THE RELATIVE CONTROLS ON FOREST FIRES AND FUEL SOURCE FLUCTUATIONS IN THE HOLOCENE DECIDUOUS FORESTS OF SOUTHERN WISCONSIN, USA

by

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Abstract

Reconstructing fire regimes and fuel characteristics is an important aspect of understanding past forest ecosystem processes. Fuel sources and disturbance regimes throughout the upper Midwestern United States have been shown to be sensitive to regional climatic variability such as drought periods on millennial timescales. Yet, records documenting the complex connections between disturbance activity and the corresponding fuel source fluctuations in mesic deciduous forests and oak savanna forests in this region are limited. Thus, it has been difficult to provide a framework to evaluate drought conditions on fire activity and the relationships with fuel source fluctuations in this region. Here, I conducted high-resolution charcoal analyses of lake sediments from four sites in southeastern-southcentral Wisconsin (USA) to characterize fire activity and fuel source fluctuation in mesic deciduous forests and prairie-oak savanna over the last 10,000 years. I found that fire regimes across the four study sites have been asynchronous throughout the Holocene, due to site-specific differences that have strongly influenced local fire regimes. I also found that during periods of high fire activity the primary fuels were from arboreal sources, and during periods of low fire activity the primary fuels were from non-arboreal sources. However, fluctuations in fuel sources did not always correspond to changes in vegetation, or changes in fire frequency.

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Dedication

I would like to dedicate this research to my canine friend Samson, the English Bulldog.

Chapter 1 - Literature Review

Fire within the Earth's System

Fire is an integral part of the ecological dynamics of almost all ecosystems represented on Earth. Direct relationships exist among fire, climate, and vegetation, which have significant effects on the global carbon cycle, atmospheric chemistry, and terrestrial ecosystems and biodiversity (Gill, Burrows and Bradstock 1995). Thus it is critical in understanding these relationships between fire-climate-vegetation to better understand the effects under changing climatic conditions. Past long-term fluctuations in climate, such as warming and cooling cycles on millennial timescales, have regularly been used to explain changes in global fire activity (Daniau et al 2012). Thus, fire regimes have been attributed to global temperatures, with warmer climates leading to increased fire frequency.

On shorter timescales, there are four critical weather elements necessary for wild fire occurrence: low relative humidity, strong surface wind, unstable air, and drought conditions (Werth 2011). Such conditions are outlined in a study (Brotak and Reifsnyder 1977) that suggests that most wild fires occur behind unstable and dry-cold frontal patterns, in and around 500 mb troughs. One major weather pattern is also the primary cause for precipitation in the Upper Midwestern United States which is known as the Maritime tropical air mass (mT). A 'fire' represents an individual event which is triggered by short term weather conditions for a particular location or region. An example is the wild fires during the summer of 2012 in coniferous forests in the Western parts of the United States, specifically throughout Colorado.

Over time, the temporal pattern of repeated wild fire events will aggregate into a fire regime. A fire regime represents a historical record of disturbance fire activity for a location or region, often representing hundreds or thousands of years. Such fire regimes are typically broken down into key measurements of the frequency, intensity, seasonality, extent, and type of fire (Gill 1977, Whitlock and Larsen 2001). Fire regimes can be altered by changes in climate. Much of the concern about recent large and frequent fires centers around the potential change in fire regime, with unknown future consequences (Turner 2010). For areas such as Southern Wisconsin, that have continually been impacted by climate induced moisture fluctuations throughout the Holocene, unique and dynamic fire regimes are possible.

Fire severity is another key measure within a fire regime, and this term describes the relative intensity of the fire in terms of its direct effect on vegetation communities. Low-severity fires generally occur at lower temperatures and burn the understory vegetation as a fuel source, while leaving the tree canopy more or less intact (Lewis, Wu and Robichaud 2006). High-severity fires usually are hot and swift, destroying most of the vegetation in both the canopy and the understory (Lewis et al. 2006). Due to the intensity of high-severity fires they are often called "stand-replacing" fires. Within oak-savannah forests, specifically in open *Quercus* communities where prairie grasses and shrubs act as the primary understory fuel, fire frequency is likely the more important feature of the fire regime. This is because virtually all fires in prairie communities are considered of high intensity (Baker 2006, Daniau et al 2012).

Humans and fire have also coexisted throughout the Holocene, and our capacity to manage fire around these distinct relationships between fire, vegetation, and climate

still remains imperfect. Indeed, it may become more difficult in the future as climate change continues to alter fire regimes (Bowman et al. 2009) Thus, disturbance dynamics and the methods for understanding past fuel source and burn regimes can be difficult to understand. However, charcoal that has been preserved within soils and lake sediments have provided a powerful tool to reconstruct historical forest ecology and more specifically historical fire frequencies (Whitlock and Larsen 2001)

Fire Records

Fire records have traditionally been reconstructed using two main methods. The first method is fire records based on evidence from trees, or dendrochronological records, which can determine the actual calendar year in which a specific fire occurred (Brown, Kaufmann and Shepperd 1999, Fule et al. 2003) and, in some cases, even the specific season of a fire event (Fule et al. 2003). The second method is fire records derived from soils and lake sediments, which represent a method used to reconstruct more long-term fluctuations in fire occurrence. Sedimentary records can complement and extend such reconstructions provided from dendrochronological records. Throughout the past 20 years, many publications have reviewed and tested the methods for charcoal analysis of lake-sediment cores and its use as a tool for studying fire regimes for a particular location or region (Clark et al. 2002, Clark et al. 2001, Long et al. 1998, Whitlock and Larsen 2001).

Fire reconstructions based on lake-sediment records are derived from three primary data sources: particulate charcoal that provides direct evidence of burning, pollen evidence of fluctuations in vegetation that can be tied to disturbance, and lithologic evidence of watershed adjustments to fire, such as erosion or the formation of fire-altered

minerals (Long et al. 1998, Whitlock and Larsen 2001). Factors that influence the transportation of charcoal include weather conditions such as precipitation, wind direction, and wind speed at the time of the fire event. With stronger winds individual charcoal particles can travel father distances from the source, and depending upon the direction of the wind, the charcoal can be deposited into various types of catchments. Catchments where charcoal particles can be deposited include both soils and watersheds. Watershed variables also affect the accumulation of charcoal (Whitlock and Larsen 2001). These variables include the size of the watershed, the inflow and outflow of streams, the relative depth of the watershed, and the relative distance of the watershed from the disturbance event.

Upper Midwestern Holocene Fire

Fluctuations in millennial-scale fire records from the upper Midwestern United States can provide insights into the feedbacks between fire and major changes in climate (Webb et al. 1983) its boundary conditions or controls (orbital forcing, greenhouse gas concentrations), vegetation type, and fuel amount (Power et al. 2008). Fluctuations in climate act as a primary controller of vegetation patterns, and vegetation types are then a large control on fire regimes. Climate determines the amount of moisture available to vegetation communities. For example, different plants species have different moisture requirements, which limit these plants to areas with suitable climate conditions (Akin 1990). Climate also determines temperatures, which imposes another limit on the areas suited to different plant species (Akin 1990). Long-term changes in climate produce shifts in the ranges of different vegetation types (Brunelle and Whitlock 2003, Miller and Wigand 1994, Mensing, Livingston and Barker 2006).

In southern Wisconsin, climate induced moisture conditions have controlled the movement of two main biogeographical vegetation barriers, the Tension Zone (Latitudinal), and the Prairie/Forest Boundary (Longitudinal). Along such boundaries vegetation systems transition between prairie-oak savannah-forest biomes due to changing moisture conditions. Differences in vegetation type are associated with variations within fire regimes. (Long, Power and McDonald 2011) summarized data on fire regimes and fire return intervals from the Southern mesic deciduous forests of Wisconsin. This study found that fire return intervals ranged from 150 -250 years throughout the Holocene, and were controlled by site-specific moisture conditions that affected local vegetation communities in and around the watersheds of Lake Seven and Butler Lake.

Fires in prairie and oak-savannah communities are typically fuel-limited. These ecosystems exist in relatively drier climates that limit the amount of canopy vegetation, and hence the quantity and continuity of the fuel load. Fires generally occur in wet years or following a period of wet years that allow a continuous load of fuel to develop (Miller and Wigand 1994). Wetter communities, such as mesic deciduous, have moisture-limited fire regimes. Fuels are generally too wet to carry a fire, and thus fuel condition is an essential variable. In these communities, large stand- replacing fires may occur during periods of decadal drought, or long-term periods of low moisture conditions such as the middle Holocene (Booth et al. 2006, Williams, Shuman and Bartlein 2009).

Southern Wisconsin prairie, oak-savannah, and mesic deciduous fire records are lacking significant representation in recent global syntheses of global biomass burning. For grasslands and prairies in particular, this underrepresentation can be seen on a

continental scale (Marlon et al. 2009). Therefore, the research described in this thesis will add to the understanding of fire regimes in a very sensitive climate area-- the mesic deciduous biome and the prairie-oak savanna biome-- by means of charcoal preserved in lake sediments from southern Wisconsin. The new fire records generated by this project will help fill these gaps and aid in synthesis of fire–climate-vegetation relations on both regional and global scales (Power et al. 2008).

Chapter 2 - Introduction

Wildfires are a common and widespread phenomenon that appear in many paleorecords soon after the appearance of terrestrial plants over 420 million years ago (Ma) (Bowman et al. 2009). Fire is a result from the interactions between climate (precipitation and temperature), vegetation (fuel availability and fuel condition) and ignition (lightning or human), but understanding the individual effects of these variables on fire regimes can be challenging due to the substantial ecological complexity among them. Even less well-understood is how these combinations of factors can contribute to extreme fire conditions, such as the current record fires in the western United States that may be a result of historical fire deficits (Marlon et al. 2012), or seemingly unprecedented fires in Alaskan tundra (Mack et al. 2011, Hu et al. 2010). Understanding these complex interactions and more specifically how fire regimes have altered as vegetation changed, can provide greater insight into how ecosystems have responded to climate over broad spatial and temporal scales.

Moisture availability has direct effects on fire regimes over multiple timescales ranging from years to several millennia (Renkin and Despain 1992). Possible actions for the influence of moisture on fire regime include: i) controlling the incidence of ignitions, ii) determining the likelihood that fires will spread, and iii) changing vegetation type and productivity, and hence the available fuel load (Power et al. 2008, Booth et al. 2006, Podur and Wotton 2010). Moisture level in fuels is the major factor that determines how readily and how much of the fuel will burn. Thus, moisture availability influences fuel availability. However, there is a complex threshold that exists between very high and

very low levels of moisture, such that changes in moisture availability may have unexpected/unpredictable effects on fire regimes depending on the initial climate conditions and further feedbacks with vegetation type (Staver, Archibald and Levin 2011). On the modern Earth, increasing moisture availability (i.e. Increasing mean annual precipitation MAP) has been shown to increase fire frequency because of increases in primary productivity, biomass, and fuel load (Krawchuk et al. 2009). This mechanism of increased moisture providing increased fuel availability may also be operating on millennial timescales, at least in grassland systems (Grimm, Donovan and Brown 2011). However, in wetter climates, increased moisture has been shown to decrease fire frequency due to lower ignitions and less-flammable fuel conditions (Krawchuk et al. 2009). Distinguishing these two opposite scenarios within a paleoecological record would be valuable when trying to understand the complex dynamics of past fire regimes.

Reconstructing fire histories across a moisture availability gradient can potentially disentangle these two conditions. The historical movements of vegetation boundaries throughout the upper Midwest have had effects on the fuels for regional fires over Holocene timescales (Clark et al. 2001). The prairie/forest boundary is a well-documented vegetation boundary located in the upper Midwestern U.S., which is characterized by a complex moisture gradient that has fluctuated over time (Baker et al. 1992, McAndrews 1964, Webb 1987). The driver for the longitudinal movement of the prairie/forest boundary, and the changes in vegetation from prairie to savanna to forest, can be associated with either fluctuation in fire regime or regional climate variation. Several studies have suggested that climate variability is the primary driver of changes in vegetation throughout the upper Midwest (Nelson and Hu 2008, Bartlein, Webb and Fleri

1984). However, fire may also be more of a significant driving force on vegetation and fuel condition than previously suggested. To assess the relative roles of climate and fire in the long-term composition of deciduous forests, a transect of four study sites was investigated across the prairie/forest boundary. This east-west transect includes sites in deciduous forests of eastern Wisconsin and sites in prairie/oak savanna of central Wisconsin, thus encompassing the zone of transition between prairie and forest (Baker et al. 1992).

Fire regimes have typically been reconstructed from palaeolimnological records using the abundance of charcoal fragments found within the sedimentary sequence. Additionally, charcoal morphology is an increasingly useful classification tool that can further assist in understanding fire-fuel relationships in mixed fuel situations like the prairie/forest boundary. Individual charcoal particles have distinct anatomical features that are identifiable under magnification (Jensen et al. 2007). Methods of charcoal classification can potentially identify the fuel sources as grass, herbaceous forb, conifer wood, or deciduous wood (Jensen et al. 2007, Tweiten et al. 2009). This level of quantifying fuel source provides a better understanding of fuel source availability as moisture levels changed across the prairie/forest boundary during the Holocene. Additionally, charcoal morphologies can potentially allow an assessment of fire regime characteristics, particularly fire severity, from oak savannah and mesic deciduous forest.

The fire regimes of the upper Midwestern U.S. have been characterized as small in terms of relative area burned, but have also shown the potential for large and intense forest fires to occur. Northern Wisconsin forests have estimated fire return intervals ranging from 50-156 years (Lynch, Hotchkiss and Calcote 2011), while southern

Wisconsin forests have relatively unknown fire return intervals. A previous sedimentary charcoal study in this region identified a fire return interval of 150-250 years during the past 2000 years in mesic deciduous forest (Long et al. 2011), yet Holocene scale fire return intervals, and oak savanna fire return intervals are still unknown. However, both prairie and oak savanna fire records are under-represented in North America (Marlon et al. 2009) and these biomes need more baseline information to evaluate the impact of climate conditions on changes in fire regimes (Long et al. 2011).

Here, I report high-resolution charcoal analysis from lacustrine sediment from four lakes in southern Wisconsin, USA-- Butler Lake, Lake Seven, Comstock Lake, and Lake George-- to characterize fire activity and fuel source fluctuation from mesic deciduous forest to dry prairie and oak savanna over the last 10,000 years. I hypothesize the following:

1) Moisture availability has been the main determinant of regional fire regimes throughout the Holocene. Thus, fire return intervals at the study locations with higher moisture availability have changed synchronously throughout the Holocene. Similarly, fire return intervals at the drier study locations have changed synchronously.

2) Regional changes in moisture have affected the two sets of sites differently, with the wet locations exhibiting increasing fire frequency during dry mid-Holocene conditions and the dry locations showing little or no response in fire frequency to changes in available moisture.

3) Dry and wet sites have shown an increase in arboreal fuel sources during periods of high fire activity. This is due to complete combustion of tree (arboreal) biomass during high intensity fires.

4) Vegetation composition has been dynamic at each site throughout the Holocene, but these changes have not been dramatic enough to affect available fuel loads for fire activity across wet and dry sites.

Chapter 3 - Study Area

I examined fire and vegetation history at four study sites in southern Wisconsin: Butler Lake, Lake Seven, Lake George, and Comstock Lake (Fig. 3.1). All four sites are located within current mesic deciduous forest and oak savanna ecosystems, although current MAP (Mean Annual Precipitation) varies among the sites. Lake Seven and Butler Lake currently receive relatively high annual precipitation— with an average MAP of 600 mm—and are thus considered paired "wet" sites in this study. The fire history of these two sites was first described by (Long et al. 2011). Lake George and Comstock Lake are located to the west and receive slightly lower MAP—approximately 450 mm—and are therefore considered the paired "dry" sites. Their fire and vegetation histories have not been previously studied.

The physiographic setting of all four sites can generally be considered to be Wisconsin glacial outwash plains (Long et al. 2011). Butler Lake (elevation 318 m) is a kettle lake in the northern unit of Kettle Moraine State Forest characterized by mesic deciduous forest, including *Acer* and *Tilia* flora. Butler lies in a low elevation area which is surrounded by higher esker ridges formed through the glacial outwash deposition of the Green Bay Lobe located to the north, and the Lake Michigan Lobe to the west during the end of the last glacial maximum (Long et al. 2011). Butler has a surface area of 3 ha, a maximum depth of 4 m, simply bathymetry and perennial inflowing streams that drain a large area of 200 ha. Lake Seven (elevation 308 m) lies 5 km south of Butler Lake on the eastern parts of the Lake Michigan Lobe hummocky ridge area and is also characterized by mesic deciduous forest. Lake Seven is 10 ha kettle lake with a maximum water depth

of 7 m and no inflowing or outflowing streams in the watershed (Long et al. 2011). Lake Seven is not surrounded by wetlands due to topography near the 80 ha watershed. The vegetation at the two dry sites is mesic oak forest. Lake George (elevation 302 m) is characterized by an oak prairie complex, which includes: *Quercus alba*, *Quercus macrocarpa*, *Quercus velutina*, and various prairie grasses and forbs. This is a 10 ha kettle lake on the southeastern parts of the Green Bay Lobe with a maximum water depth of 7 m. Lake George is also characterized by having no inflowing or outflowing streams in the watershed. Comstock Lake (elevation 301 m) lies 15 km north of Lake George and is surrounded by a similar *Quercus* prairie vegetation type. This is a 9 ha kettle lake on the southeastern parts of the Green Bay Lobe with a maximum water depth of 9 m and no inflowing or outflowing streams in the watershed.

