.50		0.25	0.55	0.06	0.13	0.06	0.31	6.88	0.82	12.58	1.65	20.38	5.13	1.13
			-2.50		0.27	0.50	0.04	0.08	0.04	0.34	6.47	0.76	12.62	1.13	20.37	5.04	1.14
			-3.50		0.32	0.42	0.04	0.07	0.05	0.26	6.54	0.75	13.19	1.15	20.93	4.98	1.16
			-4.50		0.39	0.44	0.03	0.06	0.05	0.30	6.22	0.72	10.75	0.88	16.71	3.77	0.89
1.0	0.86	5.76	-0.50	All particles		0.60	0.06	0.15	0.05	0.35	8.47	0.97	14.09	3.50	20.47	5.55	1.19
1.0	0.90	6.48	-1.50			0.55	0.05	0.14	0.05	0.32	8.08	0.95	13.84	1.78	21.16	5.42	1.21
1.0	0.89	6.68	-2.50			0.48	0.05	0.10	0.04	0.30	7.84	0.94	14.34	1.24	21.63	5.36	1.24
1.0	0.88	6.21	-3.50			0.45	0.03	0.08	0.04	0.30	7.79	0.92	15.07	1.22	22.34	5.43	1.28
1.0	0.87	6.61	-4.50			0.45	0.03	0.07	0.05	0.31	7.58	0.90	13.31	1.03	19.99	4.70	1.14
			-10	> 63 μm	0.57	0.32	0.01	0.03	0.03	0.24	6.53	0.88	12.75	0.43	18.34	4.10	1.06
			-15		0.60	0.23	0.01	0.06	0.03	0.13	4.52	0.61	8.37	0.53	14.81	3.04	0.80
			-20		0.48	0.24	0.01	0.03	0.03	0.17	5.21	0.68	10.38	0.49	18.40	3.63	1.00
			-25		0.51	0.31	0.02	0.03	0.03	0.22	5.14	0.67	11.85	0.78	22.98	4.29	1.15
			-30		0.42	0.30	0.01	0.05	0.04	0.20	5.89	0.74	13.74	0.65	24.08	4.63	1.28
			-10	< 63 μm	0.43	0.28	0.01	0.03	0.05	0.20	4.43	0.54	9.52	0.48	13.02	3.98	0.81
			-15		0.40	0.19	0.01	0.03	0.05	0.11	4.01	0.51	7.84	0.52	11.58	3.00	0.71
			-20		0.52	0.30	0.01	ND	0.03	0.29	4.04	0.51	8.05	0.48	11.27	2.86	0.72
			-25		0.49	0.19	0.01	0.03	0.04	0.12	3.87	0.49	9.07	0.42	13.20	3.17	0.78
			-30		0.58	0.19	0.01	0.02	0.04	0.12	3.79	0.46	9.85	0.47	13.24	2.75	0.77
1.0		6.62	-10	All particles		0.30	0.01	0.03	0.04	0.22	5.64	0.74	11.37	0.45	16.07	4.05	0.95
1.0		6.47	-15			0.21	0.01	0.04	0.04	0.12	4.32	0.57	8.16	0.53	13.52	3.02	0.77
1.0		6.30	-20			0.27	0.01	0.00	0.03	0.23	4.60	0.59	9.16	0.48	14.69	3.23	0.85
1.0		6.56	-25			0.25	0.01	0.03	0.03	0.17	4.52	0.58	10.50	0.60	18.22	3.74	0.97
1.0		7.17	-30			0.24	0.01	0.03	0.04	0.15	4.67	0.58	11.48	0.55	17.79	3.54	0.99

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 16: Bare Island																	
			-0.5	> 63 µm	0.76	0.50	0.03	0.13	0.05	0.29	6.81	0.83	13.75	1.56	20.03	4.98	1.22
			-1.5		0.81	0.52	0.02	0.12	0.05	0.34	6.61	0.82	13.49	1.40	19.43	5.14	1.22
			-2.5		0.80	0.42	0.02	0.08	0.05	0.28	6.37	0.79	13.04	1.07	19.52	5.21	1.24
			-3.5		0.76	0.45	0.02	0.09	0.06	0.28	6.61	0.85	13.97	0.87	21.05	5.21	1.27
			-4.5		0.83	0.36	0.01	0.06	0.07	0.22	5.32	0.65	16.20	1.20	29.01	8.59	1.52
			-0.5	< 63 µm	0.24	0.44	0.03	0.12	0.06	0.23	0.83	0.69	13.31	1.38	21.25	6.34	1.22
			-1.5		0.19	0.45	0.02	0.10	0.06	0.27	0.82	0.69	13.42	1.57	21.48	6.30	1.22
			-2.5		0.22	0.41	0.02	0.10	0.06	0.24	0.79	0.65	13.31	1.02	22.87	6.46	1.25
			-3.5		0.25	0.40	0.03	0.07	0.06	0.24	0.85	0.63	13.34	0.68	22.24	6.29	1.25
			-4.5		0.18	0.31	0.01	0.05	0.11	0.14	0.65	0.48	17.87	1.08	34.11	12.15	1.82
2.1	0.93	6.13	-0.5	All particles		0.49	0.03	0.13	0.05	0.27	5.38	0.80	13.64	1.51	20.32	5.30	1.22
2.1	0.92	6.21	-1.5			0.51	0.02	0.12	0.05	0.33	5.50	0.80	13.48	1.43	19.82	5.36	1.22
2.1	0.91	6.32	-2.5			0.43	0.02	0.08	0.05	0.27	5.24	0.77	13.31	1.08	20.57	5.57	1.26
2.1	0.91	6.61	-3.5			0.44	0.02	0.08	0.06	0.27	5.23	0.80	13.97	0.83	21.60	5.55	1.28
2.1	0.87	6.38	-4.5			0.36	0.01	0.06	0.08	0.21	4.53	0.62	16.58	1.19	30.08	9.27	1.58
			-10	> 63 µm	0.53	0.32	0.01	0.06	0.05	0.20	6.24	0.83	13.35	0.67	20.41	4.60	1.22
			-15		0.53	0.29	0.01	0.09	0.05	0.13	6.11	0.82	13.29	1.09	23.18	4.48	1.25
			-20		0.48	0.39	0.02	0.10	0.05	0.23	6.29	0.83	12.77	0.66	24.39	4.28	1.23
			-25		0.54	0.36	0.03	0.09	0.06	0.18	6.41	0.81	11.83	0.59	24.16	3.68	1.15
			-30		0.57	0.36	0.04	0.08	0.05	0.19	6.01	0.77	11.16	0.50	22.63	3.75	1.05
			-10	< 63 µm	0.47	0.17	0.01	0.06	0.05	0.05	4.41	0.50	12.10	0.55	22.39	4.94	1.14
			-15		0.47	0.23	0.01	0.08	0.05	0.10	4.48	0.53	10.27	0.92	21.62	4.31	1.02
			-20		0.52	0.27	0.02	0.01	0.04	0.20	4.47	0.53	11.38	0.68	21.78	4.20	1.11
			-25		0.46	0.18	0.03	0.08	0.05	0.01	4.47	0.52	10.49	0.56	20.14	4.45	1.02
			-30		0.43	0.47	0.04	0.07	0.04	0.32	4.39	0.52	10.01	0.44	18.33	4.33	0.95
2.1		6.66	-10	All particles		0.25	0.01	0.06	0.05	0.13	5.38	0.68	12.76	0.62	21.34	4.76	1.18
2.1		6.52	-15			0.26	0.01	0.09	0.05	0.12	5.35	0.69	11.88	1.01	22.45	4.40	1.15
2.1		6.74	-20			0.33	0.02	0.05	0.04	0.21	5.34	0.67	12.04	0.67	23.02	4.24	1.16
2.1		6.84	-25			0.28	0.03	0.09	0.05	0.10	5.52	0.68	11.21	0.58	22.32	4.03	1.09
2.1		6.87	-30			0.40	0.04	0.08	0.05	0.24	5.32	0.67	10.67	0.48	20.79	4.00	1.01

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 17: Modoc Point																	
			-0.5	> 63 µm	0.78	0.41	0.00	0.11	0.09	0.22	4.67	0.44	19.59	1.91	45.11	14.24	1.91
			-1.5		0.76	0.35	0.00	0.04	0.09	0.21	5.36	0.50	18.13	1.42	33.94	9.90	1.69
			-2.5		0.72	0.31	0.00	0.03	0.07	0.22	5.58	0.49	15.39	1.20	29.76	7.94	1.48
			-3.5		0.71	0.35	0.00	0.04	0.08	0.24	5.58	0.51	16.19	1.19	31.27	11.02	1.68
			-4.5		0.74	0.34	0.00	0.01	0.06	0.27	5.53	0.49	18.42	1.20	30.72	9.19	1.62
			-0.5	< 63 µm	0.23	0.44	0.00	0.13	0.11	0.19	4.55	0.43	17.52	1.75	41.23	12.10	1.90
			-1.5		0.27	0.36	0.00	0.09	0.09	0.17	4.37	0.41	16.71	1.20	37.08	10.48	1.67
			-2.5		0.28	0.24	0.00	0.13	0.09	0.02	4.36	0.42	10.42	1.03	25.42	7.44	1.28
			-3.5		0.29	0.34	0.00	0.09	0.08	0.17	4.50	0.43	14.84	1.12	35.51	8.41	1.59
			-4.5		0.26	0.34	0.00	0.09	0.08	0.17	4.52	0.42	14.52	1.07	30.98	8.23	1.58
1.8	0.89	5.68	-0.5	All particles		0.42	0.00	0.11	0.09	0.22	4.69	0.44	19.31	1.89	44.66	13.89	1.92
1.8	0.90	6.15	-1.5			0.36	0.00	0.06	0.09	0.21	5.22	0.49	18.18	1.39	35.58	10.29	1.72
1.8	0.90	6.40	-2.5			0.29	0.00	0.06	0.07	0.16	5.24	0.47	13.99	1.15	28.54	7.80	1.42
1.8	0.89	6.34	-3.5			0.35	0.00	0.05	0.08	0.22	5.26	0.49	15.79	1.17	32.52	10.26	1.66
1.8	0.88	6.33	-4.5			0.34	0.00	0.03	0.07	0.24	5.27	0.47	17.40	1.17	30.79	8.94	1.61
			-10	> 63 µm	0.51	0.27	0.01	0.06	0.05	0.16	6.34	0.89	14.47	0.85	26.36	5.98	1.36
			-15		0.54	0.14	0.01	0.05	0.04	0.04	5.99	0.86	11.85	0.74	22.90	5.33	1.10
			-20		0.46	0.16	0.02	0.05	0.06	0.03	5.52	0.76	11.20	0.80	20.29	4.84	1.07
			-25		0.43	0.25	0.02	0.06	0.07	0.10	4.99	0.67	12.15	1.01	28.58	6.68	1.30
			-30		0.45	0.16	0.02	0.06	0.04	0.04	5.01	0.66	11.13	0.74	24.07	5.66	1.17
			-10	< 63 µm	0.49	0.30	0.01	0.07	0.06	0.16	4.29	0.58	13.59	0.69	28.36	6.87	1.37
			-15		0.46	0.27	0.01	0.03	0.04	0.18	4.16	0.58	11.17	0.59	24.47	5.59	1.10
			-20		0.54	0.26	0.01	0.04	0.05	0.16	3.97	0.56	9.78	0.65	21.40	5.02	0.94
			-25		0.57	0.28	0.01	0.05	0.05	0.18	3.93	0.55	10.66	0.72	21.18	4.78	0.97
			-30		0.55	0.23	0.01	0.04	0.04	0.14	3.92	0.54	9.76	0.53	19.54	4.59	0.95
1.8		6.60	-10	All particles		0.29	0.01	0.06	0.05	0.16	5.35	0.74	8.10	0.77	14.93	3.41	0.76
1.8		6.57	-15			0.20	0.01	0.04	0.04	0.11	5.14	0.73	11.53	0.67	23.63	5.45	1.10
1.8		6.47	-20			0.21	0.01	0.04	0.06	0.10	4.69	0.65	10.44	0.72	20.88	4.94	1.00
1.8		6.32	-25			0.26	0.01	0.05	0.06	0.14	4.39	0.60	11.30	0.84	24.35	5.59	1.11
1.8		6.69	-30			0.20	0.01	0.05	0.04	0.10	4.41	0.59	10.38	0.62	21.59	5.07	1.05