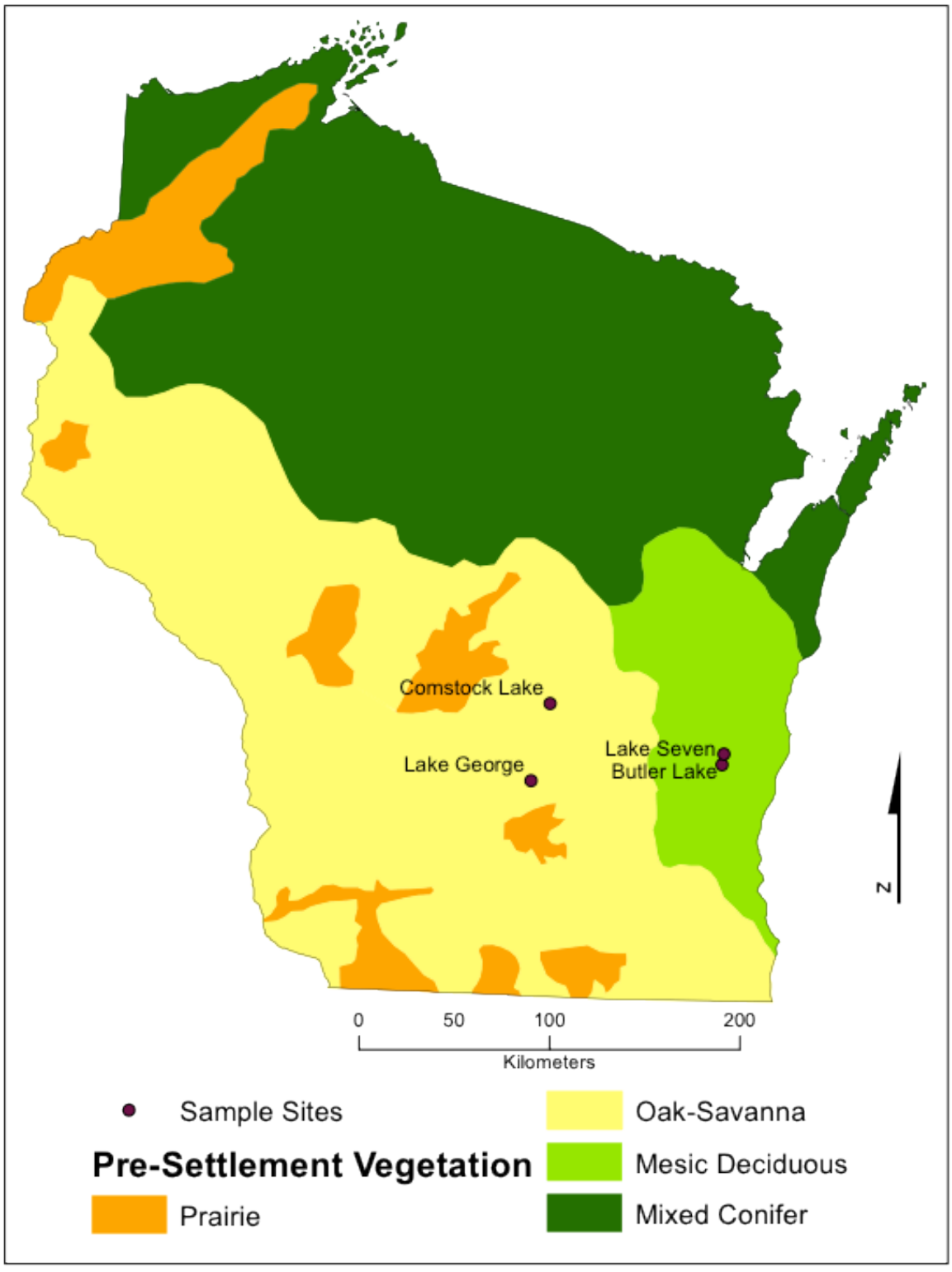

Figure 3.1 Location of four study sites in the state of Wisconsin, USA. Butler Lake and Lake Seven are the paired wet sites in the mesic deciduous forests. Comstock Lake and Lake George are the paired dry sites in oak-savannah forests.

Chapter 4 - Methods

Age modeling

The chronological frameworks for Lake Comstock and George were based on radiocarbon dating of bulk sediment samples, charcoal fragments, and a leaf macrofossil (Table 4.1). Cores containing several ^{14}C and/or other dates can be processed semi-automatically in order to obtain age-depth models using CLAM (Blaauw 2010). In the process, the ^{14}C dates are calibrated, after which age-depth curves are repeatedly drawn through point estimates sampled from the dates. Age-depth models can be based on linear interpolation, linear/polynomial regression, or cubic, smooth or locally weighted splines. Reported radiocarbon ages were plotted against depth with the points connected by straight lines (often necessitating extrapolation to the base of the sequence), using linear interpolations. Linear interpolations can be a difficult approach, yet they do provide sufficient estimates for both ages and gradients. However, they take no account of the errors on the radiocarbon ages. This did not pose issues with radiocarbon ages obtained for Comstock and George, as error ranges were small from 20-45 years. Radiocarbon ages were calibrated using CALIB 6.01 and the IntCal09 calibration data set (Reimer et al. 2009). Following calibration, the mean age value of the largest probability at 2 sigma was used to create the age models using classical age-depth modeling, again in the package CLAM (Blaauw 2010) within the open-source statistical software R (Fig. 5.1). Sedimentation rates in both lakes are generally quite linear throughout the Holocene and lithological data support the interpretation of regular sedimentation rates. Core

chronologies for Lake Seven and Butler Lake had been established originally with 9 radiocarbon dates and I used those age-depth models in this study (Long et al. 2011).

Table 4.1 Radiocarbon dates and calibrated ages for Lake George and Comstock Lake

Lab Code	Depth (cm)	Description	14C yr BP ± 1σ	Cal. range (cal yr BP)
	George			
UGAMS-11649	102	Bulk Sediment	730 ± 20	660-690
UGAMS-11650	249	Bulk Sediment	1940 ± 20	1858-1933
UGAMS-11651	408	Charcoal	3210 ± 20	3383-3463
UGAMS-11652	544	Charcoal	4710 ± 25	5324-5413
UGAMS-7908	690	Leaf	6810 ± 20	7609-7681
UGAMS-11653	860	Charcoal	10710 ± 45	12544-12718
	Comstock			
AA98595	83	Bulk Sediment	741 ± 35	655-732
AA98594	239	Bulk Sediment	2304 ± 36	2299-2360
AA98593	376	Bulk Sediment	3448 ± 41	3614-3834
AA98592	548	Bulk Sediment	5785 ± 43	6471-6676
AA98591	640	Bulk Sediment	9137 ± 60	10202-10436
UGAMS-7907	767	Bulk Sediment	11280 ± 55	13069-13324

Radiocarbon analysis was conducted at The NSF- Arizona AMS Laboratory (AA), and The University of Georgia Center for Applied Isotope Studies (UGAMS)

Sediment Cores

Sediment cores were collected from the deepest part of each lake using a 5cm diameter modified piston sampler (Wright 1967). Cores were extruded in the field, wrapped in cellophane wrap and aluminum foil, and then transported back to the laboratory where they were refrigerated and stored. In the laboratory, the cores were sliced lengthwise, described, and subsampled for pollen and charcoal analysis.

Pollen Analysis

Pollen was analyzed for vegetation reconstruction at Butler Lake (Long et al. 2011) and Comstock Lake to understand the timing and progression of the prairie/forest boundary into the southern Wisconsin region (Baker et al. 1992). Pollen analysis also helps inform interpretation of past fuel sources as reconstructed from charcoal morphotypes. Sediment samples of 1 cm^3 were taken every 40 cm for pollen extraction on Butler Lake, following the procedures of (Faegri 1989). For Comstock Lake, samples were spiked with microspheres, and then prepared using standard methods of acetolysis at the LacCore Facility at the University of Minnesota. Samples were mounted in silicon oil and pollen was identified at 400X magnification. A minimum of 300 fossil terrestrial pollen grains were analyzed in each sample. The percentages of each pollen type were calculated relative to the terrestrial pollen sum of the sample.

Charcoal and fire history reconstruction

Charcoal sampling methods for charcoal followed (Long et al. 1998). Sediment subsamples of 2–3 cc were taken at contiguous 1-cm intervals and soaked in 10% solution of hydrogen peroxide for 48-72 hours. The samples were washed through 250 and 125 μm nested sieves. The sieved samples were examined at 25-75× magnification,

and all charcoal particles greater than 125 μm were counted and categorized according to morphology (arboreal and non-arboreal) (Jensen et al. 2007).

Charcoal counts for each sample were converted to concentration (particles cm^{-1}) and, using the sediment deposition rate, to charcoal accumulation rates (CHAR; particles cm^{-1} yr^{-1}) at constant time stages to minimize any variations in the record due to fluctuations in the deposition rates. The CHAR records were then decomposed into background and peak components using the model Char Analysis (Higuera et al. 2009). Background charcoal is the slowly-varying trend in CHAR as a primary result of changes in fuel abundance and composition. Peaks, which are positive deviations from the background CHAR (BCHAR), represent input of charcoal as a result of a fire episode (Long et al. 1998). The BCHAR component was then determined using a LOWESS smoother robust to outliers with a 500-year window width. The background values for each time interval were then subtracted from the total CHAR accumulation for each interval. The peaks in the charcoal record (i.e. intervals with CHAR values above background) were tested for significance using a Gaussian distribution, where peak CHAR values that exceeded the 95th percentile are then considered statistically significant (i.e. not the result of natural signal noise or analytical error). This procedure was performed on every 500-year overlapping portion of the CHAR record, producing a unique threshold for each sample. Once identified, all peaks were then screened to eliminate those that resulted from statistically insignificant variations in CHAR (Gavin et al. 2006). If the maximum count in a CHAR peak has a >5% chance of coming from the same Poisson-distribution population as the minimum charcoal count with the proceeding 75 years, then the peak was rejected (Higuera et al. 2009).

Charcoal morphology classification

In addition to counting the number of sedimentary charcoal particles, i also identified the morphologies of individual charcoal particles. Grasses, forbs, conifer wood, and leaves of many broadleaved tree taxa all produce characteristically distinct charcoal particles that are preserved in lake sediments (Jensen et al. 2007). Arboreal charcoal was characterized by three distinct morphotypes: (1) Dark (opaque, thick, solid, geometric in shape, some luster, and straight edges), (2) Lattice (cross-hatched forming rectangular ladder like structure, and with spaces between), and (3) Branched (dendroidal, generally cylindrical with successively smaller jutting arms). Non-Arboreal charcoal was characterized by two distinct morphotypes: (1) Cellular "graminoid**"** (thin rectangular pieces; one cell layer thick with pores and visible vessels, and cell wall separations,) and (2) Fibrous (collections or bundles of thin filamentous charcoal that is clumped together) (Jensen et al. 2007, Tweiten et al. 2009).

Morphotypes were grouped into non-arboreal and arboreal categories, which allowed for characterization of fuel sources in the charcoal record. This level of detail provides a more precise characterization of past fire regimes than charcoal counts alone. For example, low-intensity surface fire episodes will generally produce a higher abundance of grass/shrub (non-arboreal) charcoal particles, while major crown fire episodes will produce significantly more hardwood/pine (arboreal) charcoal particles. Thus, an abundance of grass/shrub charcoal in a sedimentary interval represents a period in time when non-arboreal fuels were among the primary fuel sources that may represent low-intensity ground fires. Similarly, a sedimentary interval with an abundance of hardwood/pine charcoal represents a period in time when arboreal fuels were the primary fuel sources and the fire regime may have consisted of stand-replacing crown fires.

Testing for synchronicity in the fire records

I used the K1D multivariate k-function to test synchronicity between fire events at Lake Seven and Butler Lake (the paired wet locations) and Comstock Lake and Lake George (the paired dry locations) (Gavin et al. 2006). The K1D analysis computes the multivariate Ripley K-function simplified for one dimension time steps. K1D computes the temporal dependence between two or more events, which in this case were fire events reconstructed from the sedimentary charcoal peak analysis in CHAR, that are ordered in one dimension. Confidence envelopes were determined when selecting model parameters prior to running (90-95%), which were then plotted as an upper synchrony envelope and a lower asynchrony envelope, with the K-function results shown as the independence curve. For two records to be considered synchronous, or having events occurring within similar time windows throughout the record, the independence curve must exceed the upper confidence envelope for a majority of time window scales. Similarly, for two records to be considered asynchronous the independence curve must exceed the lower confidence envelope for the majority of the time window scales. Two records that show an independence curve that lies between the upper and lower confidence envelopes, suggests that the records are not linked temporally but rather are independent.

Chapter 5 - Results

Sedimentation rates and age-depth models

Radiocarbon ages and inspection of the sediments revealed no significant breaks in deposition since the inception of Comstock Lake (11,280 cal yr BP) and Lake George (10,710 cal yr BP) (Table 4.1, Fig. 5.1). Sedimentation rates averaged 18 cm y^{-1} throughout the Holocene at Comstock Lake and 16 cm y^{-1} at Lake George. Confidence in the sediment integrity and low analytical uncertainty allowed the inclusions of all dates for the age-depth models. Linear interpolations were used between dates and to extrapolate for the basal sediments (Fig. 5.1). Sedimentation rates in both lakes are generally uniform throughout the Holocene and lithological data support the interpretation of regular sedimentation rates.

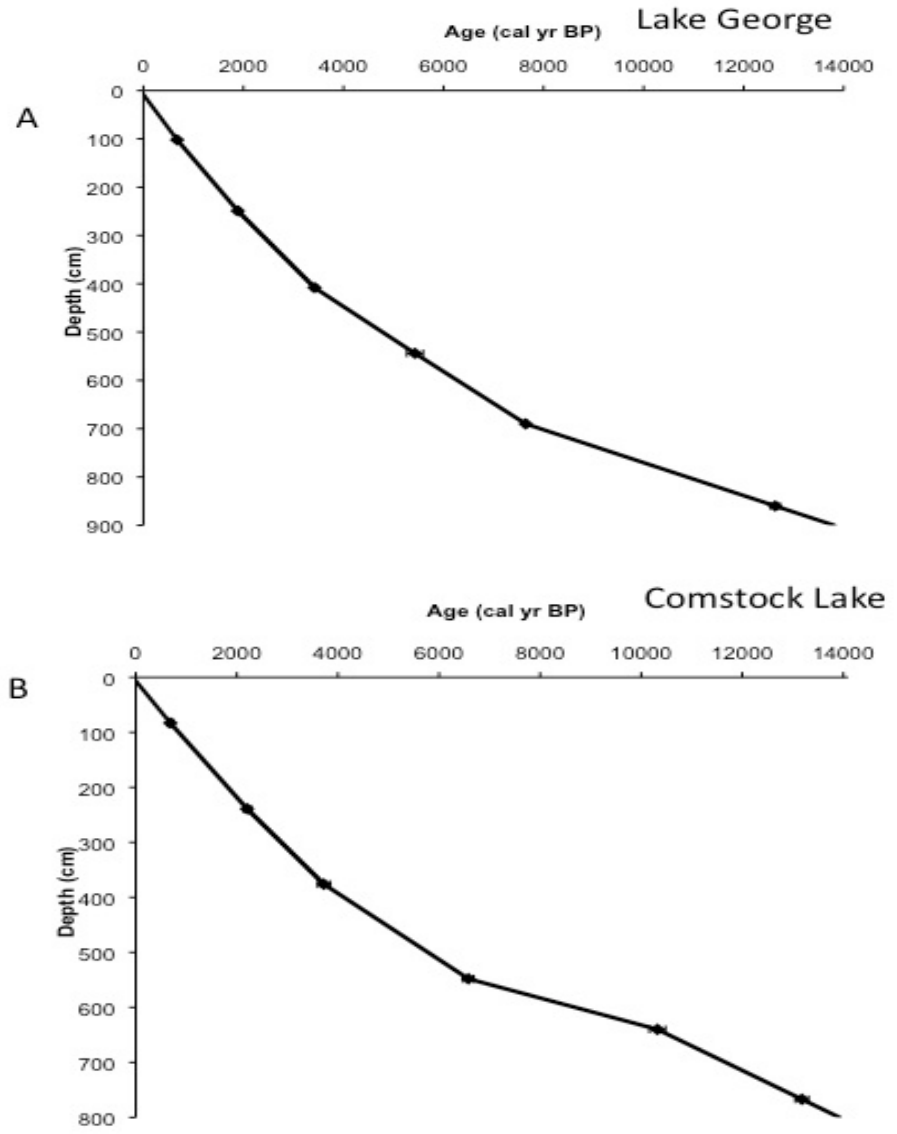

Figure 5.1 (A) Age verses depth model for Lake George, Wisconsin. (B) Age verses depth model for Comstock Lake, Wisconsin. Bars indicate 1 sigma radiocarbon ages from Table 1.

Fire episode synchronicity between sites

Fire events at the two sites with higher current precipitation demonstrate little to no synchrony at any time during the Holocene, despite a proximity of 6 km and overall similar vegetation type (Fig. 5.2A). The CHAR records from Butler Lake and Seven Lake show independent fire episodes through a K1D analysis (Fig. 5.2A). CHAR records from the two sites with lower precipitation—Comstock Lake and Lake George—display slightly higher levels of synchronicity throughout the majority of the Holocene (Fig. 5.2B). However, fire events were still not synchronous at these two sites. The K1D results show that during a window size of 600 the independence curve exceeds the upper confidence envelope, suggesting fire episodes were synchronous for a window of that scale. No other windows of direct synchronicity are indicated (Fig. 5.2B). Comstock Lake and Lake George have some similarities in size, depth, and topography between the watersheds

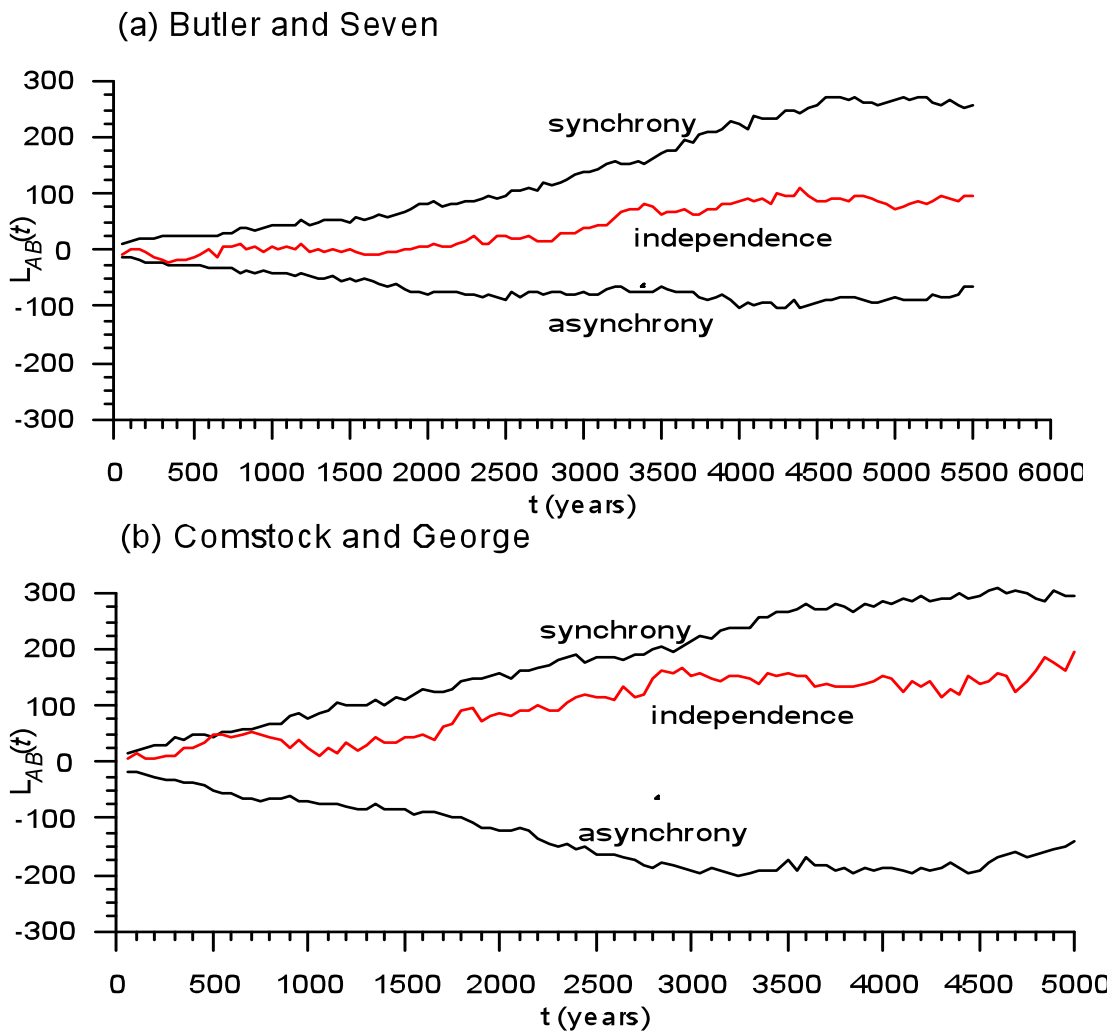

Figure 5.2 (A,B) The bivariate K-function for testing synchrony over a range of temporal windows for (A) two modern wet sites, and (B) two modern dry sites. Two records were tested, where in the first a series of events are placed on random years and the second events are placed within 50 yr of those in the first record. The L-function (transform of the K-function) for the events in (A) with 95% confidence envelope (thin lines) based on 1000 randomizations. In (B) with 95% confidence envelope (thin lines) based on 1000 randomizations. (A) The function never exceeds the upper confidence envelope, indicating no correlation of event times within windows of that scale. (B) The function exceeds the upper confidence envelope at time step 600, indicating some correlation of event times within windows of that scale.