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g-1 DW	Loosely bound P mg g-1 DW	P bound to poorly crystalline Fe oxides mg g-1 DW	P extracted with 1M HCl mg g-1 DW	Residual P mg-1 DW	Percent carbon	Percent nitrogen	Total Fe mg g-1 DW	Fe in poorly crystalline Fe oxides mg g-1 DW	Total Al mg g-1 DW	Total Ca mg g-1 DW	Total Ti mg g-1 DW
Site 18: Mouth of Ball Bay																	
			-0.5	> 63 µm	0.74	0.56	0.01	0.18	0.04	0.34	7.39	0.86	13.90	1.75	20.03	3.56	1.16
			-1.5		0.74	0.48	0.01	0.14	0.04	0.29	7.31	0.84	13.28	1.18	21.20	3.89	1.17
			-2.5		0.69	0.46	0.01	0.14	0.04	0.27	7.10	0.82	12.81	1.08	22.59	4.07	1.17
			-3.5		0.77	0.29	0.00	0.07	0.04	0.18	6.83	0.80	6.29	1.13	8.41	1.32	0.76
			-4.5		0.75	0.44	0.00	0.07	0.04	0.33	6.86	0.81	13.06	1.08	20.38	3.92	1.15
			-0.5	< 63 µm	0.26	0.48	0.01	0.17	0.04	0.26	6.39	0.64	11.67	1.64	12.91	3.67	0.99
			-1.5		0.26	0.42	0.01	0.13	0.04	0.24	6.19	0.61	11.70	1.15	16.90	3.67	1.06
			-2.5		0.31	0.39	0.00	0.08	0.04	0.26	6.00	0.59	11.48	1.02	19.54	4.12	1.07
			-3.5		0.23	0.40	0.01	0.09	0.04	0.27	5.91	0.59	11.57	1.05	17.82	4.44	1.03
			-4.5		0.25	0.39	0.00	0.07	0.04	0.28	5.93	0.61	11.72	1.02	13.58	4.18	1.03
3.7	0.92	6.28	-0.5	All particles		0.54	0.01	0.18	0.04	0.32	7.13	0.80	13.32	1.72	18.18	3.59	1.12
3.7	0.91	6.34	-1.5			0.46	0.01	0.14	0.04	0.27	7.02	0.78	12.86	1.17	20.07	3.83	1.14
3.7	0.89	6.40	-2.5			0.44	0.00	0.12	0.04	0.27	6.76	0.75	12.40	1.06	21.64	4.09	1.14
3.7	0.88	6.35	-3.5			0.32	0.00	0.07	0.04	0.20	6.62	0.75	7.52	1.11	10.60	2.05	0.83
3.7	0.88	6.43	-4.5			0.43	0.00	0.07	0.04	0.32	6.63	0.76	12.73	1.07	18.70	3.99	1.12
			-10	> 63 µm	0.42	0.43	0.02	0.09	0.04	0.28	6.73	0.93	15.31	0.88	25.68	4.14	1.42
			-15		0.41	0.42	0.01	0.11	0.05	0.25	6.90	0.97	15.19	0.76	25.04	4.22	1.41
			-20		0.41	0.35	0.01	0.11	0.05	0.19	6.87	1.00	13.53	1.01	21.68	3.83	1.25
			-25		0.52	0.33	0.03	0.06	0.04	0.21	6.38	0.93	12.13	0.57	19.71	3.50	1.07
			-30		0.59	0.15	0.04	0.03	0.04	0.04	4.72	0.70	8.37	3.44	15.12	2.80	0.75
			-10	< 63 µm	0.58	0.33	0.02	0.09	0.05	0.17	4.95	0.68	12.14	0.80	21.53	3.75	1.17
			-15		0.59	0.32	0.02	0.12	0.05	0.14	5.18	0.72	12.40	0.67	21.92	3.75	1.19
			-20		0.59	0.30	0.01	0.05	0.04	0.19	4.98	0.72	12.44	0.82	20.93	3.56	1.13
			-25		0.48	0.31	0.03	0.06	0.04	0.19	4.67	0.66	10.21	1.04	20.96	3.22	0.97
			-30		0.41	0.33	0.02	0.01	0.04	0.26	4.36	0.60	9.12	0.48	18.23	3.51	0.84
3.7		6.75	-10	All particles		0.38	0.02	0.09	0.05	0.22	5.71	0.79	13.48	0.83	23.29	3.92	1.28
3.7		6.80	-15			0.36	0.01	0.12	0.05	0.18	5.88	0.82	13.54	0.70	23.19	3.94	1.28
3.7		6.52	-20			0.32	0.01	0.07	0.04	0.19	5.76	0.84	12.89	0.90	21.24	3.67	1.18
3.7		7.01	-25			0.32	0.03	0.06	0.04	0.20	5.56	0.80	11.21	0.79	20.31	3.37	1.02
3.7		6.91	-30			0.22	0.03	0.02	0.04	0.13	4.57	0.66	8.68	2.21	16.41	3.09	0.79

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 19: Eagle Point																	
			-0.5	> 63 µm	0.70	0.49	0.03	0.16	0.05	0.25	7.29	0.88	14.61	1.69	19.40	5.39	1.23
			-1.5		0.80	0.44	0.03	0.13	0.05	0.24	6.97	0.84	13.84	1.26	19.39	5.16	1.19
			-2.5		0.76	0.40	0.03	0.10	0.04	0.23	6.95	0.84	13.77	0.86	18.17	4.96	1.14
			-3.5		0.78	0.35	0.02	0.10	0.04	0.18	6.68	0.88	14.00	0.87	20.66	6.05	1.22
			-4.5		0.80	0.47	0.01	0.05	0.04	0.36	6.63	0.89	13.50	0.57	18.46	5.61	1.17
			-0.5	< 63 µm	0.30	0.34	0.03	0.12	0.05	0.14	6.19	0.75	13.73	1.61	18.64	4.86	1.16
			-1.5		0.20	0.40	0.03	0.10	0.05	0.22	5.75	0.67	12.98	1.18	21.51	5.74	1.19
			-2.5		0.24	0.34	0.03	0.11	0.05	0.15	5.64	0.67	12.89	0.84	20.14	5.36	1.15
			-3.5		0.22	0.31	0.03	0.08	0.05	0.15	5.73	0.68	13.12	0.85	23.25	5.56	1.20
			-4.5		0.20	0.31	0.02	0.05	0.05	0.19	5.51	0.63	13.46	0.78	21.11	5.43	1.19
2.7	0.93	6.78	-0.5	All particles		0.45	0.03	0.15	0.05	0.22	6.96	0.84	14.35	1.66	19.18	5.23	1.21
2.7	0.92	6.66	-1.5			0.43	0.03	0.12	0.05	0.24	6.72	0.81	13.67	1.24	19.82	5.28	1.19
2.7	0.92	6.59	-2.5			0.38	0.03	0.10	0.05	0.21	6.64	0.80	13.56	0.86	18.64	5.05	1.14
2.7	0.92	6.59	-3.5			0.34	0.03	0.09	0.04	0.17	6.47	0.84	13.81	0.87	21.23	5.95	1.21
2.7	0.91	6.42	-4.5			0.43	0.01	0.05	0.04	0.32	6.40	0.84	13.49	0.61	19.00	5.58	1.17
			-10	> 63 µm	0.50	0.31	0.00	0.03	0.03	0.26	5.01	0.75	9.48	0.77	14.34	3.05	0.82
			-15		0.51	0.21	0.01	0.04	0.03	0.14	4.65	0.69	8.63	1.00	28.26	3.24	0.94
			-20		0.49	0.23	0.01	0.04	0.03	0.15	5.34	0.77	10.86	1.24	17.82	3.37	0.97
			-25		0.50	0.32	0.02	0.05	0.03	0.22	5.10	0.72	10.80	0.38	18.53	3.19	1.01
			-30		0.34	0.30	0.02	0.04	0.03	0.22	5.61	0.79	11.59	0.45	21.29	3.71	1.14
			-10	< 63 µm	0.50	0.20	0.00	0.03	0.03	0.13	4.19	0.60	9.29	0.78	16.46	3.36	0.82
			-15		0.49	0.14	0.01	0.02	0.03	0.08	4.13	0.59	8.99	0.60	16.80	3.48	0.82
			-20		0.51	0.22	0.01	0.02	0.02	0.17	3.87	0.55	9.33	2.92	15.98	3.05	0.78
			-25		0.50	0.09	0.01	0.01	0.02	0.04	3.92	0.55	9.36	0.26	18.07	3.15	0.85
			-30		0.66	0.15	0.01	0.03	0.02	0.09	3.85	0.54	8.83	0.51	18.32	2.87	0.82
2.7		5.84	-10	All particles		0.26	0.00	0.03	0.03	0.20	4.60	0.67	9.39	0.77	15.40	3.21	0.82
2.7		6.31	-15			0.18	0.01	0.03	0.03	0.11	4.40	0.64	8.81	0.80	22.62	3.36	0.88
2.7		6.62	-20			0.22	0.01	0.03	0.03	0.16	4.59	0.66	10.07	2.10	16.88	3.21	0.87
2.7		6.87	-25			0.21	0.01	0.03	0.03	0.14	4.52	0.63	10.09	0.32	18.30	3.17	0.93
2.7		7.40	-30			0.20	0.01	0.03	0.02	0.13	4.45	0.63	9.77	0.49	19.34	3.16	0.93

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg g^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 20: North of Bare Island																	
			-0.5	> 63 μm	0.78	0.64	0.08	0.21	0.06	0.29	7.30	0.90	14.90	2.35	21.25	5.21	1.22
			-1.5		0.74	0.59	0.04	0.15	0.06	0.34	7.16	0.87	14.85	2.16	20.09	5.95	1.25
			-2.5		0.73	0.57	0.04	0.12	0.05	0.37	7.13	0.88	15.13	2.34	18.93	5.75	1.23
			-3.5		0.77	0.52	0.03	0.12	0.05	0.31	6.65	0.82	14.44	2.76	19.50	5.88	1.24
			-4.5		0.76	0.48	0.01	0.09	0.05	0.33	6.91	0.84	14.14	1.43	20.57	5.57	1.22
			-0.5	< 63 μm	0.22	0.67		0.14	0.11	0.42	6.22	0.70	14.80		24.23	9.21	1.35
			-1.5		0.26	0.56	0.05	0.14	0.06	0.30	5.98	0.70	13.74	2.34	19.52	6.96	1.18
			-2.5		0.27	0.55	0.04	0.08	0.05	0.37	6.05	0.71	14.42	2.29	20.61	6.82	1.19
			-3.5		0.23	0.48	0.03	0.12	0.07	0.27	5.70	0.68	13.62	1.44	20.82	6.78	1.22
			-4.5		0.24	0.46	0.01	0.10	0.06	0.29	5.96	0.70	14.50	1.52	23.40	7.25	1.33
2.3	0.94	5.78	-0.5	All particles		0.64	0.06	0.19	0.07	0.32	7.06	0.86	14.88	1.83	21.90	6.09	1.25
2.3	0.92	6.45	-1.5			0.58	0.05	0.14	0.06	0.33	6.85	0.83	14.55	2.21	19.94	6.21	1.23
2.3	0.91	6.51	-2.5			0.56	0.04	0.11	0.05	0.37	6.84	0.83	14.94	2.33	19.38	6.04	1.22
2.3	0.91	6.69	-3.5			0.51	0.03	0.12	0.05	0.30	6.43	0.79	14.25	2.45	19.81	6.08	1.24
2.3	0.91	5.79	-4.5			0.48	0.01	0.09	0.05	0.32	6.68	0.81	14.23	1.45	21.25	5.98	1.24
			-10	> 63 μm	0.53	0.26	0.00	0.04	0.05	0.18	6.21	0.91	14.93	0.93	24.84	4.36	1.34
			-15		0.46	0.32	0.01	0.10	0.04	0.17	6.63	1.02	13.24	1.15	23.18	4.02	1.24
			-20		0.43	0.30	0.01	0.09	0.05	0.15	6.56	0.98	14.28	0.88	22.97	4.51	1.31
			-25		0.52	0.41	0.04	0.05	0.04	0.29	6.57	1.01	11.65	0.56	21.91	3.79	1.09
			-30		0.52	0.35	0.03	0.05	0.03	0.23	6.69	1.04	11.03	0.54	17.95	4.14	1.01
			-10	< 63 μm	0.47	0.32	0.00	0.01	0.04	0.26	4.54	0.65	13.11	0.73	23.12	4.73	1.21
			-15		0.54	0.42	0.01	0.09	0.05	0.27	4.69	0.71	11.54	0.89	20.40	3.98	1.09
			-20		0.57	0.35	0.01	0.09	0.05	0.19	4.64	0.68	12.55	0.70	25.61	4.61	1.23
			-25		0.48	0.22	0.03	0.07	0.05	0.07	4.59	0.69	10.63	0.46	21.28	4.21	1.00
			-30		0.48	0.34	0.03	0.06	0.05	0.20	4.61	0.69	9.67	0.41	20.17	4.00	0.89
2.3		6.58	-10	All particles		0.29	0.00	0.02	0.05	0.21	5.42	0.79	14.06	0.84	24.02	4.54	1.28
2.3		6.72	-15			0.37	0.01	0.09	0.05	0.22	5.58	0.85	12.32	1.01	21.67	4.00	1.16
2.3		6.85	-20			0.33	0.01	0.09	0.05	0.17	5.47	0.81	13.29	0.78	24.48	4.57	1.26
2.3		7.11	-25			0.32	0.03	0.06	0.05	0.18	5.63	0.86	11.16	0.51	21.61	3.99	1.05
2.3		7.00	-30			0.34	0.03	0.05	0.04	0.22	5.69	0.88	10.38	0.48	19.01	4.08	0.95