High moisture availability influences fire regimes

Regional climate reconstructions indicate two periods of relatively cool and moist conditions: (1) 10,000 cal yr BP to 8000 cal yr BP, and (2) 5000 cal yr BP to present time. The response to the higher overall effective moisture is generally seen at the two wetter sites as increased fire frequency and BCHAR influx throughout the middle and late Holocene. During the early Holocene wet period, Butler Lake fire frequency and BCHAR gradually increased, while Lake Seven fire frequency remained low and unchanged (Figs. 5.3 and 5.4). At the onset of the increased moisture conditions during the later Holocene (around 5000 cal yr BP), Lake Seven BCHAR increased from .01 to .04 particles cm^{-2}, and fire episode frequency rose from 1 to 2 episodes per $1000a^{-1}$ (Fig. 5.3). However, Butler Lake BCHAR declined from .03 to .01 particles cm^{-2} at 5000 cal yr BP, with fire episode frequency dropping from 2 to 1 events per $1000a^{-1}$ (Fig. 5.4). Thus, both BCHAR and fire frequency from Butler Lake and Lake Seven were sensitive to increasing moisture levels from 5000 cal yr BP to present time, but responded differently (Figs. 5.3 and 5.4). To further support this sensitivity to high moisture, both sites also show a prominent decline in both BCHAR and fire frequency around 3000 cal yr BP, which can be attributed to an oversaturation of fuels, thus limiting fire ignition and rate of spread (Figs. 5.3 and 5.4).

The fire regimes during the early Holocene at the dry locations—Comstock Lake and Lake George—show little change in fire frequency and BCHAR values, while peak magnitude at both locations decreased throughout the early Holocene (Figs. 5.5 and 5.6). At Comstock Lake around 5000 cal yr BP, BCHAR remains low (~.015 particles cm^{-2}) until present time (Fig. 5.5). However, fire frequency increased from 1 to 6 events per

$1000a^{-1}$ at 5000 cal yr BP, decreased to 1 event per $1000a^{-1}$ at 2800 cal yr BP, and then increased to 6 events per $1000a^{-1}$ near present time. A similar dramatic change in fire frequency from 1 to 6 events per $1000a^{-1}$ occurred at Lake George. BCHAR records, however, are similarly complacent at Lake George with a slow decrease from .07 to .02 particles cm^{-2} from 5000 to 3000 cal yr BP (Fig. 5.6). Thus, these drier sites show little sensitivity in BCHAR during the regional increases in effective moisture. However, Lake George (5500 cal yr BP) and Comstock Lake (5000 cal yr BP) did show peaks in fire frequency, where moisture availability most likely provided abundant fuel loads, without oversaturation, for a brief period of short, intense forest fires to occur (Figs. 5.5 and 5.6).

Low moisture influence on fire regimes

There are two prominent Holocene drought periods that occurred in the upper Midwestern United States. The timing of the drought periods centered around 4200 cal yr BP and 1100 cal yr BP and are seen as peaks in fire frequency and increases BCHAR levels from Butler Lake and Lake Seven. As upper Midwest became warmer and moisture availability decreased during the period of the middle Holocene from 8000 cal yr BP to 5000 cal yr BP, Butler Lake BCHAR values and fire frequency gradually increased, while Lake Seven remained constant with similar BCHAR values and fire frequency to that of the early Holocene. Strikingly, there is a delayed response that is centered around 5000 cal yr BP (Fig. 5.3). Overall, the wetter sites experience more frequent fires during a drier climate (Figs. 5.3 and 5.4).

One additional type of response to dry conditions is an increase in BCHAR at Butler Lake during both the 4200 and 1100 cal yr BP drought periods. No such response is seen in BCHAR at Lake Seven. Due to the large scale of fluctuations in Butler and

Seven BCHAR and fire frequency records, there is indication of strong sensitivity to low moisture availability, specifically during major drought periods.

In contrast, Comstock Lake and Lake George displayed minor responses to these periods of low moisture around 4200 and 1100 cal yr BP, which can be seen as increases in both BCHAR values and fire frequency, while the peak magnitude of these fires at both locations decreases (Figs. 5.5 and 5.6). Also, an increase in non-arboreal fuels is seen at Comstock following the 1100 Cal yr BP drought period, which may be a result of available understory fuels drying to a point of more frequent ignition throughout the late Holocene (Fig. 5.5). Overall, Comstock Lake and Lake George both demonstrate minor fluctuations in fire frequency and BCHAR values during drought periods, yet due to the inconsequential scale of these fluctuations they cannot be attributed to the influence of drought, further suggesting that dry locations are not as sensitive to moisture availability than the wet locations over the last 10,000 years.

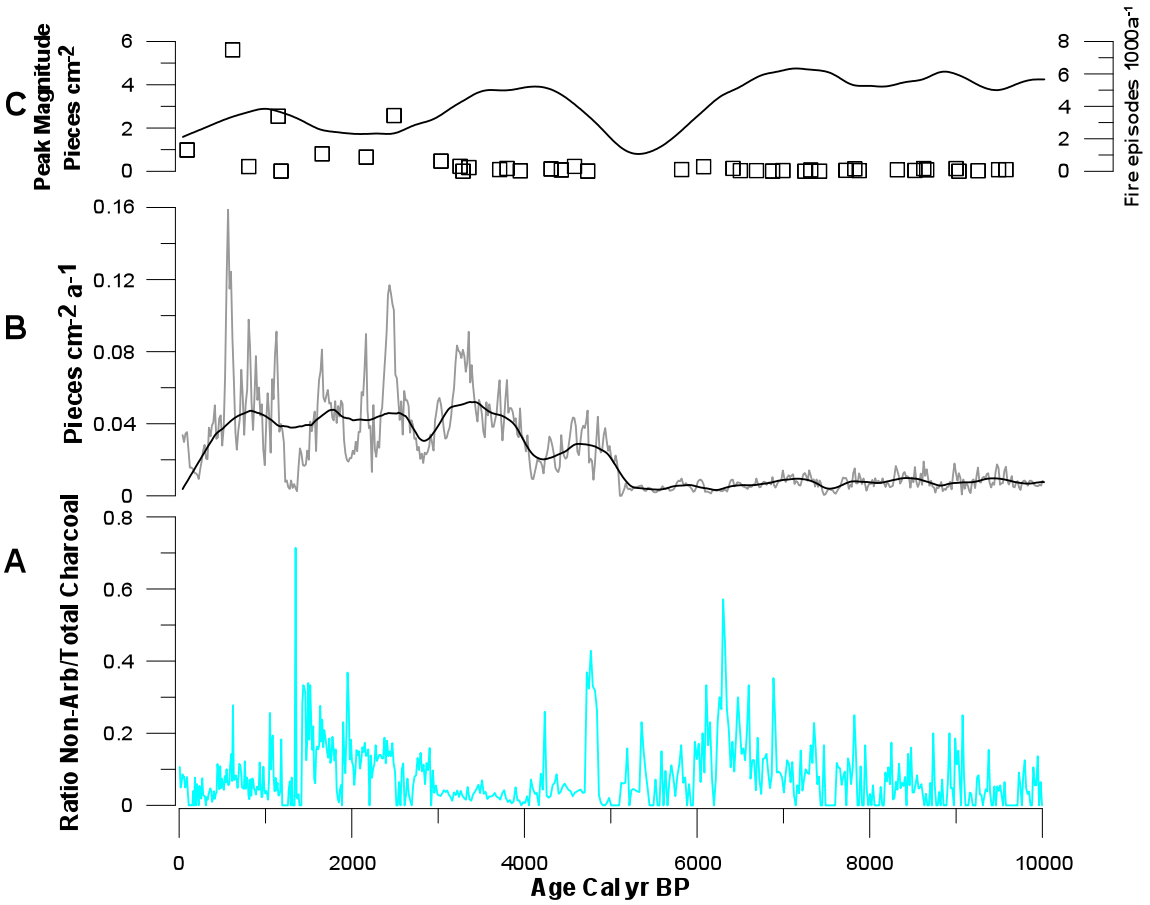

Figure 5.3 Lake Seven sedimentary charcoal record. (A) Ratio values of observed charcoal morphotypes quantified at each 1 cm interval. A value near 0.8 represents non-arboreal fuels as dominant morphotypes. A value near 0 represents arboreal fuels as dominant morphotypes. (B) Charcoal accumulation rates per time step (14 years for Lake Seven) with BCHAR, solid line, superimposed. Curves plotted against the calibrated age of the cores. (C) Fire-episode frequency plotted as number of peaks ka^{-}1. Boxes represent individual peak magnitude plotted as pieces cm^{-}2.

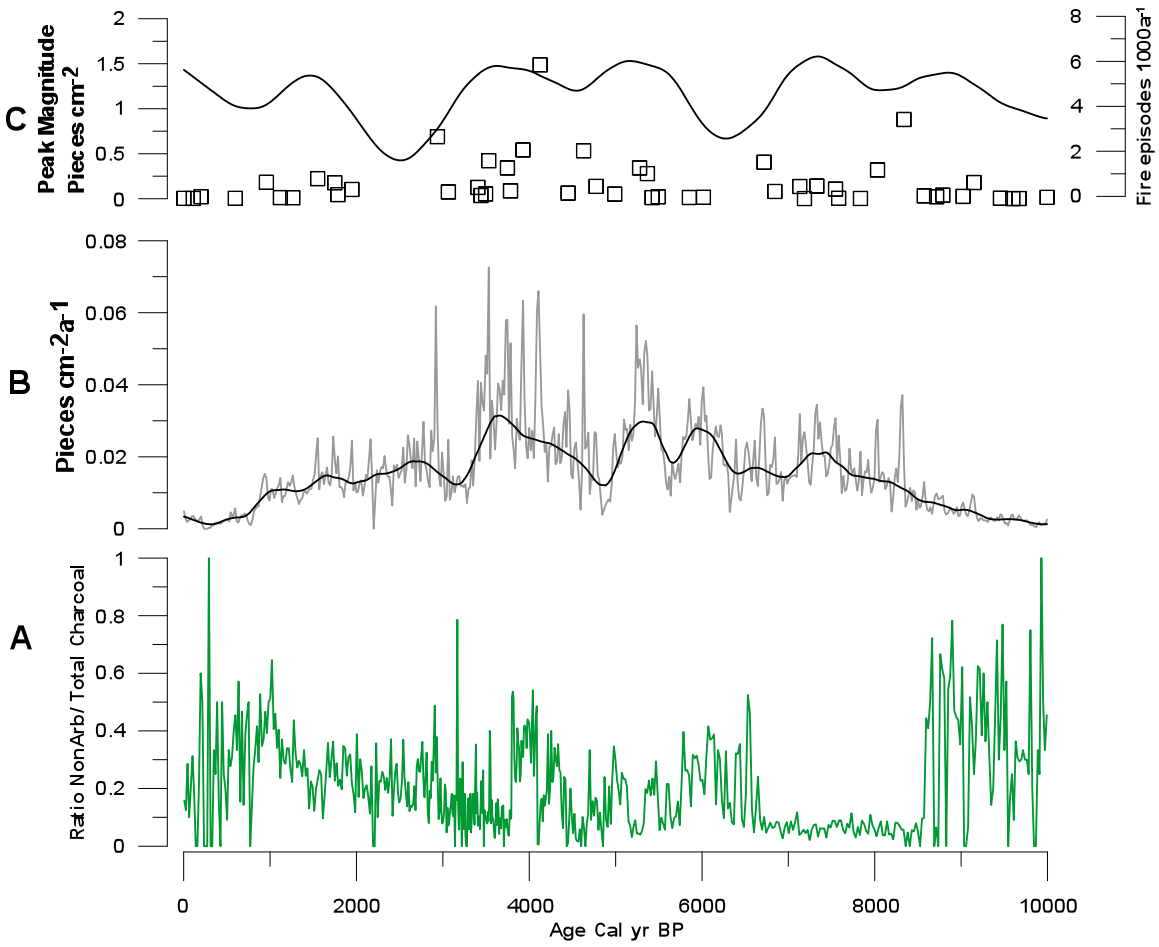

Figure 5.4 Butler Lake sedimentary charcoal record. (A) Ratio values of observed charcoal morphotypes quantified at each 1 cm interval. A value near 0.8 represents non-arboreal fuels as dominant morphotypes. A value near 0 represents arboreal fuels as dominant morphotypes. (B) Charcoal accumulation rates per time step (18 years for Butler Lake) with BCHAR, solid line, superimposed. Curves plotted against the calibrated age of the cores. (C) Fire-episode frequency plotted as number of peaks ka-1. Boxes represent individual peak magnitude plotted as pieces cm-2.

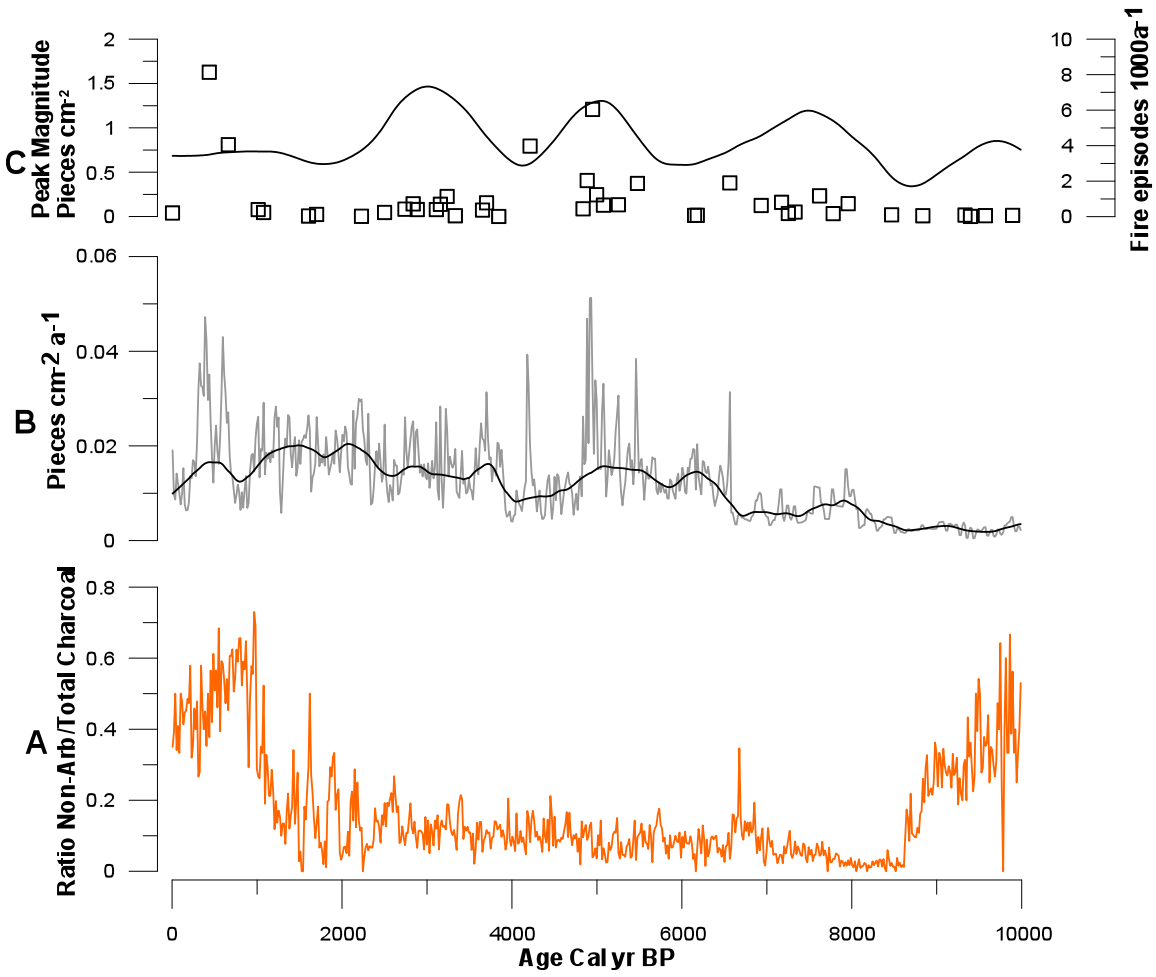

Figure 5.5 Comstock Lake sedimentary charcoal record. (A) Ratio values of observed charcoal morphotypes quantified at each 1 cm interval. A value near 0.8 represents non-arboreal fuels as dominant morphotypes. A value near 0 represents arboreal fuels as dominant morphotypes. (B) Charcoal accumulation rates per time step (18 years for Comstock Lake) with BCHAR, solid line, superimposed. Curves plotted against the calibrated age of the cores. (C) Fire-episode frequency plotted as number of peaks ka¯1. Boxes represent individual peak magnitude plotted as pieces cm¯2.