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 21: Midway between Modoc Point and the Williamson River																	
			-0.5	> 63 µm	0.72	0.61	0.01	0.13	0.13	0.35	5.48	0.58	28.25	2.87	51.16	17.15	2.94
			-1.5		0.68	0.53	0.03	0.10	0.13	0.27	5.27	0.56	23.31	2.46	43.25	14.14	2.47
			-2.5		0.71	0.47	0.05	0.07	0.12	0.23	5.56	0.47	22.39	1.90	42.34	14.48	2.42
			-3.5		0.69	0.48	0.01	0.06	0.11	0.30	6.14	0.51	20.91	1.84	37.36	12.41	2.24
			-4.5		0.68	0.49	0.01	0.06	0.10	0.31	5.94	0.51	18.92	1.79	32.10	10.00	1.95
			-0.5	< 63 µm	0.28	0.54	0.02	0.15	0.15	0.22	4.40	0.40	21.56	3.09	41.04	15.98	2.32
			-1.5		0.32	0.52	0.01	0.10	0.16	0.25	3.83	0.36	21.59	2.41	42.21	15.89	2.44
			-2.5		0.29	0.40	0.01	0.07	0.14	0.18	3.78	0.33	20.34	1.65	41.61	15.37	2.34
			-3.5		0.31	0.46	0.00	0.05	0.13	0.27	3.91	0.34	20.55	1.56	39.35	14.15	2.32
			-4.5		0.32	0.49	0.00	0.05	0.13	0.31	3.97	0.34	20.97	1.48	39.12	13.94	2.30
1.1	0.87	6.14	-0.5	All particles		0.59	0.01	0.13	0.13	0.32	5.18	0.53	26.39	2.93	48.34	16.82	2.76
1.1	0.85	6.29	-1.5			0.52	0.02	0.10	0.14	0.27	4.81	0.50	22.76	2.45	42.92	14.70	2.46
1.1	0.85	6.24	-2.5			0.45	0.04	0.07	0.13	0.21	5.04	0.43	21.79	1.83	42.12	14.74	2.40
1.1	0.84	6.24	-3.5			0.47	0.01	0.06	0.12	0.29	5.44	0.46	20.80	1.75	37.98	12.96	2.27
1.1	0.85	6.26	-4.5			0.49	0.01	0.06	0.11	0.31	5.32	0.46	19.57	1.69	34.32	11.25	2.07
			-10	> 63 µm	0.40	0.47	0.00	0.08	0.11	0.27	8.35	0.77	21.45	2.10	40.84	10.61	2.31
			-15		0.50	0.34	0.01	0.05	0.07	0.21	5.87	0.71	17.73	1.63	35.07	9.54	1.92
			-20		0.53	0.34	0.01	0.06	0.05	0.22	6.15	0.78	16.55	1.65	31.69	8.91	1.72
			-25		0.46	0.29	0.01	0.00	0.06	0.21	5.17	0.63	14.25	1.37	30.63	9.14	1.56
			-30		0.47	0.26	0.00	0.06	0.05	0.16	7.80	0.71	14.81	1.76	31.31	10.37	1.70
			-10	< 63 µm	0.60	0.53	0.01	0.06	0.09	0.38	4.21	0.50	19.88	1.55	43.66	4.35	2.22
			-15		0.50	0.34	0.01	0.07	0.08	0.19	4.23	0.53	16.75	1.40	34.29	9.21	1.79
			-20		0.47	0.30	0.01	0.05	0.06	0.17	4.05	0.54	13.75	1.25	27.99	7.44	1.46
			-25		0.54	0.21	0.02	0.09	0.05	0.05	3.77	0.49	11.89	0.98	26.31	6.58	1.20
			-30		0.53	0.20	0.01	0.04	0.06	0.09	4.00	0.51	11.51	1.18	30.61	<2.49	1.20
1.1		6.40	-10	All particles		0.51	0.01	0.07	0.10	0.33	5.87	0.61	20.51	1.77	42.53	6.86	2.26
1.1		6.20	-15			0.34	0.01	0.06	0.07	0.20	5.05	0.62	17.24	1.51	34.68	9.37	1.85
1.1		5.77	-20			0.32	0.01	0.06	0.06	0.20	5.15	0.67	15.23	1.46	29.94	8.22	1.60
1.1		6.50	-25			0.25	0.01	0.05	0.06	0.12	4.42	0.56	12.98	1.16	28.31	7.77	1.37
1.1		6.40	-30			0.23	0.01	0.05	0.05	0.12	5.78	0.60	13.05	1.45	30.94	5.11	1.43

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg g^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 22: Mid North																	
			-0.5	> 63 µm	0.76	0.51	0.01	0.09	0.05	0.36	6.91	0.87	13.58	1.97	17.75	3.51	1.17
			-1.5		0.76	0.49	0.00	0.08	0.04	0.37	7.13	0.90	16.47	1.75	22.49	4.38	1.44
			-2.5		0.77	0.47	0.00	0.06	0.04	0.37	6.96	0.87	13.12	1.49	21.85	3.58	1.22
			-3.5		0.68	0.48	0.00	0.06	0.04	0.38	7.09	0.89	13.29	1.46	18.22	3.85	1.22
			-4.5		0.74	0.50	0.00	0.08	0.04	0.38	7.03	0.86	13.80	1.64	20.37	4.60	1.25
			-0.5	< 63 µm	0.24	0.43	0.02	0.09	0.04	0.27	5.89	0.67	13.22	1.91	17.82	5.56	1.16
			-1.5		0.24	0.32	0.00	0.07	0.04	0.21	6.01	0.66	12.90	1.59	17.77	5.49	1.16
			-2.5		0.23	0.42	0.00	0.06	0.04	0.31	5.97	0.66	13.59	1.67	19.54	5.87	1.23
			-3.5		0.32	0.42	0.00	0.06	0.04	0.32	6.04	0.70	13.51	1.52	18.24	5.64	1.22
			-4.5		0.26	0.39	0.00	0.08	0.04	0.27	5.97	0.66	13.21	1.72	19.63	6.42	1.26
2.5	0.92	6.03	-0.5	All particles		0.49	0.01	0.09	0.05	0.34	6.66	0.82	13.49	1.95	17.76	4.00	1.17
2.5	0.92	5.26	-1.5			0.45	0.00	0.08	0.04	0.33	6.86	0.84	15.60	1.71	21.33	4.65	1.37
2.5	0.91	5.11	-2.5			0.46	0.00	0.06	0.04	0.36	6.73	0.82	13.22	1.53	21.32	4.11	1.22
2.5	0.91	5.29	-3.5			0.46	0.00	0.06	0.04	0.36	6.75	0.83	13.36	1.48	18.22	4.43	1.22
2.5	0.90	5.30	-4.5			0.47	0.00	0.08	0.04	0.35	6.76	0.81	13.65	1.66	20.18	5.07	1.25
			-10	> 63 µm	0.52	0.40	0.02	0.05	0.03	0.31	6.73	0.97	12.28	0.90	19.70	3.72	1.14
			-15		0.55	0.17	0.02	0.04	0.02	0.09	6.46	1.00	10.94	0.84	16.48	3.92	0.95
			-20		0.59	0.18	0.02	0.04	0.02	0.10	5.62	0.88	9.64	0.82	15.07	3.20	0.80
			-25		0.61	0.26	0.02	0.03	0.02	0.18	5.34	0.81	9.22	0.53	15.04	3.34	0.80
			-30		0.50	0.14	0.02	0.05	0.03	0.04	5.71	0.81	10.25	0.52	16.11	3.42	0.88
			-10	< 63 µm	0.48	0.31	0.01	0.03	0.03	0.24	4.64	0.64	10.29	0.82	18.51	3.55	1.04
			-15		0.45	0.28	0.02	0.06	0.02	0.18	4.54	0.66	7.27	0.72	14.30	2.91	0.75
			-20		0.41	0.17	0.01	0.12	0.02	0.01	4.30	0.62	7.96	0.74	15.76	3.34	0.80
			-25		0.39	0.22	0.02	0.03	0.03	0.15	4.09	0.56	7.13	0.41	13.92	3.57	0.72
			-30		0.50	0.21	0.02	0.03	0.02	0.14	4.93	0.60	7.03	0.40	14.78	3.37	0.72
2.5		5.77	-10	All particles		0.36	0.01	0.04	0.03	0.27	5.72	0.81	11.32	0.86	19.13	3.64	1.09
2.5		6.15	-15			0.22	0.02	0.05	0.02	0.13	5.59	0.85	9.28	0.79	15.49	3.46	0.86
2.5		6.32	-20			0.18	0.01	0.08	0.02	0.06	5.07	0.77	8.94	0.79	15.36	3.26	0.80
2.5		7.23	-25			0.25	0.02	0.03	0.02	0.17	4.85	0.71	8.40	0.48	14.60	3.43	0.77
2.5		6.81	-30			0.18	0.02	0.04	0.02	0.09	5.32	0.71	8.64	0.46	15.44	3.39	0.80

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 23: Mouth of the Williamson River																	
			-0.5	> 63 µm	0.69	0.69	0.01	0.13	0.09	0.46	6.23	0.70	23.02	4.14	40.40	9.57	2.19
			-1.5		0.74	0.56	0.00	0.08	0.09	0.38	5.91	0.63	23.04	2.82	40.51	11.52	2.44
			-2.5		0.76	0.49	0.00	0.14	0.09	0.26	5.90	0.62	22.12	2.29	44.79	12.66	2.35
			-3.5		0.75	0.46	0.00	0.12	0.09	0.25	6.02	0.63	20.48	2.29	37.76	10.48	2.12
			-4.5		0.77	0.46	0.00	0.11	0.09	0.25	6.32	0.67	20.50	1.99	38.95	10.90	2.11
			-0.5	< 63 µm	0.31	0.61	0.01	0.31	0.09	0.20	4.89	0.47	20.53	4.04	36.62	11.15	2.10
			-1.5		0.26	0.29	0.00	0.17	0.10	0.02	4.21	0.39	12.34	2.71	25.26	10.75	1.39
			-2.5		0.24	0.47	0.00	0.15	0.10	0.23	4.35	0.41	19.71	2.08	41.93	13.62	2.28
			-3.5		0.25	0.43	0.00	0.12	0.10	0.21	4.32	0.40	18.12	1.82	33.57	12.27	2.09
			-4.5		0.23	0.42	0.00	0.08	0.09	0.25	4.28	0.39	18.52	1.76	40.79	13.21	2.07
1.0	0.89	7.72	-0.5	All particles		0.66	0.01	0.19	0.09	0.38	5.82	0.63	22.25	4.11	39.23	10.06	2.16
1.0	0.87	6.83	-1.5			0.49	0.00	0.11	0.09	0.29	5.47	0.57	20.25	2.79	36.54	11.32	2.17
1.0	0.87	6.66	-2.5			0.49	0.00	0.14	0.09	0.25	5.52	0.57	21.54	2.24	44.09	12.89	2.33
1.0	0.88	6.28	-3.5			0.45	0.00	0.12	0.09	0.24	5.60	0.57	19.90	2.17	36.72	10.92	2.11
1.0	0.88	6.04	-4.5			0.45	0.00	0.10	0.09	0.25	5.84	0.60	20.04	1.93	39.38	11.44	2.10
			-10	> 63 µm	0.46	0.41	0.00	0.08	0.12	0.21	6.90	0.71	21.20	2.01	43.54	12.99	2.34
			-15		0.59	0.32	0.00	0.07	0.06	0.20	6.11	0.74	14.34	1.21	25.98	7.37	1.46
			-20		0.59	0.30	0.00	0.05	0.06	0.19	6.48	0.83	13.26	1.28	24.81	7.71	1.38
			-25		0.60	0.38	0.00	0.06	0.07	0.26	5.86	0.73	14.02	1.09	23.78	7.61	1.39
			-30		0.57	0.28	0.00	0.06	0.07	0.16	5.45	0.67	13.73	1.35	24.11	7.43	1.36
			-10	< 63 µm	0.54	0.49	0.00	0.07	0.10	0.31	4.48	0.56	17.98	1.63	34.90	10.26	2.05
			-15		0.41	0.36	0.00	0.04	0.06	0.25	3.86	0.54	13.03	0.87	30.77	8.09	1.51
			-20		0.41	0.36	0.00	0.03	0.06	0.26	3.70	0.55	11.75	0.91	26.30	7.33	1.33
			-25		0.40	0.34	0.00	0.04	0.07	0.23	3.73	0.53	13.29	0.75	31.67	<2.49	1.52
			-30		0.43	0.31	0.00	0.03	0.06	0.22	3.85	0.55	12.24	0.94	25.17	<2.49	1.35
1.0		5.99	-10	All particles		0.45	0.00	0.08	0.11	0.26	5.60	0.63	19.47	1.80	38.91	11.53	2.18
1.0		6.32	-15			0.33	0.00	0.06	0.06	0.22	5.20	0.66	13.81	1.07	27.93	7.66	1.48
1.0		5.89	-20			0.33	0.00	0.04	0.06	0.22	5.33	0.71	12.64	1.13	25.43	7.56	1.36
1.0		6.54	-25			0.36	0.00	0.05	0.07	0.25	5.01	0.65	13.73	0.95	26.92	4.78	1.44
1.0		5.86	-30			0.29	0.00	0.05	0.06	0.18	4.76	0.62	13.09	1.17	24.57	4.45	1.36

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 24: Mouth of Pelican Bay																	
			-0.5	> 63 µm	0.78	0.49	0.00	0.16	0.04	0.29	7.11	0.83	15.12	2.08	20.51	6.07	1.30
			-1.5		0.75	0.49	0.01	0.15	0.05	0.28	7.56	0.88	14.29	1.83	17.30	4.36	1.24
			-2.5		0.87	0.48	0.00	0.12	0.04	0.31	7.56	0.86	14.18	1.63	19.43	4.18	1.25
			-3.5		0.76	0.42	0.01	0.14	0.04	0.23	7.59	0.88	13.10	1.24	19.46	4.75	1.19
			-4.5		0.86	0.46	0.01	0.09	0.04	0.32	6.73	0.79	13.47	1.04	19.45	5.01	1.22
			-0.5	< 63 µm	0.22	0.45	0.01	0.10	0.04	0.30	5.88	0.64	13.17	1.84	19.36	4.82	1.19
			-1.5		0.25	0.52	0.01	0.11	0.04	0.36	6.44	0.71	14.01	1.67	21.56	4.57	1.30
			-2.5		0.13	0.45	0.01	0.10	0.05	0.29	6.20	0.65	14.29	1.62	21.48	5.40	1.30
			-3.5		0.24	0.44	0.01	0.10	0.05	0.28	6.22	0.68	13.38	1.28	19.63	4.06	1.19
			-4.5		0.14	0.40	0.01	0.08	0.05	0.26	5.57	0.60	13.77	1.07	20.57	3.96	1.20
2.0	0.93	5.93	-0.5	All particles		0.48	0.01	0.15	0.04	0.29	6.84	0.79	14.69	2.03	20.26	5.80	1.28
2.0	0.92	5.96	-1.5			0.50	0.01	0.14	0.04	0.30	7.28	0.84	14.22	1.79	18.35	4.41	1.25
2.0	0.91	5.77	-2.5			0.47	0.00	0.12	0.04	0.31	7.38	0.83	14.19	1.63	19.70	4.34	1.26
2.0	0.91	6.41	-3.5			0.43	0.01	0.13	0.04	0.24	7.27	0.83	13.16	1.25	19.50	4.59	1.19
2.0	0.90	6.43	-4.5			0.45	0.01	0.09	0.04	0.31	6.57	0.76	13.51	1.05	19.61	4.87	1.21
			-10	> 63 µm	0.64	0.32	0.03	0.03	0.03	0.24	5.08	0.84	12.05	0.56	19.14	3.40	1.06
			-15		0.61	0.29	0.02	0.01	0.03	0.23	5.34	0.89	11.28	0.52	18.47	3.48	0.99
			-20		0.52	0.31	0.02	0.03	0.03	0.22	5.15	0.84	10.56	0.55	18.58	3.50	0.97
			-25		0.54	0.40	0.03	0.02	0.03	0.31	4.86	0.76	10.50	0.52	22.84	4.44	1.00
			-30		0.52	0.37	0.03	0.03	0.04	0.27	3.88	0.63	9.94	0.97	18.84	4.01	0.97
			-10	< 63 µm	0.36	0.26	0.03	0.03	0.02	0.19	3.69	0.62	10.83	0.47	20.38	3.72	0.99
			-15		0.39	0.45	0.02	0.02	0.03	0.38	3.58	0.63	10.06	0.41	19.33	3.58	0.94
			-20		0.48	0.27	0.03	0.02	0.02	0.20	3.37	0.59	8.65	0.44	15.69	3.09	0.77
			-25		0.46	0.24	0.03	0.02	0.04	0.16	3.13	0.56	8.94	0.35	16.26	3.29	0.77
			-30		0.48	0.23	0.03	0.04	0.02	0.14	2.84	0.55	8.17	0.37	15.84	2.81	0.77
2.0		6.72	-10	All particles		0.30	0.03	0.03	0.03	0.22	4.57	0.76	11.61	0.53	19.59	3.51	1.03
2.0		6.73	-15			0.36	0.02	0.02	0.03	0.29	4.65	0.79	10.81	0.48	18.81	3.52	0.97
2.0		7.13	-20			0.29	0.03	0.02	0.03	0.21	4.30	0.72	9.65	0.50	17.20	3.31	0.88
2.0		6.90	-25			0.33	0.03	0.02	0.03	0.24	4.07	0.67	9.79	0.44	19.84	3.91	0.89
2.0		7.01	-30			0.30	0.03	0.03	0.03	0.21	3.38	0.59	9.08	0.68	17.39	3.43	0.88