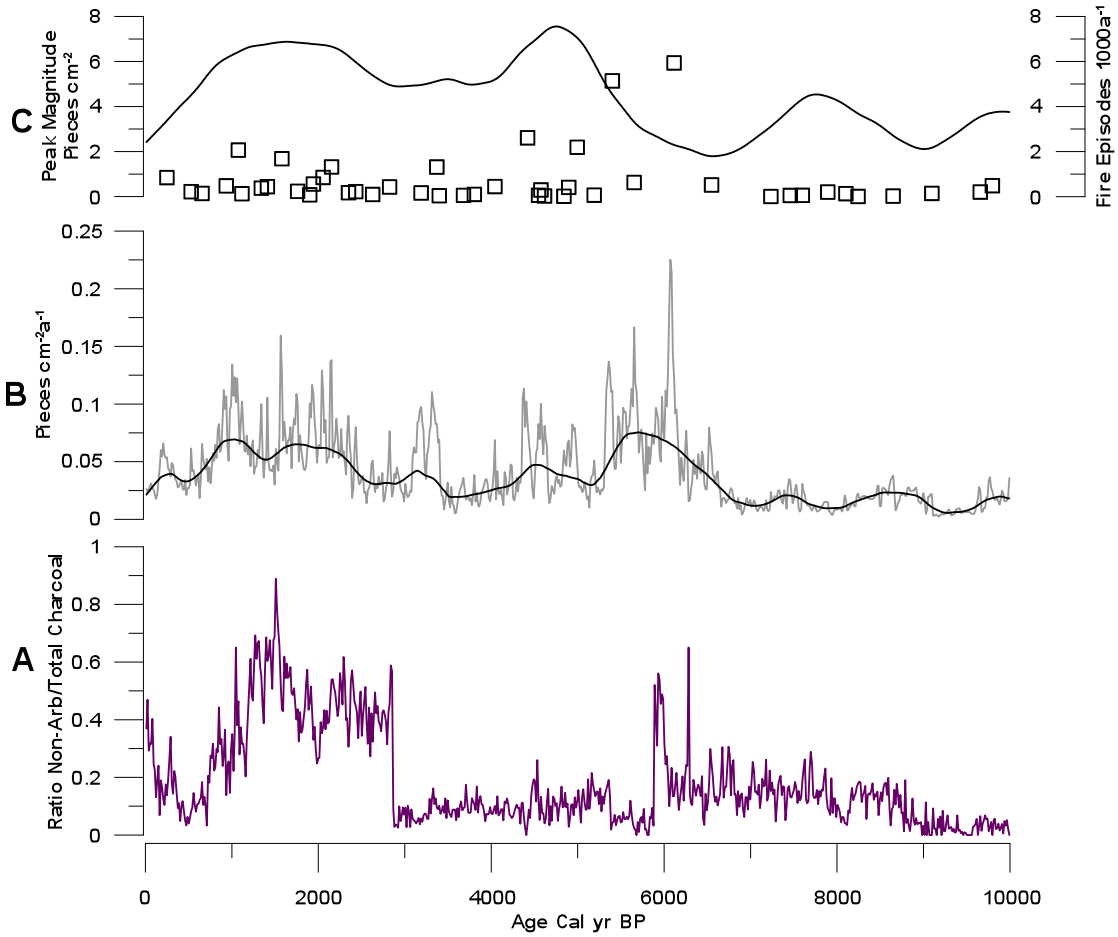

Figure 5.6 Lake George sedimentary charcoal record. (A) Ratio values of observed charcoal morphotypes quantified at each 1 cm interval. A value near 0.8 represents non-arboreal fuels as dominant morphotypes. A value near 0 represents arboreal fuels as dominant morphotypes. (B) Charcoal accumulation rates per time step (16 years for Lake George) with BCHAR, solid line, superimposed. Curves plotted against the calibrated age of the cores. (C) Fire-episode frequency plotted as number of peaks ka¯1. Boxes represent individual peak magnitude plotted as pieces cm¯2.

Fire intensity and available fuels

All study sites along the modern moisture gradient and historical vegetation gradient, show unique fire-fuel relationships. There are, however, some similarities. All locations demonstrate periods of high BCHAR values and prominent fire intensity when the primary fuel sources were arboreal (ratio values nearer to 0), and during periods of low BCHAR values and small-scale fire intensity, the primary fuel sources were non-arboreal (ratio values nearer to 1.0). Similarly, all locations display frequent fire return intervals (FRI's) throughout the early Holocene (140 years for wet sites and 110 years for dry sites) and less frequent FRI's near late Holocene (340 years for wet sites and 315 years for dry sites) as fuel sources at both of these periods were comprised of non-arboreal sources (ratio value near 1.0). These results demonstrate that there is information contained in the fuel morphotype ratios that is not found in the fire frequency calculations alone.

During the early Holocene, Lake Seven fuel ratio values were low and gradually increased, indicating more non-arboreal fuels over the first 5000 years of the record. The ratio of non-arboreal to arboreal charcoal morphotypes increased from a value of .2 at 10,000 cal yr BP to .6 at 5200 cal yr BP (Fig. 5.3). During the early Holocene, BCHAR values and fire frequency were consistently low (~ .015 particles cm^{-2}; ~1 event per $1000a^{-1}$; Fig. 5.3). At 5200 cal yr BP, fuel ratios decreased to .1, indicating more arboreal fuels, while BCHAR increased from .015 to .05 particles cm^{-2}, and fire frequency increased from 1 to 2 events per $1000a^{-1}$ (Fig. 5.3). At 3200 cal yr BP, fuel ratio values continued to increase, indicating more non-arboreal fuels, while BCHAR remained at .05 particles cm^{-2}, and fire frequency increased from 2 to 4 events per $1000a^{-1}$ (Fig. 5.3). At 1200 cal yr BP, fuel ratios suddenly decreased and remained low, indicating more

arboreal fuels, while BCHAR remained constant at .04 particles cm^{-2}, and fire frequency dropped to 2 events per $1000a^{-1}$ (Fig. 5.3).

The other wet site, Butler Lake, demonstrates a similar range of absolute fuel ratio values during the Holocene, but a much different temporal pattern. Thus, there is considerable variability in watershed-scale fuel sources, fire return intervals, and fire intensities throughout the Holocene. In contrast to Lake Seven during the early Holocene, Butler Lake fuel ratio values started high at 1.0, indicating a high proportion of non-arboreal fuels. BCHAR values were low, ranging from .00-.01 particles cm^{-2}, and fire frequency ranged from 0 to 1 events per $1000a^{-1}$ (Fig. 5.4). Fuel ratios then decreased starting at c.8800 cal yr BP, eventually reaching a low value of .1 at c.6500 cal yr BP, indicating an increasing proportion of arboreal fuels, while BCHAR increased slightly from .01 to .02 particles cm^{-2}, and fire frequency increased from 0 to 1 events per $1000a^{-1}$ (Fig. 5.4). The most dramatic change in the Butler Lake record after c.6500 cal yr BP is a fluctuation in fire frequency between 1 and 6 events per $1000a^{-1}$. These significant fluctuations were not accompanied by changes in BCHAR or fuel ratios. Fuel ratios then remained high around .6 from 6500 cal yr BP to 1300 cal yr BP, while both BCHAR values, .1 to .3 particles cm^{-2}, and fire frequency, 1 to 6 events per $1000a^{-1}$ both increased during this time. Ratios continued to remain high (.5), containing more non-arboreal fuels from c.1300 cal yr BP to present time, while BCHAR values declined to .05 particles cm^{-2}, and fire frequency remained at 1 event per $1000a^{-1}$ (Fig. 5.4).

Non-arboreal fuel sources also gradually became more dominant in the early-Holocene fires at Comstock Lake. The fuel source ratios decreased from .8 at c.10,000

cal yr BP to .1 at c.8600 cal yr BP, while BCHAR values remained consistently low at .005 particles cm^{-2}, and fire frequency remained very low at 1 event per $1000a^{-1}$ (Fig. 5.5). For the majority of the mid to late Holocene (8600 - 2800 cal yr BP) fuel ratios remained low (.1 to .2), indicating more arboreal fuels, while BCHAR values gradually increased from .005 to .015 particles cm^{-2} (Fig. 5.5). At this time fire frequency initially increased from 1 to 6 events per $1000a^{-1}$ at c.5000 cal yr BP, prior to decreasing to 1 event per $1000a^{-1}$ by c.2800 cal yr BP (Fig. 5.5). Throughout the late Holocene (2800 - 1000 cal yr BP) fuel ratios strongly increased from .3 to .8, containing more non-arboreal fuels, while BCHAR also increased from .015 to .02 particles cm^{-2}, and fire frequency sustained at 1 event per $1000a^{-1}$ (Fig. 5.5). Fuel ratios then decreased to .4 near present time, while fire frequency peaked at 8 events per $1000a^{-1}$ at c.500 cal yr BP, before dropping to 1 event per $1000a^{-1}$ near present time (Fig. 5.5).

Lake George fuel source ratios were low throughout the early Holocene (.1), suggesting mostly arboreal fuels, before increasing to .6 during the mid Holocene, suggesting non-arboreal fuels, with little change in BCHAR influx and fire frequency during this time (Fig. 5.6). From 6000 cal yr BP to 2900 cal yr BP, fuel ratios then decreased from 0.6 to 0.1, suggesting a higher abundance of arboreal fuels, while fire frequency decreased from 6 to 2 events per $1000a^{-1}$ during this time (Fig. 5.6). Towards the late Holocene fuel ratios then increased from 0.1 to 0.6, showing a higher abundance of non-arboreal fuels, from 2900 cal yr BP to 1800 cal yr BP (Fig. 5.6). Arboreal fuels and increasing fire intensity were seen once again during the late Holocene, when the fuel ratio decreased from 0.6 at 1800 cal yr BP to 0.1 at 500 cal yr BP. Non-arboreal fuels then increased rapidly near present time (Fig. 5.6).

Historical fuel morphology and vegetation relationships

These differences in burned charcoal morphotypes may reflect different available fuels due to vegetation structure at each site deduced from pollen preserved in sediment. Generally, Lake Seven and Butler Lake are both *Pinus* vegetation type during the early Holocene, yet arboreal fuels were dominant at Lake Seven and non-arboreal fuels were dominant at Butler Lake. Apparently, there is enough variation in this vegetation type that it can produce either high-intensity or low-intensity fires. Also, middle Holocene peaks in non-arboreal ratios at all four study sites coincide with the maximum expansion of prairie vegetation into southern Wisconsin centered around 6500 cal yr BP. (Figs. 5.3, 5.4, 5.5 and 5.6).

The pollen diagram from Comstock Lake indicates that after the initial retreat of *Pinus* 9000 cal yr BP, *Quercus* vegetation dominated the landscape surrounding the dry study sites (Fig. 5.8). The presence of 15-20% non-arboreal pollen indicates a grassland component such as might be expected in an oak savanna, although I did not attempt to reconstruct landcover quantitatively. The vegetation fluctuations surrounding dry study sites are relatively gradual through time, and display some level of synchrony with changes in charcoal morphotypes throughout the majority of the Holocene. Yet, late Holocene fluctuations in charcoal morphotypes are not synchronous with any such changes in vegetation.

Early Holocene morphotypes from the two dry sites indicate a gradual build-up of non-arboreal fuels that correlated with the establishment of *Quercus* vegetation into the region, from 9000 cal yr BP to 6000 cal yr BP (Figs. 5.5, 5.6 and 5.8). Fuel morphotypes

displayed little change throughout the mid Holocene from 6000 cal yr BP to 3000 cal yr BP (Figs. 5.5 and 5.6). Yet at 6000 cal yr BP, the Lake George charcoal record exhibits a brief peak in non-arboreal fuels, which coincides with a small peak in *Pinus* vegetation (Figs. 5.6 and 5.8). From 3000 cal yr BP to present both dry sites display high abundances of non-arboreal fuels, which shows no correlation with any major change in available fuel loads as seen in the pollen diagram from Comstock Lake (Figs. 5.5, 5.6, and 5.8).

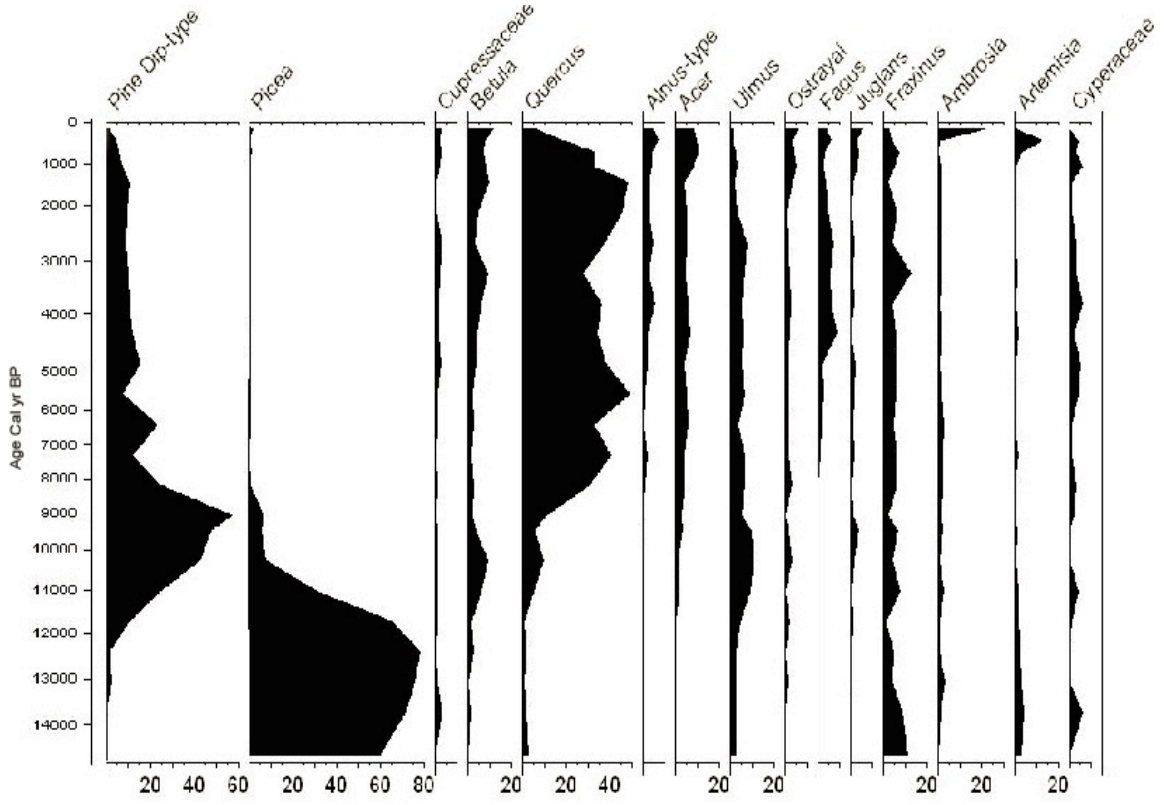

Figure 5.7 Pollen percentages for selected taxa from Butler Lake, Wisconsin, USA plotted against the age of the sediment core.

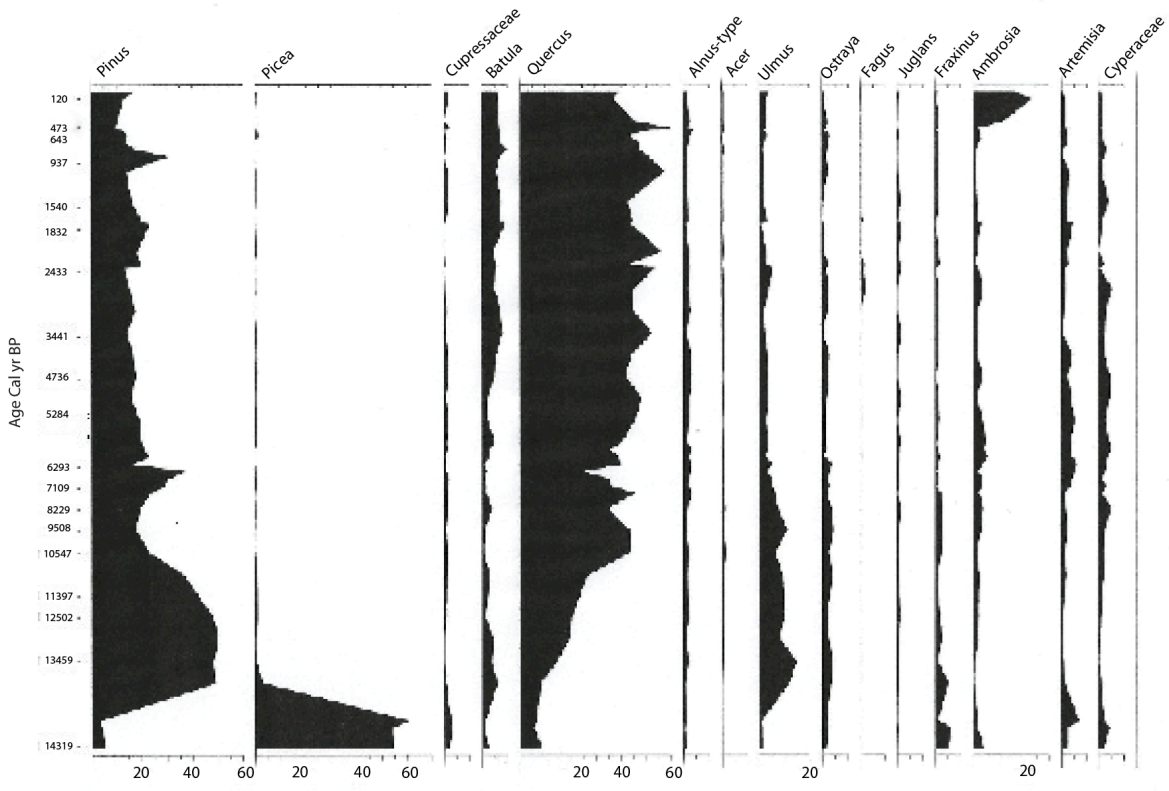

Figure 5.8 Pollen percentages for selected taxa from Comstock Lake, Wisconsin, USA plotted against the age of the sediment core.

Chapter 6 - Discussion

Wet and dry site asynchronicity throughout the Holocene.

The fire history records of Butler Lake and Lake Seven display no periods of correlation throughout the past 10,000 years (Fig. 5.2A). This is surprising considering their close proximity and similar vegetation and climate histories. These results can be considered consistent with an overall driver of fire frequency by moisture, as asynchronicity between sites is likely due to differences in local effective moisture (Long et al. 2011). The watershed of Butler Lake has unique topographic features that may have raised the water level in the surrounding marshes, producing and sustaining high effective moisture conditions. Lake Seven does not have these wetlands in its watershed; thus effective moisture at this site may respond more directly to periods of low moisture availability (drought). In addition, minor differences in slope can affect fuel conditions between sites. It has been previously suggested that site-specific differences between locations can strongly influence local fire regimes, in that regional climatic controls may be obscured by local controls such as: stochastic ignitions, topography, and fuel loads (Gavin et al. 2006).

The two sites with drier modern climates, Comstock Lake and Lake George, display direct correlation within a time window size of 600 from the K1D synchrony function, however there is no other evidence of direct synchrony in any larger time windows throughout the remainder of the record (Fig. 5.2B). Again this is puzzling given the similarities between watersheds, as both are similar in relative area, and Lake George is only 1m deeper than Comstock Lake, which would not likely influence moisture

conditions. Both locations also have similar topography, as they are both located on the southwestern edge of the Green Bay Lobe. However, these two locations are relatively far apart, 32 km, which is significant distance to cause site-specific moisture differentiation (Gavin et al. 2006). Comstock Lake displayed higher sensitivity to low moisture conditions throughout the Mid-Holocene than Lake George, specifically the regional drought period at 4200 cal yr BP.

Moisture availability influence on Holocene fire regimes

During a warming and wet early Holocene from 10,000 cal yr BP to 8000 cal yr BP, the retreat of the Laurentide Ice Sheet allowed moisture conditions to increase throughout the upper Midwest (Webb 1987). Opposite responses are seen in fire frequency among sites. Increases at Butler Lake are likely due to lower moisture conditions directly surrounding the watershed, which would have likely promoted more frequent ignition rates of fuels, and for an increase in rate of spread when forest fires were occurring (Govender, Trollope and Van Wilgen 2006). Decreases in fire frequency at Lake Seven could be due to relatively high moisture conditions as the larger marshlands surrounding the watershed, which would have increased saturation of local fuels, limiting ignition of fuels, and rate of spread (Govender et al. 2006). The regional moisture increase seems not to have affected fire frequency at the drier locations, but seems to have caused decreases in peak magnitude.

Differential sensitivity to a change in moisture is also seen in the mid-Holocene dry period (8000 cal yr BP to 5000 cal yr BP), as fire frequency gradually increased at Butler Lake, but remained constant at Lake Seven until an increase c.5000 cal yr BP. Interestingly, the delayed response at Lake Seven can be attributed to the sustained high

effective moisture throughout the watershed, as local marshlands maintained high water levels for much of the middle Holocene, while lake levels at Butler Lake likely decreased much more rapidly (Long et al. 2011). Increases in fire frequency and BCHAR values at dry locations directly follows the decrease in moisture levels throughout the region (Booth et al. 2006), which would have been cause for more frequent non-stand replacing fires to occur and spread.

The overall pattern is one of idiosyncratic and site-specific response that is not consistent in time. It has been suggested that fire regime activity increases and decreases directly in response to climatic controls, such as changing temperatures on a global scale (Daniau et al 2012). This is evident in my study locations, yet regional fire regimes throughout the Midwest are not collectively fluctuating in response to climatic controls in similar ways. We see that there are site-specific mechanisms, such as local moisture conditions and fuel load saturation, that are creating unique fire-fuel relationships from site to site in southern Wisconsin. Watershed similarities are observed at paired dry sites Comstock and George, and watershed dissimilarities are observed between paired wet sites Seven and Butler. Such site to site variability raises questions on the scale at which global fire predictability reconstructions can be drawn. This research suggests that the accumulation and addition of multiple fire records on regional scales is necessary to further improve global synthesis efforts examining climate-fire-fuel relationships. Forestry managers controlling fire in these mesic deciduous and oak-savanna forests would benefit from research that distinguishes fire regime characteristics on a site-based level, primarily because of the high sensitivity that we found at each site to both wet and dry conditions.

Fire intensity effects on available fuel type

All four sites collectively display higher concentrations of arboreal (tree) fuels burned during periods of high fire frequency. Similarly, during periods of relatively low fire activity, charcoal particle concentrations were composed of primarily non-arboreal (grass and shrub) sources. This suggests that forest fires occurring during periods of low disturbance fire activity are likely not of high enough intensity to fully ignite tree fuels and create more intensive crown fires, rather providing more opportunity for surface/ground fires to occur and deposit higher concentrations of grass and shrub charcoal particles than that of tree fuel sources (Jensen et al. 2007). During periods of high disturbance fire activity, the overall concentration of charcoal particles is from tree fuel sources. This suggests that during such times of high fire activity, fire episodes were high intensity that created larger and more intensive fires to occur, possibly crown fires such as those that occur in lodgepole pine (*Pinus contorta*) forests in the western U.S. (Turner and Romme 1994). Tree fuel sources ignited during these events were then deposited as sedimentary charcoal.

Effect of vegetation on fire regime

Differences in fuel sources between the study sites throughout the Holocene is the most prominent observation from the records. For example, in the early Holocene (10,000 - 8600 cal yr BP) Lake Seven had high concentrations of tree charcoal, while in contrast Butler Lake displayed high concentrations of grass and shrub fuels. These differences may be related to landscape-scale differences in vegetation type among sites. The grass and shrub fuels at Butler Lake can be linked with *Pinus* vegetation, and mesic deciduous forest which begins to establish in the region at 8600 cal yr BP (Webb 1987).

Some species of *Pinus*, such as *P. resinosa*, are relatively tolerant of low-intensity ground fires (Habrouk, Retana and Espelta 1999). Such fires do not produce high quantities of tree charcoal particles, suggesting that understory shrubs and grasses are the dominant fuel source.

The proportion of grass and shrub charcoal increased gradually at both Lake Seven and Butler Lake from c.6000 cal yr BP. Again, this may reflect a lower-intensity fire regime in the mesic deciduous forests established throughout the region. Pollen analysis indicates a dominant oak forest at this time. *Quercus* species possess thick bark that is highly fire-resistant and has low thermal conductivity (Abrams 1992), thereby limiting the amount of tree fuel sources. There is also likely an independent climate driver, as decreasing effective moisture may have provided the opportunity for more frequent surface and ground fires to occur, limiting the accumulation of fuel. Fuel limitation at times of high grass and shrub charcoal has also been interpreted in the African savanna biome from sediments of Lake Challa (Nelson et al. 2012).

The late Holocene also displays idiosyncratic patterns of fuel sources between Lake Seven and Butler Lake. Tree fuel sources increased from c.6000 to 3000 cal yr BP at Lake Seven, while Butler Lake fuel ratios remained constant during this time. The vegetation at these sites was still a mixed deciduous forest dominated by *Quercus* spp., with a new component of additional deciduous hardwoods such as *Acer* and *Betula*. These taxa may have provided the opportunity for grass and shrub fuels to build up concentrations within the watersheds, as Q*uercus* taxa have been attributed to low severity and frequent fire regimes.

The establishment of *Quercus* vegetation also led to a new fire regime of low severity and frequent fires at the two dry sites. Fuel morphotypes indicate a gradual increase of grass and shrub fuels starting at 8600 cal yr BP at both Comstock Lake and Lake George, which remained at both locations until c.3000 cal yr BP. This gradual increase in grass and shrub fuels closely follows the development of *Quercus* forests into the region, which again would have caused fires that were frequent and of low severity, allowing the build-up of grass and shrub fuels into the watersheds (Abrams 1992).

One remaining unsolved question is how the late-Holocene fire regimes at Comstock Lake and Lake George could have changed without any apparent change in the pollen assemblages. The amount of grass and shrub fuels started to increase at both sites starting at c.3000 cal yr BP, yet there were no apparent synchronous changes in available fuels surrounding the watersheds as seen in the pollen diagram (Fig. 5.8). It is possible that a structural change in oak forest, such as abundant understory fuel growth, allowed an increase in grass and shrub fuels throughout the late Holocene. Increased moisture has been shown to cause a build-up of deciduous herbaceous understory fuels in the tropical forests of Panama (Condit, Hubbell and Foster 1996).

Chapter 7 - Conclusions

The results from the paleolimnological studies shown here provide valuable information about the predictability of fire regimes both regionally and globally. In particular, regional charcoal records demonstrate how such regimes may be governed from a single climatic driver such as temperature or precipitation (Daniau et al 2012). We provide evidence for increased moisture availability to both result in increasing or decreasing fire return interval, due to interactions with fuel source (vegetation type) and fire intensity (crown fires v. surface fires). Similar regional analyses of fire frequency, as calculated from sedimentary charcoal, have demonstrated differences in fire regime among Alaskan tundra types—a biome previously thought to be homogenous with regard to fire (Barrett et al. 2012). Regional differences among fire regimes in deciduous and coniferous forest types in North America certainly exist (Marlon et al. 2009). Within a relatively similar physiographic area in southern Wisconsin, these site-specific patterns of fire history emphasize the need to accumulate a large number of charcoal records within a single region to capture the spatial and temporal heterogeneity of fire regimes.

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Appendix A - Butler Lake CHAR Data

Lake charcoal data results after running the CHAR Analysis fire model. Depth intervals of the sediment core (cm Top i) are plotted with the age of the sediment core (age Top i). Raw charcoal counts are shown next in the column for each depth interval (char Count i). Sample volumes for the sediment core are located next in the (char Vol i) column. The model determines charcoal concentrations and these values are shown under the (char Con i) column. Charcoal accumulation rates are shown as a result of running CHAR Analysis, and are shown in the (char Acc i). The influx of background charcoal are shown under the (charBkg) column. Finally, CHAR Analysis has determined peaks throughout the sediment core, and these peaks are shown under the (char Peak) column. All CHAR data and results from this research have been archived into the Global Charcoal Database (www.ncdc.noaa.gov/paleo/impd/gcd.html).

cm Top_i (cm)	age Top_i (yr BP)	char Count_i (#)	char Vol_i (cm^3)	char Con_i (# cm^{-3})	char Acc_i (# cm^{-2} yr^{-1})	charBkg (# cm^{-2} yr^{-1})	char Peak (# cm^{-2} yr^{-1})
	-50	9	1.96	4.41	0.0023	0.0038	-0.0016
0.01	-32	15	2.00	7.27	0.0038	0.0037	0.0001
0.02	-14	16	2.00	7.93	0.0042	0.0035	0.0006
0.03	4	18	2.00	9.21	0.0048	0.0034	0.0014
0.04	22	11	2.00	5.36	0.0028	0.0033	-0.0004
0.05	40	7	2.00	3.65	0.0019	0.0031	-0.0012
0.06	58	9	2.00	4.46	0.0023	0.0030	-0.0006
0.07	76	10	2.00	5.00	0.0026	0.0028	-0.0002
0.08	94	13	2.00	6.58	0.0035	0.0027	0.0008
0.08	112	14	2.00	6.83	0.0036	0.0025	0.0011
0.09	130	11	2.00	5.29	0.0028	0.0023	0.0004
0.10	148	9	2.00	4.47	0.0023	0.0022	0.0002
0.11	166	8	2.00	3.80	0.0020	0.0020	0.0000
0.12	184	10	2.00	5.21	0.0027	0.0019	0.0009
0.13	202	13	2.00	6.51	0.0034	0.0017	0.0017
0.14	220	4	2.00	1.76	0.0009	0.0016	-0.0007
0.15	238	0	2.00	0.00	0.0000	0.0015	-0.0015
0.16	256	0	2.00	0.00	0.0000	0.0014	-0.0014
0.17	274	0	2.00	0.00	0.0000	0.0013	-0.0013
0.18	292	1	2.00	0.47	0.0002	0.0013	-0.0010
0.19	310	1	2.00	0.50	0.0003	0.0012	-0.0010

0.20	328	4	2.00	2.15	0.0011	0.0012	-0.0001
0.21	346	3	2.00	1.73	0.0009	0.0013	-0.0004
0.22	364	7	2.00	3.27	0.0017	0.0013	0.0004
0.23	382	7	2.00	3.35	0.0018	0.0015	0.0003
0.24	400	7	2.00	3.29	0.0017	0.0016	0.0001
0.25	418	5	2.00	2.71	0.0014	0.0018	-0.0004
0.25	436	6	2.00	2.93	0.0015	0.0020	-0.0005
0.26	454	8	2.00	4.00	0.0021	0.0022	-0.0001
0.27	472	9	2.00	4.34	0.0023	0.0024	-0.0001
0.28	490	10	2.00	5.14	0.0027	0.0025	0.0002
0.29	508	10	2.00	4.96	0.0026	0.0026	0.0000
0.30	526	8	2.00	3.93	0.0021	0.0028	-0.0007
0.31	544	18	2.00	8.77	0.0046	0.0029	0.0017
0.32	562	13	2.00	6.53	0.0034	0.0030	0.0004
0.33	580	15	2.00	7.50	0.0039	0.0031	0.0009
0.34	598	22	2.00	10.87	0.0057	0.0031	0.0026
0.35	616	8	2.00	3.81	0.0020	0.0032	-0.0012
0.36	634	7	2.00	3.42	0.0018	0.0032	-0.0014
0.37	652	12	2.00	5.80	0.0030	0.0032	-0.0002
0.38	670	14	2.00	7.20	0.0038	0.0033	0.0005
0.39	688	14	2.00	7.18	0.0037	0.0033	0.0004
0.40	706	16	2.00	8.14	0.0042	0.0035	0.0008
0.41	724	14	2.00	7.25	0.0038	0.0037	0.0001
0.41	742	9	2.00	4.42	0.0023	0.0040	-0.0017
0.42	760	5	2.00	2.45	0.0013	0.0044	-0.0031
0.43	778	4	2.00	2.09	0.0011	0.0048	-0.0038
0.44	796	9	2.00	4.74	0.0025	0.0053	-0.0029
0.45	814	18	2.00	9.23	0.0048	0.0059	-0.0011
0.46	832	21	2.00	10.62	0.0055	0.0064	-0.0009
0.47	850	24	2.00	12.00	0.0062	0.0069	-0.0007
0.48	868	24	2.00	12.00	0.0062	0.0074	-0.0012
0.49	886	35	2.00	17.64	0.0091	0.0078	0.0013
0.50	904	45	2.00	22.33	0.0116	0.0083	0.0032
0.51	922	55	2.00	27.36	0.0142	0.0088	0.0053
0.52	940	59	2.00	29.58	0.0153	0.0093	0.0060
0.53	958	54	2.00	27.10	0.0140	0.0097	0.0043
0.54	976	35	2.00	17.26	0.0089	0.0101	-0.0011
0.55	994	30	2.00	15.18	0.0078	0.0103	-0.0025
0.55	1012	43	2.00	21.37	0.0110	0.0105	0.0005
0.56	1030	43	2.00	21.30	0.0110	0.0106	0.0003
0.57	1048	33	2.00	16.65	0.0086	0.0107	-0.0021
0.58	1066	38	2.00	19.13	0.0098	0.0107	-0.0009
0.59	1084	44	2.00	22.15	0.0114	0.0108	0.0006

0.60	1102	47	2.00	23.57	0.0121	0.0108	0.0013
0.61	1120	55	2.00	27.50	0.0141	0.0108	0.0033
0.62	1138	29	2.00	14.39	0.0074	0.0109	-0.0035
0.63	1156	36	2.00	17.77	0.0091	0.0109	-0.0018
0.64	1174	35	2.00	17.73	0.0091	0.0109	-0.0018
0.65	1192	43	2.00	21.62	0.0111	0.0109	0.0002
0.66	1210	51	2.00	25.31	0.0130	0.0108	0.0022
0.67	1228	47	2.00	23.40	0.0120	0.0107	0.0013
0.67	1246	50	2.00	25.22	0.0129	0.0106	0.0023
0.68	1264	58	2.00	28.94	0.0148	0.0105	0.0043
0.69	1282	46	2.00	22.99	0.0117	0.0105	0.0013
0.70	1300	39	2.00	19.43	0.0099	0.0104	-0.0005
0.71	1318	33	2.00	16.28	0.0083	0.0104	-0.0021
0.72	1336	27	2.00	13.50	0.0069	0.0105	-0.0036
0.73	1354	32	2.00	15.96	0.0081	0.0106	-0.0025
0.74	1372	33	2.00	16.44	0.0084	0.0107	-0.0023
0.75	1390	40	2.00	20.08	0.0102	0.0108	-0.0006
0.76	1408	41	2.00	20.65	0.0105	0.0110	-0.0005
0.77	1426	39	2.00	19.29	0.0098	0.0112	-0.0014
0.78	1444	42	2.00	20.80	0.0105	0.0115	-0.0010
0.78	1462	44	2.00	21.76	0.0110	0.0118	-0.0008
0.79	1480	44	2.00	22.05	0.0112	0.0122	-0.0010
0.80	1498	54	2.00	26.93	0.0136	0.0125	0.0011
0.81	1516	60	2.00	29.89	0.0151	0.0128	0.0023
0.82	1534	81	2.00	40.64	0.0205	0.0132	0.0073
0.83	1552	100	2.00	50.00	0.0252	0.0135	0.0117
0.84	1570	43	2.00	21.72	0.0109	0.0138	-0.0029
0.85	1588	59	2.00	29.51	0.0148	0.0141	0.0007
0.86	1606	63	2.00	31.30	0.0157	0.0144	0.0013
0.87	1624	49	2.00	24.71	0.0124	0.0147	-0.0022
0.88	1642	59	2.00	29.39	0.0148	0.0148	0.0000
0.88	1660	68	2.00	33.84	0.0170	0.0148	0.0022
0.89	1678	51	2.00	25.51	0.0128	0.0148	-0.0020
0.90	1696	48	2.00	23.98	0.0121	0.0147	-0.0026
0.91	1714	60	2.00	30.16	0.0152	0.0145	0.0007
0.92	1732	102	2.00	51.00	0.0257	0.0143	0.0113
0.93	1750	76	2.00	37.90	0.0191	0.0142	0.0049
0.94	1768	61	2.00	30.55	0.0154	0.0142	0.0012
0.95	1786	80	2.00	39.86	0.0201	0.0141	0.0060
0.96	1804	46	2.00	22.96	0.0116	0.0140	-0.0024
0.97	1822	46	2.00	22.98	0.0116	0.0139	-0.0023
0.98	1840	43	2.00	21.47	0.0109	0.0138	-0.0029
0.98	1858	34	2.00	17.23	0.0088	0.0136	-0.0048