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g-1 DW	Loosely bound P mg g-1 DW	P bound to poorly crystalline Fe oxides mg g-1 DW	P extracted with 1M HCl mg g-1 DW	Residual P mg-1 DW	Percent carbon	Percent nitrogen	Total Fe mg g-1 DW	Fe in poorly crystalline Fe oxides mg g-1 DW	Total Al mg g-1 DW	Total Ca mg g-1 DW	Total Ti mg g-1 DW
Site 25: Near stream to Agency Lake, South																	
			-0.5	> 63 µm	0.74	0.66	0.06	0.29	0.06	0.25	7.11	0.80	16.97	2.49	22.33	6.45	1.45
			-1.5		0.78	0.60	0.03	0.32	0.08	0.18	6.53	0.73	17.35	3.05	24.42	6.23	1.53
			-2.5		0.74	0.52	0.01	0.19	0.06	0.25	6.62	0.71	16.85	2.08	25.98	6.72	1.54
			-3.5		0.72	0.46	0.01	0.13	0.06	0.26	6.64	0.69	15.88	2.16	25.26	6.38	1.52
			-4.5		0.61	0.46	0.00	0.23	0.06	0.17	6.59	0.68	15.48	1.81	24.25	5.84	1.48
			-0.5	< 63 µm	0.26	0.59	0.06	0.20	0.07	0.26	5.51	0.58	16.76	2.31	28.50	8.93	1.60
			-1.5		0.22	0.55	0.03	0.27	0.08	0.17	5.20	0.52	16.66	2.49	30.99	8.86	1.65
			-2.5		0.26	0.49	0.02	0.24	0.08	0.16	5.09	0.52	15.97	2.04	27.45	8.34	1.56
			-3.5		0.28	0.48	0.01	0.17	0.08	0.22	5.95	0.51	15.28	1.56	25.91	9.01	1.56
			-4.5		0.39	0.47	0.01	0.18	0.08	0.20	5.11	0.48	14.91	1.79	25.18	8.77	1.53
0.8	0.92	6.86	-0.5	All particles		0.64	0.06	0.27	0.07	0.25	6.70	0.74	16.92	2.44	23.90	7.08	1.49
0.8	0.91	6.71	-1.5			0.59	0.03	0.31	0.08	0.18	6.24	0.68	17.20	2.93	25.85	6.81	1.56
0.8	0.91	6.76	-2.5			0.51	0.01	0.21	0.07	0.23	6.22	0.66	16.62	2.07	26.37	7.14	1.54
0.8	0.91	6.50	-3.5			0.47	0.01	0.14	0.06	0.25	6.45	0.64	15.72	2.00	25.44	7.11	1.53
0.8	0.90	6.24	-4.5			0.46	0.01	0.21	0.06	0.18	6.01	0.60	15.26	1.80	24.61	6.98	1.50
			-10	> 63 µm	0.66	0.53	0.02	0.09	0.05	0.37	6.63	0.86	19.00	1.83	28.86	6.81	1.78
			-15		0.65	0.43	0.02	0.09	0.05	0.28	6.35	0.83	15.45	1.55	21.50	5.95	1.49
			-20		0.62	0.43	0.02	0.08	0.05	0.29	6.36	0.85	16.02	1.23	24.44	5.69	1.50
			-25		0.69	0.39	0.02	0.07	0.04	0.25	5.98	0.84	14.46	1.11	20.98	5.43	1.31
			-30		0.68	0.34	0.02	0.04	0.04	0.24	6.39	0.89	11.76	0.80	18.32	4.42	1.07
			-10	< 63 µm	0.34	0.48	0.03	0.10	0.06	0.29	4.61	0.59	14.75	1.52	27.67	7.79	1.51
			-15		0.35	0.40	0.04	0.08	0.07	0.22	4.48	0.57	14.37	1.78	25.73	8.39	1.56
			-20		0.38	0.40	0.02	0.06	0.05	0.26	4.53	0.60	16.27	1.04	32.82	8.08	1.72
			-25		0.31	0.32	0.02	0.03	0.05	0.23	4.90	0.68	12.74	0.78	24.72	6.40	1.33
			-30		0.32	0.46	0.02	0.03	0.04	0.36	4.35	0.62	11.34	0.61	24.21	6.10	1.20
0.8		6.12	-10	All particles		0.51	0.02	0.09	0.05	0.34	5.95	0.77	17.56	1.72	28.46	7.14	1.69
0.8		6.44	-15			0.42	0.02	0.09	0.06	0.25	5.69	0.74	15.07	1.63	22.99	6.81	1.51
0.8		6.44	-20			0.42	0.02	0.07	0.05	0.28	5.66	0.76	16.12	1.16	27.66	6.61	1.58
0.8		6.55	-25			0.37	0.02	0.06	0.05	0.25	5.64	0.79	13.92	1.00	22.15	5.73	1.31
0.8		6.66	-30			0.37	0.02	0.04	0.04	0.28	5.75	0.80	11.63	0.74	20.19	4.96	1.11