0.99	1876	52	2.00	25.92	0.0132	0.0134	-0.0002
1.00	1894	50	2.00	25.11	0.0128	0.0131	-0.0003
1.01	1912	56	2.00	28.16	0.0144	0.0129	0.0015
1.02	1930	67	2.00	33.56	0.0172	0.0127	0.0045
1.03	1948	95	2.00	47.50	0.0245	0.0126	0.0119
1.04	1966	41	2.00	20.59	0.0107	0.0126	-0.0020
1.05	1984	50	2.00	24.82	0.0129	0.0127	0.0002
1.06	2002	39	2.00	19.37	0.0101	0.0128	-0.0027
1.07	2020	40	2.00	19.88	0.0104	0.0130	-0.0026
1.08	2038	49	2.00	24.65	0.0130	0.0131	-0.0002
1.09	2056	51	2.00	25.55	0.0135	0.0132	0.0003
1.10	2074	35	2.00	17.39	0.0092	0.0133	-0.0040
1.11	2092	43	2.00	21.71	0.0116	0.0134	-0.0018
1.12	2110	56	2.00	28.00	0.0150	0.0135	0.0015
1.12	2128	52	2.00	26.23	0.0141	0.0137	0.0005
1.13	2146	72	2.00	36.13	0.0196	0.0139	0.0057
1.14	2164	91	2.00	45.59	0.0249	0.0142	0.0106
1.15	2182	50	2.00	24.87	0.0136	0.0145	-0.0008
1.16	2200	0	2.00	0.00	0.0000	0.0148	-0.0148
1.17	2218	27	2.00	13.68	0.0076	0.0150	-0.0073
1.18	2236	58	2.00	29.05	0.0163	0.0151	0.0012
1.19	2254	45	2.00	22.67	0.0128	0.0152	-0.0024
1.20	2272	55	2.00	27.58	0.0157	0.0153	0.0004
1.21	2290	60	2.00	29.92	0.0172	0.0153	0.0019
1.22	2308	58	2.00	29.01	0.0168	0.0153	0.0015
1.24	2326	69	2.00	34.62	0.0203	0.0153	0.0050
1.25	2344	56	2.00	27.82	0.0164	0.0154	0.0011
1.26	2362	49	2.00	24.30	0.0145	0.0155	-0.0009
1.27	2380	48	2.00	24.06	0.0145	0.0156	-0.0010
1.28	2398	37	2.00	18.50	0.0113	0.0157	-0.0044
1.29	2416	21	2.00	10.44	0.0065	0.0158	-0.0094
1.30	2434	56	2.00	28.07	0.0176	0.0160	0.0016
1.31	2452	51	2.00	25.73	0.0163	0.0162	0.0001
1.32	2470	56	2.00	27.81	0.0178	0.0164	0.0014
1.33	2488	44	2.00	21.90	0.0142	0.0166	-0.0024
1.35	2506	47	2.00	23.38	0.0153	0.0169	-0.0015
1.36	2524	49	2.00	24.57	0.0163	0.0172	-0.0009
1.37	2542	67	2.00	33.60	0.0226	0.0175	0.0051
1.38	2560	38	2.00	18.84	0.0128	0.0178	-0.0050
1.39	2578	48	2.00	23.94	0.0165	0.0181	-0.0016
1.41	2596	74	2.00	37.24	0.0260	0.0183	0.0077
1.42	2614	66	2.00	32.97	0.0233	0.0185	0.0048
1.43	2632	52	2.00	26.17	0.0188	0.0187	0.0001

1.44	2650	46	2.00	23.18	0.0168	0.0188	-0.0019
1.46	2668	68	2.00	34.05	0.0251	0.0188	0.0063
1.47	2686	32	2.00	15.77	0.0118	0.0187	-0.0069
1.48	2704	64	2.00	32.04	0.0242	0.0187	0.0055
1.50	2722	51	2.00	25.58	0.0196	0.0187	0.0009
1.51	2740	34	2.00	16.96	0.0132	0.0187	-0.0055
1.53	2758	52	2.00	26.16	0.0206	0.0186	0.0020
1.54	2776	74	2.00	37.07	0.0297	0.0185	0.0112
1.55	2794	45	2.00	22.32	0.0181	0.0184	-0.0002
1.57	2812	40	2.00	20.02	0.0165	0.0182	-0.0017
1.58	2830	31	2.00	15.69	0.0131	0.0179	-0.0048
1.60	2848	27	2.00	13.54	0.0115	0.0176	-0.0061
1.61	2866	63	2.00	31.59	0.0273	0.0173	0.0100
1.63	2884	49	2.00	24.59	0.0216	0.0169	0.0047
1.65	2902	56	2.00	28.24	0.0251	0.0165	0.0086
1.66	2920	137	2.00	68.29	0.0618	0.0161	0.0457
1.68	2938	63	2.00	31.64	0.0291	0.0157	0.0134
1.69	2956	32	2.00	15.98	0.0149	0.0154	-0.0005
1.71	2974	25	2.00	12.45	0.0118	0.0151	-0.0033
1.73	2992	44	2.00	22.03	0.0212	0.0148	0.0065
1.75	3010	32	2.00	15.76	0.0154	0.0145	0.0010
1.76	3028	16	2.00	7.82	0.0078	0.0142	-0.0064
1.78	3046	18	2.00	8.94	0.0090	0.0138	-0.0048
1.80	3064	48	2.00	24.10	0.0248	0.0134	0.0113
1.82	3082	16	2.00	7.75	0.0081	0.0131	-0.0050
1.84	3100	19	2.00	9.42	0.0100	0.0128	-0.0028
1.86	3118	27	2.00	13.53	0.0146	0.0125	0.0020
1.88	3136	18	2.00	9.25	0.0101	0.0124	-0.0023
1.89	3154	22	2.00	10.90	0.0121	0.0123	-0.0002
1.91	3172	26	2.00	12.87	0.0145	0.0123	0.0022
1.94	3190	26	2.00	12.81	0.0146	0.0124	0.0022
1.96	3208	20	2.00	10.18	0.0118	0.0127	-0.0009
1.98	3226	21	2.00	10.28	0.0121	0.0130	-0.0009
2.00	3244	19	2.00	9.68	0.0115	0.0136	-0.0020
2.02	3262	21	2.00	10.27	0.0124	0.0142	-0.0018
2.04	3280	12	2.00	5.83	0.0071	0.0148	-0.0077
2.06	3298	18	2.00	9.10	0.0112	0.0156	-0.0044
2.09	3316	18	2.00	9.14	0.0114	0.0165	-0.0051
2.11	3334	30	2.00	15.04	0.0190	0.0175	0.0015
2.13	3352	19	2.00	9.47	0.0121	0.0185	-0.0065
2.15	3370	31	2.00	15.33	0.0197	0.0196	0.0000
2.18	3388	49	2.00	24.32	0.0314	0.0207	0.0108
2.20	3406	63	2.00	31.59	0.0411	0.0216	0.0195

2.22	3424	29	2.00	14.46	0.0189	0.0226	-0.0037
2.25	3442	62	2.00	30.91	0.0405	0.0236	0.0170
2.27	3460	53	2.00	26.55	0.0349	0.0245	0.0104
2.29	3478	50	2.00	24.89	0.0328	0.0255	0.0072
2.32	3496	73	2.00	36.50	0.0481	0.0265	0.0216
2.34	3514	65	2.00	32.74	0.0431	0.0275	0.0156
2.36	3532	111	2.00	55.29	0.0726	0.0285	0.0441
2.39	3550	30	2.00	14.86	0.0195	0.0294	-0.0099
2.41	3568	55	2.00	27.31	0.0356	0.0302	0.0054
2.44	3586	48	2.00	23.94	0.0310	0.0308	0.0002
2.46	3604	34	2.00	17.12	0.0220	0.0313	-0.0093
2.48	3622	46	2.00	23.01	0.0294	0.0312	-0.0018
2.51	3640	64	2.00	31.86	0.0404	0.0314	0.0089
2.53	3658	62	2.00	30.79	0.0386	0.0315	0.0072
2.55	3676	53	2.00	26.57	0.0330	0.0314	0.0016
2.57	3694	67	2.00	33.53	0.0412	0.0312	0.0100
2.59	3712	61	2.00	30.72	0.0373	0.0309	0.0064
2.62	3730	97	2.00	48.35	0.0580	0.0306	0.0273
2.64	3748	98	2.00	49.06	0.0580	0.0302	0.0278
2.66	3766	50	2.00	24.97	0.0291	0.0299	-0.0007
2.68	3784	90	2.00	44.85	0.0516	0.0295	0.0221
2.70	3802	46	2.00	22.88	0.0259	0.0290	-0.0031
2.72	3820	39	2.00	19.67	0.0220	0.0286	-0.0067
2.74	3838	31	2.00	15.25	0.0168	0.0282	-0.0114
2.76	3856	56	2.00	28.17	0.0305	0.0277	0.0028
2.78	3874	50	2.00	24.94	0.0266	0.0272	-0.0006
2.80	3892	47	2.00	23.51	0.0247	0.0267	-0.0020
2.82	3910	87	2.00	43.55	0.0450	0.0263	0.0187
2.84	3928	124	2.00	62.20	0.0633	0.0259	0.0374
2.86	3946	72	2.00	36.13	0.0362	0.0257	0.0105
2.87	3964	47	2.00	23.33	0.0230	0.0255	-0.0025
2.89	3982	40	2.00	20.17	0.0196	0.0254	-0.0058
2.91	4000	59	2.00	29.35	0.0280	0.0252	0.0028
2.93	4018	46	2.00	23.23	0.0218	0.0251	-0.0033
2.94	4036	59	2.00	29.40	0.0272	0.0250	0.0022
2.96	4054	43	2.00	21.58	0.0196	0.0249	-0.0053
2.98	4072	80	2.00	40.16	0.0360	0.0248	0.0113
2.99	4090	137	2.00	68.66	0.0606	0.0246	0.0360
3.01	4108	152	2.00	75.95	0.0660	0.0245	0.0415
3.02	4126	115	2.00	57.47	0.0492	0.0243	0.0249
3.04	4144	81	2.00	40.29	0.0340	0.0242	0.0097
3.05	4162	69	2.00	34.33	0.0285	0.0241	0.0045
3.07	4180	52	2.00	26.14	0.0214	0.0240	-0.0026

3.08	4198	58	2.00	28.93	0.0234	0.0239	-0.0005
3.10	4216	33	2.00	16.52	0.0131	0.0239	-0.0107
3.11	4234	58	2.00	29.13	0.0228	0.0237	-0.0009
3.13	4252	60	2.00	29.80	0.0230	0.0236	-0.0006
3.14	4270	68	2.00	34.09	0.0260	0.0234	0.0026
3.16	4288	75	2.00	37.48	0.0282	0.0231	0.0050
3.17	4306	48	2.00	24.19	0.0179	0.0229	-0.0050
3.18	4324	52	2.00	25.80	0.0189	0.0226	-0.0038
3.20	4342	73	2.00	36.39	0.0263	0.0224	0.0039
3.21	4360	51	2.00	25.51	0.0182	0.0221	-0.0039
3.22	4378	57	2.00	28.27	0.0199	0.0218	-0.0019
3.23	4396	83	2.00	41.52	0.0289	0.0216	0.0074
3.25	4414	94	2.00	47.12	0.0325	0.0213	0.0112
3.26	4432	67	2.00	33.30	0.0227	0.0210	0.0017
3.27	4450	114	2.00	56.99	0.0384	0.0207	0.0177
3.28	4468	98	2.00	49.12	0.0328	0.0204	0.0124
3.30	4486	45	2.00	22.74	0.0150	0.0202	-0.0052
3.31	4504	43	2.00	21.38	0.0140	0.0200	-0.0060
3.32	4522	69	2.00	34.37	0.0223	0.0197	0.0026
3.33	4540	75	2.00	37.30	0.0240	0.0194	0.0046
3.34	4558	58	2.00	29.07	0.0185	0.0190	-0.0005
3.35	4576	44	2.00	22.02	0.0139	0.0187	-0.0048
3.36	4594	17	2.00	8.50	0.0053	0.0183	-0.0129
3.38	4612	52	2.00	25.75	0.0160	0.0179	-0.0019
3.39	4630	193	2.00	96.64	0.0596	0.0174	0.0421
3.40	4648	73	2.00	36.41	0.0223	0.0170	0.0053
3.41	4666	76	2.00	37.79	0.0229	0.0165	0.0064
3.42	4684	89	2.00	44.38	0.0267	0.0159	0.0108
3.43	4702	32	2.00	16.15	0.0097	0.0154	-0.0057
3.44	4720	49	2.00	24.57	0.0146	0.0148	-0.0002
3.45	4738	46	2.00	22.91	0.0135	0.0142	-0.0007
3.46	4756	92	2.00	45.90	0.0269	0.0137	0.0132
3.47	4774	91	2.00	45.41	0.0264	0.0131	0.0133
3.48	4792	52	2.00	25.96	0.0150	0.0127	0.0023
3.49	4810	48	2.00	24.05	0.0138	0.0124	0.0014
3.51	4828	30	2.00	15.01	0.0086	0.0122	-0.0036
3.52	4846	14	2.00	6.83	0.0039	0.0121	-0.0082
3.53	4864	18	2.00	9.20	0.0052	0.0122	-0.0070
3.54	4882	23	2.00	11.64	0.0065	0.0120	-0.0055
3.55	4900	27	2.00	13.31	0.0074	0.0123	-0.0049
3.56	4918	29	2.00	14.71	0.0081	0.0128	-0.0047
3.57	4936	27	2.00	13.64	0.0075	0.0134	-0.0059
3.58	4954	44	2.00	22.23	0.0122	0.0142	-0.0020

3.59	4972	82	2.00	40.89	0.0223	0.0151	0.0072
3.60	4990	97	2.00	48.68	0.0264	0.0161	0.0103
3.61	5008	78	2.00	38.89	0.0210	0.0173	0.0037
3.61	5026	64	2.00	31.87	0.0171	0.0184	-0.0013
3.62	5044	71	2.00	35.39	0.0189	0.0196	-0.0007
3.63	5062	68	2.00	34.06	0.0181	0.0208	-0.0027
3.64	5080	76	2.00	38.07	0.0201	0.0219	-0.0018
3.65	5098	115	2.00	57.70	0.0303	0.0230	0.0073
3.66	5116	105	2.00	52.34	0.0274	0.0241	0.0033
3.67	5134	107	2.00	53.40	0.0278	0.0252	0.0027
3.68	5152	84	2.00	42.12	0.0219	0.0261	-0.0042
3.69	5170	112	2.00	56.00	0.0289	0.0269	0.0021
3.70	5188	95	2.00	47.51	0.0244	0.0276	-0.0031
3.71	5206	103	2.00	51.63	0.0264	0.0281	-0.0017
3.72	5224	137	2.00	68.67	0.0350	0.0286	0.0065
3.73	5242	223	2.00	111.38	0.0566	0.0289	0.0276
3.74	5260	177	2.00	88.40	0.0447	0.0293	0.0154
3.75	5278	187	2.00	93.42	0.0471	0.0295	0.0175
3.75	5296	177	2.00	88.31	0.0443	0.0297	0.0146
3.76	5314	138	2.00	69.16	0.0346	0.0298	0.0048
3.77	5332	196	2.00	97.80	0.0487	0.0297	0.0190
3.78	5350	210	2.00	105.15	0.0522	0.0297	0.0225
3.79	5368	195	2.00	97.50	0.0482	0.0296	0.0186
3.80	5386	133	2.00	66.74	0.0329	0.0295	0.0033
3.81	5404	135	2.00	67.70	0.0332	0.0295	0.0037
3.82	5422	179	2.00	89.47	0.0438	0.0294	0.0144
3.83	5440	141	2.00	70.52	0.0344	0.0290	0.0054
3.84	5458	106	2.00	52.90	0.0257	0.0283	-0.0026
3.84	5476	128	2.00	64.00	0.0310	0.0273	0.0037
3.85	5494	161	2.00	80.68	0.0389	0.0261	0.0129
3.86	5512	127	2.00	63.50	0.0306	0.0250	0.0056
3.87	5530	91	2.00	45.75	0.0219	0.0238	-0.0019
3.88	5548	90	2.00	45.09	0.0216	0.0228	-0.0012
3.89	5566	77	2.00	38.35	0.0183	0.0219	-0.0036
3.90	5584	54	2.00	26.79	0.0127	0.0211	-0.0084
3.90	5602	46	2.00	23.07	0.0109	0.0200	-0.0091
3.91	5620	61	2.00	30.53	0.0144	0.0190	-0.0046
3.92	5638	39	2.00	19.50	0.0092	0.0186	-0.0094
3.93	5656	79	2.00	39.43	0.0185	0.0184	0.0002
3.94	5674	65	2.00	32.50	0.0152	0.0184	-0.0031
3.95	5692	59	2.00	29.60	0.0138	0.0186	-0.0048
3.96	5710	69	2.00	34.35	0.0160	0.0190	-0.0030
3.96	5728	78	2.00	38.86	0.0181	0.0196	-0.0016

3.97	5746	56	2.00	27.80	0.0129	0.0203	-0.0075
3.98	5764	88	2.00	44.00	0.0203	0.0212	-0.0008
3.99	5782	111	2.00	55.42	0.0255	0.0221	0.0035
4.00	5800	108	2.00	54.03	0.0248	0.0230	0.0019
4.01	5818	112	2.00	55.91	0.0257	0.0238	0.0018
4.01	5836	131	2.00	65.60	0.0300	0.0247	0.0053
4.02	5854	158	2.00	79.00	0.0361	0.0256	0.0105
4.03	5872	131	2.00	65.40	0.0298	0.0263	0.0035
4.04	5890	108	2.00	54.11	0.0246	0.0270	-0.0024
4.05	5908	117	2.00	58.42	0.0265	0.0275	-0.0010
4.05	5926	129	2.00	64.45	0.0292	0.0278	0.0013
4.06	5944	125	2.00	62.50	0.0282	0.0279	0.0003
4.07	5962	138	2.00	69.00	0.0311	0.0279	0.0032
4.08	5980	104	2.00	51.84	0.0233	0.0277	-0.0044
4.09	5998	159	2.00	79.43	0.0356	0.0275	0.0081
4.09	6016	176	2.00	87.92	0.0394	0.0273	0.0120
4.10	6034	134	2.00	66.97	0.0299	0.0272	0.0027
4.11	6052	141	2.00	70.50	0.0314	0.0270	0.0044
4.12	6070	96	2.00	47.84	0.0213	0.0268	-0.0055
4.13	6088	62	2.00	31.12	0.0138	0.0265	-0.0127
4.13	6106	65	2.00	32.25	0.0143	0.0261	-0.0118
4.14	6124	98	2.00	49.15	0.0217	0.0256	-0.0038
4.15	6142	116	2.00	58.00	0.0256	0.0250	0.0006
4.16	6160	129	2.00	64.43	0.0284	0.0243	0.0041
4.17	6178	117	2.00	58.65	0.0258	0.0235	0.0023
4.17	6196	116	2.00	57.98	0.0255	0.0226	0.0028
4.18	6214	131	2.00	65.57	0.0288	0.0218	0.0069
4.19	6232	119	2.00	59.50	0.0260	0.0210	0.0050
4.20	6250	82	2.00	40.79	0.0178	0.0202	-0.0024
4.21	6268	80	2.00	40.19	0.0175	0.0194	-0.0019
4.21	6286	83	2.00	41.63	0.0181	0.0186	-0.0004
4.22	6304	69	2.00	34.50	0.0150	0.0178	-0.0028
4.23	6322	21	2.00	10.67	0.0046	0.0171	-0.0124
4.24	6340	39	2.00	19.70	0.0085	0.0165	-0.0079
4.25	6358	55	2.00	27.69	0.0120	0.0160	-0.0040
4.25	6376	72	2.00	36.08	0.0156	0.0157	-0.0001
4.26	6394	115	2.00	57.50	0.0248	0.0154	0.0094
4.27	6412	60	2.00	30.24	0.0130	0.0153	-0.0023
4.28	6430	40	2.00	19.78	0.0085	0.0153	-0.0068
4.28	6448	37	2.00	18.33	0.0079	0.0154	-0.0075
4.29	6466	53	2.00	26.50	0.0114	0.0156	-0.0043
4.30	6484	74	2.00	37.10	0.0159	0.0158	0.0001
4.31	6502	104	2.00	51.85	0.0222	0.0160	0.0062

4.32	6520	112	2.00	55.86	0.0239	0.0163	0.0076
4.32	6538	100	2.00	49.85	0.0213	0.0166	0.0047
4.33	6556	82	2.00	41.00	0.0175	0.0168	0.0007
4.34	6574	62	2.00	31.04	0.0132	0.0169	-0.0037
4.35	6592	87	2.00	43.69	0.0186	0.0169	0.0017
4.35	6610	115	2.00	57.58	0.0245	0.0169	0.0076
4.36	6628	67	2.00	33.50	0.0142	0.0169	-0.0027
4.37	6646	56	2.00	28.00	0.0119	0.0169	-0.0051
4.38	6664	96	2.00	47.91	0.0203	0.0169	0.0034
4.38	6682	138	2.00	68.91	0.0292	0.0167	0.0124
4.39	6700	158	2.00	79.00	0.0334	0.0166	0.0168
4.40	6718	149	2.00	74.45	0.0314	0.0164	0.0151
4.41	6736	86	2.00	42.81	0.0181	0.0161	0.0019
4.41	6754	44	2.00	22.05	0.0093	0.0159	-0.0066
4.42	6772	47	2.00	23.50	0.0099	0.0157	-0.0058
4.43	6790	84	2.00	42.17	0.0177	0.0155	0.0022
4.44	6808	82	2.00	40.77	0.0171	0.0153	0.0019
4.44	6826	92	2.00	46.11	0.0194	0.0151	0.0043
4.45	6844	121	2.00	60.50	0.0254	0.0149	0.0105
4.46	6862	60	2.00	29.78	0.0125	0.0147	-0.0022
4.47	6880	60	2.00	30.17	0.0126	0.0146	-0.0020
4.48	6898	66	2.00	33.04	0.0138	0.0145	-0.0007
4.48	6916	76	2.00	37.78	0.0158	0.0144	0.0014
4.49	6934	37	2.00	18.50	0.0077	0.0144	-0.0067
4.50	6952	64	2.00	31.80	0.0133	0.0143	-0.0011
4.51	6970	70	2.00	35.19	0.0147	0.0144	0.0003
4.51	6988	60	2.00	30.06	0.0125	0.0145	-0.0020
4.52	7006	66	2.00	33.00	0.0138	0.0148	-0.0010
4.53	7024	69	2.00	34.37	0.0143	0.0152	-0.0009
4.54	7042	70	2.00	35.18	0.0146	0.0157	-0.0010
4.54	7060	71	2.00	35.51	0.0148	0.0161	-0.0014
4.55	7078	72	2.00	36.00	0.0150	0.0166	-0.0016
4.56	7096	69	2.00	34.64	0.0144	0.0170	-0.0026
4.57	7114	98	2.00	48.78	0.0203	0.0174	0.0029
4.57	7132	154	2.00	76.82	0.0319	0.0178	0.0141
4.58	7150	88	2.00	44.00	0.0183	0.0182	0.0001
4.59	7168	122	2.00	61.00	0.0253	0.0187	0.0066
4.59	7186	130	2.00	64.77	0.0268	0.0192	0.0077
4.60	7204	110	2.00	55.00	0.0228	0.0197	0.0031
4.61	7222	89	2.00	44.65	0.0185	0.0202	-0.0017
4.62	7240	63	2.00	31.29	0.0130	0.0206	-0.0076
4.62	7258	59	2.00	29.59	0.0122	0.0208	-0.0086
4.63	7276	85	2.00	42.50	0.0176	0.0209	-0.0034

4.64	7294	108	2.00	54.01	0.0223	0.0209	0.0014
4.65	7312	155	2.00	77.59	0.0321	0.0209	0.0112
4.65	7330	167	2.00	83.44	0.0345	0.0208	0.0137
4.66	7348	121	2.00	60.50	0.0250	0.0208	0.0042
4.67	7366	143	2.00	71.63	0.0296	0.0208	0.0088
4.68	7384	118	2.00	58.82	0.0243	0.0209	0.0034
4.68	7402	98	2.00	49.00	0.0202	0.0211	-0.0008
4.69	7420	98	2.00	49.00	0.0202	0.0212	-0.0010
4.70	7438	70	2.00	35.19	0.0145	0.0212	-0.0067
4.71	7456	75	2.00	37.31	0.0154	0.0210	-0.0056
4.71	7474	87	2.00	43.27	0.0179	0.0206	-0.0028
4.72	7492	109	2.00	54.50	0.0225	0.0201	0.0024
4.73	7510	112	2.00	56.20	0.0232	0.0196	0.0036
4.74	7528	137	2.00	68.35	0.0282	0.0190	0.0091
4.74	7546	149	2.00	74.57	0.0308	0.0186	0.0121
4.75	7564	91	2.00	45.50	0.0188	0.0182	0.0005
4.76	7582	126	2.00	62.92	0.0259	0.0180	0.0080
4.77	7600	93	2.00	46.40	0.0191	0.0177	0.0014
4.77	7618	48	2.00	24.00	0.0099	0.0174	-0.0076
4.78	7636	71	2.00	35.50	0.0146	0.0171	-0.0025
4.79	7654	51	2.00	25.51	0.0105	0.0167	-0.0062
4.80	7672	53	2.00	26.50	0.0109	0.0163	-0.0053
4.80	7690	67	2.00	33.64	0.0139	0.0158	-0.0019
4.81	7708	108	2.00	54.00	0.0223	0.0154	0.0069
4.82	7726	80	2.00	40.17	0.0166	0.0151	0.0015
4.83	7744	75	2.00	37.29	0.0154	0.0149	0.0005
4.83	7762	81	2.00	40.72	0.0168	0.0148	0.0020
4.84	7780	66	2.00	33.00	0.0136	0.0147	-0.0011
4.85	7798	52	2.00	25.77	0.0106	0.0146	-0.0040
4.86	7816	65	2.00	32.63	0.0135	0.0146	-0.0011
4.86	7834	104	2.00	52.00	0.0215	0.0145	0.0070
4.87	7852	45	2.00	22.56	0.0093	0.0144	-0.0051
4.88	7870	67	2.00	33.28	0.0138	0.0143	-0.0006
4.88	7888	77	2.00	38.69	0.0160	0.0142	0.0018
4.89	7906	76	2.00	38.00	0.0157	0.0142	0.0016
4.90	7924	92	2.00	46.21	0.0191	0.0141	0.0050
4.91	7942	64	2.00	31.87	0.0132	0.0140	-0.0008
4.91	7960	49	2.00	24.26	0.0100	0.0140	-0.0039
4.92	7978	55	2.00	27.50	0.0114	0.0139	-0.0025
4.93	7996	68	2.00	34.07	0.0141	0.0138	0.0003
4.94	8014	132	2.00	66.16	0.0274	0.0137	0.0137
4.94	8032	146	2.00	73.09	0.0303	0.0136	0.0168
4.95	8050	63	2.00	31.50	0.0131	0.0134	-0.0003

4.96	8068	69	2.00	34.71	0.0144	0.0133	0.0011
4.97	8086	76	2.00	37.90	0.0157	0.0132	0.0025
4.97	8104	73	2.00	36.73	0.0153	0.0132	0.0021
4.98	8122	53	2.00	26.50	0.0110	0.0132	-0.0021
4.99	8140	58	2.00	28.76	0.0120	0.0131	-0.0012
5.00	8158	68	2.00	33.84	0.0141	0.0131	0.0010
5.00	8176	63	2.00	31.38	0.0131	0.0130	0.0001
5.01	8194	23	2.00	11.50	0.0048	0.0128	-0.0080
5.02	8212	40	2.00	20.07	0.0084	0.0126	-0.0043
5.03	8230	67	2.00	33.54	0.0140	0.0124	0.0016
5.03	8248	80	2.00	40.13	0.0168	0.0121	0.0046
5.04	8266	62	2.00	31.00	0.0130	0.0119	0.0011
5.05	8284	95	2.00	47.37	0.0198	0.0116	0.0082
5.06	8302	162	2.00	80.96	0.0339	0.0114	0.0224
5.06	8320	178	2.00	88.76	0.0372	0.0112	0.0260
5.07	8338	88	2.00	44.00	0.0184	0.0110	0.0075
5.08	8356	30	2.00	14.76	0.0062	0.0108	-0.0046
5.09	8374	35	2.00	17.64	0.0074	0.0105	-0.0031
5.09	8392	45	2.00	22.69	0.0095	0.0103	-0.0007
5.10	8410	54	2.00	27.00	0.0114	0.0099	0.0014
5.11	8428	37	2.00	18.36	0.0077	0.0096	-0.0018
5.12	8446	51	2.00	25.37	0.0107	0.0092	0.0015
5.12	8464	48	2.00	24.01	0.0101	0.0088	0.0013
5.13	8482	25	2.00	12.54	0.0053	0.0085	-0.0032
5.14	8500	38	2.00	19.00	0.0080	0.0082	-0.0002
5.15	8518	28	2.00	13.81	0.0058	0.0080	-0.0021
5.16	8536	30	2.00	15.11	0.0064	0.0078	-0.0014
5.16	8554	43	2.00	21.65	0.0092	0.0077	0.0015
5.17	8572	61	2.00	30.50	0.0129	0.0075	0.0054
5.18	8590	35	2.00	17.59	0.0075	0.0075	0.0000
5.19	8608	25	2.00	12.37	0.0053	0.0075	-0.0022
5.19	8626	23	2.00	11.44	0.0049	0.0074	-0.0026
5.20	8644	28	2.00	14.00	0.0060	0.0074	-0.0014
5.21	8662	20	2.00	9.78	0.0042	0.0073	-0.0032
5.22	8680	31	2.00	15.52	0.0066	0.0072	-0.0006
5.22	8698	43	2.00	21.49	0.0092	0.0071	0.0021
5.23	8716	46	2.00	23.00	0.0099	0.0070	0.0029
5.24	8734	38	2.00	19.21	0.0082	0.0069	0.0014
5.25	8752	39	2.00	19.33	0.0083	0.0067	0.0016
5.26	8770	41	2.00	20.40	0.0088	0.0066	0.0022
5.26	8788	43	2.00	21.30	0.0092	0.0065	0.0027
5.27	8806	24	2.00	12.00	0.0052	0.0064	-0.0012
5.28	8824	19	2.00	9.26	0.0040	0.0062	-0.0022

5.29	8842	19	2.00	9.74	0.0042	0.0061	-0.0019
5.29	8860	23	2.00	11.54	0.0050	0.0059	-0.0009
5.30	8878	27	2.00	13.50	0.0059	0.0057	0.0002
5.31	8896	23	2.00	11.63	0.0051	0.0055	-0.0004
5.32	8914	19	2.00	9.53	0.0041	0.0053	-0.0012
5.33	8932	22	2.00	10.78	0.0047	0.0052	-0.0005
5.33	8950	28	2.00	13.80	0.0060	0.0052	0.0009
5.34	8968	16	2.00	8.00	0.0035	0.0052	-0.0017
5.35	8986	17	2.00	8.42	0.0037	0.0052	-0.0015
5.36	9004	28	2.00	14.20	0.0062	0.0053	0.0010
5.36	9022	33	2.00	16.67	0.0073	0.0053	0.0020
5.37	9040	25	2.00	12.35	0.0054	0.0053	0.0001
5.38	9058	18	2.00	9.00	0.0040	0.0053	-0.0013
5.39	9076	16	2.00	7.82	0.0035	0.0052	-0.0017
5.40	9094	22	2.00	11.20	0.0050	0.0051	-0.0001
5.40	9112	33	2.00	16.42	0.0073	0.0049	0.0023
5.41	9130	43	2.00	21.46	0.0095	0.0048	0.0047
5.42	9148	40	2.00	20.00	0.0089	0.0046	0.0043
5.43	9166	24	2.00	11.86	0.0053	0.0044	0.0008
5.44	9184	13	2.00	6.59	0.0029	0.0043	-0.0013
5.44	9202	9	2.00	4.72	0.0021	0.0041	-0.0020
5.45	9220	13	2.00	6.50	0.0029	0.0039	-0.0010
5.46	9238	13	2.00	6.50	0.0029	0.0037	-0.0007
5.47	9256	11	2.00	5.29	0.0024	0.0035	-0.0011
5.48	9274	11	2.00	5.29	0.0024	0.0033	-0.0009
5.48	9292	10	2.00	4.99	0.0023	0.0031	-0.0008
5.49	9310	9	2.00	4.28	0.0019	0.0029	-0.0010
5.50	9328	13	2.00	6.50	0.0029	0.0028	0.0002
5.51	9346	14	2.00	6.94	0.0031	0.0027	0.0005
5.52	9364	11	2.00	5.68	0.0026	0.0026	0.0000
5.53	9382	10	2.00	4.78	0.0022	0.0026	-0.0004
5.53	9400	10	2.00	5.04	0.0023	0.0026	-0.0003
5.54	9418	14	2.00	7.00	0.0032	0.0026	0.0006
5.55	9436	10	2.00	5.00	0.0023	0.0026	-0.0003
5.56	9454	18	2.00	8.92	0.0041	0.0026	0.0015
5.57	9472	16	2.00	8.00	0.0037	0.0026	0.0011
5.57	9490	10	2.00	5.23	0.0024	0.0026	-0.0002
5.58	9508	6	2.00	3.08	0.0014	0.0027	-0.0012
5.59	9526	7	2.00	3.50	0.0016	0.0027	-0.0011
5.60	9544	4	2.00	2.07	0.0010	0.0027	-0.0017
5.61	9562	10	2.00	4.99	0.0023	0.0027	-0.0004
5.62	9580	16	2.00	8.19	0.0038	0.0027	0.0011
5.62	9598	17	2.00	8.42	0.0039	0.0026	0.0013

5.63	9616	11	2.00	5.50	0.0026	0.0026	-0.0001
5.64	9634	11	2.00	5.50	0.0026	0.0026	0.0000
5.65	9652	13	2.00	6.46	0.0030	0.0025	0.0005
5.66	9670	16	2.00	8.05	0.0038	0.0025	0.0013
5.67	9688	13	2.00	6.45	0.0030	0.0024	0.0006
5.67	9706	10	2.00	4.80	0.0023	0.0023	-0.0001
5.68	9724	9	2.00	4.61	0.0022	0.0022	-0.0001
5.69	9742	10	2.00	5.00	0.0024	0.0021	0.0002
5.70	9760	10	2.00	5.00	0.0024	0.0020	0.0004
5.71	9778	8	2.00	4.14	0.0020	0.0019	0.0001
5.72	9796	5	2.00	2.64	0.0012	0.0018	-0.0005
5.73	9814	5	2.00	2.25	0.0011	0.0017	-0.0006
5.73	9832	4	2.00	2.17	0.0010	0.0016	-0.0006
5.74	9850	3	2.00	1.42	0.0007	0.0015	-0.0008
5.75	9868	2	2.00	1.00	0.0005	0.0014	-0.0009
5.76	9886	6	2.00	2.99	0.0014	0.0014	0.0001
5.77	9904	8	2.00	3.83	0.0018	0.0013	0.0005
5.78	9922	4	2.00	1.99	0.0010	0.0013	-0.0003
5.79	9940	5	2.00	2.52	0.0012	0.0013	-0.0001
5.79	9958	6	2.00	3.13	0.0015	0.0013	0.0002
5.80	9976	5	2.00	2.27	0.0011	0.0013	-0.0002
5.81	9994	11	2.00	5.39	0.0026	0.0013	0.0013
5.82	10012	5	2.00	2.50	0.0012	0.0014	-0.0002
5.83	10030	4	2.00	2.06	0.0010	0.0014	-0.0004
5.84	10048	4	2.00	2.00	0.0010	0.0015	-0.0005
5.85	10066	3	2.00	1.71	0.0008	0.0015	-0.0007
5.86	10084	4	2.00	2.16	0.0011	0.0016	-0.0005
5.86	10102	7	2.00	3.45	0.0017	0.0016	0.0001
5.87	10120	8	2.00	4.03	0.0020	0.0016	0.0004
5.88	10138	3	2.00	1.56	0.0008	0.0016	-0.0008
5.89	10156	10	2.00	5.00	0.0024	0.0016	0.0008
5.90	10174	11	2.00	5.44	0.0027	0.0016	0.0010
5.91	10192	12	2.00	6.24	0.0031	0.0017	0.0014
5.92	10210	8	2.00	4.06	0.0020	0.0017	0.0003
5.93	10228	5	2.00	2.26	0.0011	0.0017	-0.0006
5.93	10246	4	2.00	2.00	0.0010	0.0017	-0.0007
5.94	10264	6	2.00	2.78	0.0014	0.0017	-0.0003
5.95	10282	10	2.00	5.11	0.0025	0.0017	0.0009
5.96	10300	3	2.00	1.50	0.0007	0.0017	-0.0009
5.97	10318	4	2.00	1.99	0.0010	0.0017	-0.0008
5.98	10336	11	2.00	5.41	0.0027	0.0019	0.0008
5.99	10354	8	2.00	3.80	0.0019	0.0021	-0.0002
6.00	10372	4	2.00	2.08	0.0010	0.0024	-0.0014