Water column depth, m	Water fraction of total weight of sediment	Sediment pH	Depth in sediment, cm	Particle size	Particle size, fraction of sample	Total P mg g^{-1} DW	Loosely bound P mg g^{-1} DW	P bound to poorly crystalline Fe oxides mg g^{-1} DW	P extracted with 1M HCl mg g^{-1} DW	Residual P mg g^{-1} DW	Percent carbon	Percent nitrogen	Total Fe mg g^{-1} DW	Fe in poorly crystalline Fe oxides mg g^{-1} DW	Total Al mg g^{-1} DW	Total Ca mg g^{-1} DW	Total Ti mg g^{-1} DW
Site 26: Near stream to Agency Lake, North																	
			-0.5	> 63 µm	0.72	0.66	0.03	0.33	0.05	0.25	7.08	0.70	14.78	2.25	21.28	5.62	1.33
			-1.5		0.72	0.60	0.01	0.22	0.05	0.31	6.78	0.67	13.89	1.74	19.97	5.45	1.31
			-2.5		0.74	0.49	0.01	0.20	0.06	0.23	6.80	0.65	14.27	1.58	19.15	5.56	1.34
			-3.5		0.78	0.54	0.01	0.16	0.04	0.33	6.89	0.64	14.19	1.46	21.07	5.84	1.36
			-4.5		0.74	0.51	0.01	0.17	0.05	0.28	6.70	0.62	14.59	1.67	20.79	5.52	1.36
			-0.5	< 63 µm	0.28	0.57	0.03	0.29	0.05	0.20	5.64	0.54	14.64	2.07	23.83	6.87	1.36
			-1.5		0.28	0.51	0.01	0.23	0.06	0.20	5.65	0.48	13.66	2.12	21.39	6.36	1.31
			-2.5		0.26	0.48	0.01	0.17	0.04	0.27	5.50	0.44	13.15	1.24	21.46	6.05	1.26
			-3.5		0.22	0.50	0.01	0.15	0.05	0.29	5.36	0.45	13.21	1.31	22.55	6.42	1.33
			-4.5		0.26	0.52	0.00	0.15	0.05	0.32	5.56	0.43	13.39	1.32	24.91	7.59	1.39
0.9	0.92	6.93	-0.5	All particles		0.64	0.03	0.32	0.05	0.23	6.68	0.66	14.74	2.20	21.99	5.97	1.34
0.9	0.91	6.26	-1.5			0.57	0.01	0.23	0.05	0.28	6.46	0.62	13.83	1.85	20.38	5.71	1.31
0.9	0.91	6.28	-2.5			0.49	0.01	0.19	0.05	0.24	6.46	0.59	13.98	1.49	19.75	5.69	1.32
0.9	0.91	5.85	-3.5			0.53	0.01	0.16	0.04	0.32	6.56	0.60	13.98	1.42	21.39	5.97	1.36
0.9	0.90	5.76	-4.5			0.51	0.01	0.16	0.05	0.29	6.40	0.57	14.27	1.58	21.87	6.07	1.37
			-10	> 63 µm	0.59	0.41	0.03	0.06	0.04	0.29	6.81	0.90	15.98	1.17	23.93	4.80	1.42
			-15		0.58	0.26	0.03	0.07	0.04	0.12	5.70	0.78	14.36	0.92	22.99	4.43	1.31
			-20		0.68	0.31	0.03	0.05	0.04	0.18	6.39	0.91	12.75	0.57	20.00	4.13	1.17
			-25		0.58	0.44	0.02	0.06	0.05	0.31	6.63	0.97	10.82	0.72	17.78	3.66	0.97
			-30		0.67	0.23	0.03	0.06	0.04	0.10	6.21	0.91	9.94	0.48	16.02	3.35	0.87
			-10	< 63 µm	0.41	0.54	0.03	0.08	0.05	0.39	5.21	0.67	14.91	1.07	28.29	5.79	1.47
			-15		0.42	0.34	0.03	0.04	0.04	0.23	4.98	0.66	13.35	0.77	25.88	5.33	1.34
			-20		0.32	0.28	0.02	0.04	0.05	0.17	4.53	0.63	10.96	0.46	22.15	4.86	1.11
			-25		0.42	0.27	0.02	0.04	0.04	0.17	4.77	0.68	9.35	0.58	18.55	3.92	0.90
			-30		0.33	0.23	0.02	0.03	0.03	0.15	4.14	0.59	8.49	0.37	17.78	3.95	0.82
0.9		6.34	-10	All particles		0.47	0.03	0.07	0.04	0.33	6.16	0.81	15.54	1.13	25.70	5.20	1.44
0.9		6.47	-15			0.29	0.03	0.06	0.04	0.17	5.40	0.73	13.94	0.86	24.19	4.80	1.32
0.9		6.71	-20			0.30	0.03	0.05	0.05	0.18	5.80	0.82	12.19	0.53	20.68	4.37	1.15
0.9		6.55	-25			0.37	0.02	0.05	0.04	0.25	5.85	0.85	10.21	0.66	18.10	3.77	0.94
0.9		6.66	-30			0.23	0.03	0.05	0.04	0.12	5.53	0.81	9.46	0.45	16.60	3.55	0.85

Table 3. Names and locations of sampling sites where sediment cores were collected on October 24–26, 2006, from Upper Klamath Lake, Oregon.

Site Name	Site ID	Latitude (deg, min, sec)			Longitude (deg, min, sec)		
North of the city of Klamath Falls	1	42	15	54.97	-121	50	5.28
Buck Island	2	42	17	57.09	-121	50	20.09
Howard Bay (Wocus Bay)	3	42	19	51.99	-121	55	0.98
Mouth of Howard Bay, South	4	42	19	25.85	-121	52	48.26
Rattlesnake Point, South	5	42	19	42.82	-121	50	10.10
Mouth of Howard Bay, North (Squaw Point)	6	42	21	3.24	-121	52	41.68
West of Hanks Marsh	7	42	21	35.60	-121	50	5.62
Near Channel north west of Squaw Point	8	42	22	29.10	-121	53	22.09
Mid Lake	9	42	23	3.34	-121	51	20.39
Near Hagelstein Park	10	42	23	12.66	-121	49	13.79
Midway between Squaw Point and Eagle Ridge	11	42	23	28.90	-121	55	29.27
North of Mid Lake	12	42	24	19.63	-121	53	16.11
South of Modoc Point	13	42	24	34.93	-121	50	47.41
Ball Bay	14	42	24	15.53	-122	1	2.12
Shoalwater Bay	15	42	24	38.35	-121	57	50.05
South of Bare Island	16	42	24	47.23	-121	55	29.55
Modoc Point	17	42	26	1.77	-121	53	7.04
Mouth of Ball Bay	18	42	25	32.67	-122	1	3.63
Eagle Point	19	42	26	13.02	-121	58	15.15
North of Bare Island	20	42	26	5.72	-121	55	50.00
Midway between Modoc Point and the Williamson River	21	42	27	17.76	-121	54	13.51
Mid North	22	42	26	48.20	-122	0	20.42
Mouth of the Williamson River	23	42	27	22.86	-121	56	57.30
Mouth of Pelican Bay	24	42	27	7.94	-122	2	36.44
Near stream to Agency Lake, South	25	42	27	47.87	-121	59	15.94
Near stream to Agency Lake, North	26	42	28	29.80	-122	1	23.41

Table 4. Analytical reporting limits for bed sediments.

Constituent	Analytical reporting limit
Aluminum	0.50%
Calcium	0.10%
Carbon	0.20%
Iron	0.50%
Nitrogen	0.40%
pH	0.1 pH units
Phosphorus	0.01%
Titanium	0.50%
Water content	1%