6.01	10390	3	2.00	1.25	0.0006	0.0029	-0.0023
6.01	10408	2	2.00	1.00	0.0005	0.0034	-0.0029
6.02	10426	4	2.00	2.09	0.0010	0.0041	-0.0030
6.03	10444	11	2.00	5.73	0.0029	0.0048	-0.0020
6.04	10462	18	2.00	9.23	0.0046	0.0056	-0.0010
6.05	10480	9	2.00	4.50	0.0023	0.0064	-0.0041
6.06	10498	18	2.00	9.24	0.0046	0.0071	-0.0025
6.07	10516	38	2.00	18.77	0.0095	0.0078	0.0017
6.08	10534	54	2.00	26.79	0.0135	0.0083	0.0052
6.09	10552	42	2.00	21.02	0.0106	0.0088	0.0018
6.10	10570	48	2.00	24.05	0.0122	0.0092	0.0029
6.10	10588	61	2.00	30.28	0.0153	0.0096	0.0057
6.11	10606	68	2.00	34.15	0.0173	0.0100	0.0073
6.12	10624	78	2.00	39.23	0.0199	0.0104	0.0096
6.13	10642	56	2.00	27.89	0.0142	0.0108	0.0034
6.14	10660	24	2.00	11.95	0.0061	0.0111	-0.0051
6.15	10678	36	2.00	18.00	0.0092	0.0115	-0.0023
6.16	10696	38	2.00	18.98	0.0097	0.0119	-0.0022
6.17	10714	26	2.00	12.75	0.0065	0.0121	-0.0056
6.18	10732	25	2.00	12.40	0.0064	0.0123	-0.0060
6.19	10750	42	2.00	20.81	0.0107	0.0125	-0.0018
6.20	10768	22	2.00	11.19	0.0057	0.0128	-0.0070
6.21	10786	56	2.00	28.07	0.0144	0.0131	0.0014
6.22	10804	94	2.00	47.24	0.0243	0.0135	0.0109
6.22	10822	83	2.00	41.45	0.0214	0.0140	0.0074
6.23	10840	72	2.00	35.77	0.0185	0.0145	0.0040
6.24	10858	77	2.00	38.58	0.0200	0.0151	0.0048
6.25	10876	54	2.00	26.82	0.0139	0.0157	-0.0018
6.26	10894	52	2.00	26.00	0.0135	0.0163	-0.0028
6.27	10912	52	2.00	26.12	0.0136	0.0169	-0.0033
6.28	10930	58	2.00	29.00	0.0151	0.0175	-0.0024
6.29	10948	111	2.00	55.71	0.0290	0.0181	0.0110
6.30	10966	78	2.00	38.86	0.0203	0.0187	0.0015
6.31	10984	64	2.00	31.96	0.0167	0.0198	-0.0031
6.32	11002	74	2.00	37.21	0.0195	0.0209	-0.0015
6.33	11020	72	2.00	35.79	0.0187	0.0219	-0.0032
6.34	11038	68	2.00	33.85	0.0177	0.0229	-0.0052
6.35	11056	53	2.00	26.67	0.0140	0.0240	-0.0100
6.36	11074	77	2.00	38.35	0.0202	0.0251	-0.0049
6.37	11092	111	2.00	55.62	0.0293	0.0261	0.0032
6.37	11110	132	2.00	66.22	0.0349	0.0271	0.0077
6.38	11128	156	2.00	78.04	0.0412	0.0281	0.0131
6.39	11146	158	2.00	79.11	0.0418	0.0290	0.0128

6.40	11164	145	2.00	72.53	0.0384	0.0299	0.0085
6.41	11182	134	2.00	67.19	0.0356	0.0308	0.0048
6.42	11200	110	2.00	54.76	0.0290	0.0317	-0.0026
6.43	11218	38	2.00	19.09	0.0101	0.0326	-0.0224
6.44	11236	67	2.00	33.50	0.0178	0.0335	-0.0157
6.45	11254	58	2.00	28.80	0.0153	0.0342	-0.0189
6.46	11272	133	2.00	66.50	0.0354	0.0349	0.0006
6.47	11290	141	2.00	70.46	0.0376	0.0353	0.0023
6.48	11308	156	2.00	78.09	0.0417	0.0356	0.0061
6.49	11326	149	2.00	74.41	0.0398	0.0357	0.0040
6.50	11344	119	2.00	59.66	0.0319	0.0358	-0.0039
6.51	11362	127	2.00	63.32	0.0339	0.0358	-0.0019
6.52	11380	130	2.00	64.90	0.0348	0.0358	-0.0010
6.53	11398	136	2.00	68.03	0.0365	0.0358	0.0007
6.54	11416	145	2.00	72.26	0.0388	0.0359	0.0030
6.55	11434	163	2.00	81.44	0.0438	0.0359	0.0080
6.56	11452	130	2.00	65.24	0.0351	0.0358	-0.0007
6.57	11470	102	2.00	51.23	0.0276	0.0357	-0.0080
6.58	11488	109	2.00	54.68	0.0295	0.0354	-0.0059
6.59	11506	124	2.00	61.92	0.0335	0.0351	-0.0016
6.60	11524	128	2.00	63.96	0.0346	0.0348	-0.0002
6.61	11542	143	2.00	71.49	0.0387	0.0346	0.0041
6.62	11560	146	2.00	73.12	0.0396	0.0341	0.0056
6.62	11578	138	2.00	68.86	0.0374	0.0336	0.0038
6.63	11596	175	2.00	87.58	0.0476	0.0331	0.0145
6.64	11614	219	2.00	109.55	0.0596	0.0326	0.0269
6.65	11632	229	2.00	114.59	0.0624	0.0321	0.0303
6.66	11650	249	2.00	124.54	0.0678	0.0316	0.0363
6.67	11668	227	2.00	113.50	0.0619	0.0310	0.0309
6.68	11686	146	2.00	73.00	0.0398	0.0305	0.0093
6.69	11704	103	2.00	51.38	0.0281	0.0301	-0.0020
6.70	11722	91	2.00	45.57	0.0249	0.0296	-0.0047
6.71	11740	120	2.00	59.86	0.0328	0.0291	0.0036
6.72	11758	89	2.00	44.44	0.0243	0.0286	-0.0042
6.73	11776	95	2.00	47.49	0.0260	0.0281	-0.0020
6.74	11794	112	2.00	56.10	0.0308	0.0278	0.0030
6.75	11812	80	2.00	40.18	0.0221	0.0277	-0.0056
6.76	11830	58	2.00	28.91	0.0159	0.0278	-0.0119
6.77	11848	74	2.00	37.11	0.0204	0.0281	-0.0076
6.78	11866	73	2.00	36.34	0.0200	0.0284	-0.0084
6.79	11884	73	2.00	36.34	0.0200	0.0288	-0.0087
6.80	11902	109	2.00	54.57	0.0301	0.0290	0.0011
6.81	11920	118	2.00	59.09	0.0326	0.0292	0.0034

6.82	11938	119	2.00	59.59	0.0329	0.0299	0.0031
6.83	11956	116	2.00	57.79	0.0319	0.0306	0.0013
6.84	11974	91	2.00	45.52	0.0252	0.0317	-0.0065
6.85	11992	82	2.00	41.24	0.0228	0.0326	-0.0098
6.86	12010	133	2.00	66.34	0.0368	0.0337	0.0031
6.87	12028	124	2.00	62.02	0.0344	0.0348	-0.0004
6.88	12046	113	2.00	56.43	0.0313	0.0359	-0.0046
6.89	12064	115	2.00	57.72	0.0320	0.0372	-0.0051
6.90	12082	155	2.00	77.72	0.0432	0.0384	0.0048
6.91	12100	145	2.00	72.57	0.0404	0.0397	0.0007
6.92	12118	176	2.00	88.24	0.0491	0.0409	0.0082
6.93	12136	128	2.00	64.08	0.0357	0.0422	-0.0066
6.94	12154	156	2.00	77.84	0.0434	0.0435	-0.0002
6.95	12172	156	2.00	77.78	0.0434	0.0448	-0.0015
6.96	12190	136	2.00	67.98	0.0379	0.0462	-0.0082
6.97	12208	226	2.00	112.75	0.0629	0.0474	0.0155
6.98	12226	191	2.00	95.54	0.0534	0.0487	0.0047
6.99	12244	211	2.00	105.65	0.0590	0.0499	0.0091
7.00	12262	213	2.00	106.55	0.0596	0.0509	0.0087
7.01	12280	180	2.00	89.89	0.0503	0.0517	-0.0015
7.02	12298	184	2.00	92.05	0.0515	0.0524	-0.0008
7.03	12316	209	2.00	104.50	0.0585	0.0528	0.0057
7.04	12334	186	2.00	92.94	0.0521	0.0527	-0.0006
7.05	12352	214	2.00	106.82	0.0599	0.0529	0.0070
7.06	12370	205	2.00	102.39	0.0574	0.0529	0.0045
7.07	12388	210	2.00	104.97	0.0589	0.0527	0.0062
7.08	12406	236	2.00	118.00	0.0662	0.0522	0.0140
7.09	12424	232	2.00	115.93	0.0651	0.0513	0.0138
7.10	12442	212	2.00	106.05	0.0596	0.0501	0.0095
7.11	12460	177	2.00	88.43	0.0497	0.0486	0.0011
7.12	12478	150	2.00	75.02	0.0422	0.0475	-0.0054
7.13	12496	173	2.00	86.43	0.0486	0.0456	0.0030
7.14	12514	199	2.00	99.49	0.0560	0.0442	0.0118
7.15	12532	166	2.00	82.93	0.0467	0.0428	0.0039
7.16	12550	196	2.00	97.96	0.0552	0.0414	0.0138
7.17	12568	230	2.00	115.15	0.0649	0.0400	0.0249
7.18	12586	62	2.00	30.91	0.0174	0.0386	-0.0211
7.19	12604	88	2.00	44.02	0.0248	0.0371	-0.0123
7.20	12622	100	2.00	49.75	0.0280	0.0357	-0.0076
7.21	12640	99	2.00	49.34	0.0278	0.0342	-0.0064
7.22	12658	95	2.00	47.39	0.0267	0.0332	-0.0065
7.23	12676	97	2.00	48.73	0.0275	0.0323	-0.0048
7.24	12694	101	2.00	50.43	0.0285	0.0311	-0.0027

7.25	12712	101	2.00	50.52	0.0285	0.0301	-0.0015
7.27	12730	138	2.00	69.12	0.0390	0.0291	0.0099
7.28	12748	187	2.00	93.49	0.0528	0.0283	0.0245
7.29	12766	159	2.00	79.31	0.0448	0.0276	0.0172
7.30	12784	110	2.00	54.85	0.0310	0.0271	0.0039
7.31	12802	85	2.00	42.54	0.0240	0.0266	-0.0026
7.32	12820	52	2.00	26.08	0.0147	0.0262	-0.0115
7.33	12838	38	2.00	19.02	0.0107	0.0258	-0.0151
7.34	12856	44	2.00	21.88	0.0124	0.0255	-0.0131
7.35	12874	55	2.00	27.50	0.0155	0.0252	-0.0097
7.36	12892	90	2.00	44.84	0.0253	0.0249	0.0004
7.37	12910	108	2.00	54.19	0.0306	0.0246	0.0060
7.38	12928	179	2.00	89.70	0.0507	0.0244	0.0263
7.39	12946	234	2.00	117.09	0.0662	0.0241	0.0421
7.40	12964	214	2.00	107.06	0.0605	0.0238	0.0367
7.41	12982	204	2.00	102.25	0.0578	0.0235	0.0343
7.42	13000	139	2.00	69.30	0.0392	0.0233	0.0159
7.43	13018	82	2.00	41.05	0.0232	0.0231	0.0001
7.44	13036	61	2.00	30.41	0.0172	0.0230	-0.0058
7.45	13054	75	2.00	37.56	0.0212	0.0230	-0.0017
7.46	13072	67	2.00	33.67	0.0190	0.0230	-0.0039
7.47	13090	68	2.00	33.78	0.0191	0.0229	-0.0038
7.48	13108	93	2.00	46.58	0.0263	0.0230	0.0033
7.49	13126	114	2.00	56.91	0.0322	0.0232	0.0090
7.50	13144	68	2.00	34.09	0.0193	0.0236	-0.0043
7.51	13162	73	2.00	36.56	0.0207	0.0238	-0.0032
7.52	13180	72	2.00	36.06	0.0204	0.0243	-0.0039
7.53	13198	89	2.00	44.59	0.0252	0.0248	0.0004
7.54	13216	109	2.00	54.72	0.0309	0.0253	0.0056
7.55	13234	185	2.00	92.40	0.0522	0.0258	0.0264
7.56	13252	129	2.00	64.61	0.0365	0.0264	0.0102
7.57	13270	176	2.00	88.16	0.0498	0.0269	0.0229
7.58	13288	90	2.00	45.12	0.0255	0.0275	-0.0019
7.59	13306	91	2.00	45.68	0.0258	0.0280	-0.0022
7.60	13324	61	2.00	30.62	0.0173	0.0286	-0.0113
7.61	13342	86	2.00	42.88	0.0242	0.0291	-0.0048
7.62	13360	110	2.00	54.77	0.0310	0.0296	0.0014
7.63	13378	121	2.00	60.44	0.0342	0.0300	0.0042
7.64	13396	123	2.00	61.46	0.0347	0.0303	0.0044
7.65	13414	105	2.00	52.51	0.0297	0.0306	-0.0009
7.66	13432	111	2.00	55.49	0.0314	0.0307	0.0007
7.67	13450	174	2.00	86.86	0.0491	0.0307	0.0184
7.68	13468	157	2.00	78.64	0.0445	0.0307	0.0138

7.69	13486	117	2.00	58.57	0.0331	0.0306	0.0025
7.70	13504	200	2.00	100.17	0.0566	0.0305	0.0262
7.71	13522	148	2.00	74.11	0.0419	0.0303	0.0116
7.72	13540	144	2.00	72.24	0.0408	0.0301	0.0107
7.73	13558	96	2.00	48.19	0.0272	0.0302	-0.0029
7.74	13576	161	2.00	80.41	0.0455	0.0298	0.0156
7.75	13594	179	2.00	89.52	0.0506	0.0295	0.0211
7.76	13612	121	2.00	60.35	0.0341	0.0290	0.0051
7.77	13630	102	2.00	51.16	0.0289	0.0286	0.0004
7.78	13648	109	2.00	54.45	0.0308	0.0280	0.0028
7.79	13666	72	2.00	36.24	0.0205	0.0273	-0.0068
7.80	13684	55	2.00	27.64	0.0156	0.0264	-0.0108
7.81	13702	97	2.00	48.75	0.0276	0.0255	0.0021
7.82	13720	94	2.00	47.02	0.0266	0.0245	0.0021
7.83	13738	90	2.00	44.78	0.0253	0.0235	0.0018
7.85	13756	101	2.00	50.34	0.0285	0.0224	0.0060
7.86	13774	71	2.00	35.68	0.0202	0.0214	-0.0013
7.87	13792	55	2.00	27.28	0.0154	0.0203	-0.0049
7.88	13810	70	2.00	35.11	0.0198	0.0192	0.0007
7.89	13828	75	2.00	37.50	0.0212	0.0180	0.0032
7.90	13846	61	2.00	30.52	0.0173	0.0169	0.0004
7.91	13864	53	2.00	26.35	0.0149	0.0157	-0.0008
7.92	13882	41	2.00	20.58	0.0116	0.0145	-0.0028
7.93	13900	57	2.00	28.37	0.0160	0.0133	0.0027
7.94	13918	53	2.00	26.68	0.0151	0.0123	0.0028
7.95	13936	39	2.00	19.59	0.0111	0.0113	-0.0002
7.96	13954	20	2.00	9.95	0.0056	0.0105	-0.0048
7.97	13972	18	2.00	9.01	0.0051	0.0097	-0.0046
7.98	13990	22	2.00	11.10	0.0063	0.0091	-0.0028
7.99	14008	21	2.00	10.75	0.0061	0.0086	-0.0025
8.00	14026	16	2.00	8.19	0.0046	0.0082	-0.0035
8.01	14044	17	2.00	8.68	0.0049	0.0079	-0.0030
8.02	14062	24	2.00	11.82	0.0067	0.0078	-0.0011
8.03	14080	30	2.00	14.97	0.0085	0.0077	0.0008
8.04	14098	20	2.00	10.05	0.0057	0.0077	-0.0020
8.05	14116	18	2.00	9.00	0.0051	0.0077	-0.0026
8.06	14134	27	2.00	13.37	0.0076	0.0078	-0.0002
8.07	14152	65	2.00	32.27	0.0182	0.0079	0.0104
8.08	14170	43	2.00	21.33	0.0121	0.0080	0.0041
8.09	14188	29	2.00	14.44	0.0082	0.0080	0.0002
8.10	14206	37	2.00	18.72	0.0106	0.0079	0.0026
8.11	14224	41	2.00	20.44	0.0116	0.0079	0.0037
8.12	14242	32	2.00	16.10	0.0091	0.0077	0.0014

8.13	14260	24	2.00	12.03	0.0068	0.0075	-0.0007
8.14	14278	26	2.00	12.94	0.0073	0.0072	0.0001
8.15	14296	22	2.00	11.19	0.0063	0.0068	-0.0005
8.16	14314	30	2.00	14.84	0.0084	0.0064	0.0020
8.17	14332	24	2.00	11.84	0.0067	0.0059	0.0008
8.18	14350	9	2.00	4.45	0.0025	0.0054	-0.0029
8.19	14368	10	2.00	4.88	0.0028	0.0049	-0.0021
8.20	14386	23	2.00	11.57	0.0065	0.0044	0.0022
8.21	14404	21	2.00	10.41	0.0059	0.0039	0.0020
8.22	14422	3	2.00	1.42	0.0008	0.0035	-0.0027
8.23	14440	2	2.00	1.00	0.0006	0.0031	-0.0025
8.24	14458	3	2.00	1.41	0.0008	0.0027	-0.0019
8.25	14476	9	2.00	4.33	0.0024	0.0024	0.0000
8.26	14494	16	2.00	7.93	0.0045	0.0022	0.0022
8.27	14512	8	2.00	3.99	0.0023	0.0021	0.0001
8.28	14530	4	2.00	1.95	0.0011	0.0021	-0.0010
8.29	14548	1	2.00	0.50	0.0003	0.0022	-0.0020
8.30	14566	1	2.00	0.35	0.0002	0.0024	-0.0022
8.31	14584	1	2.00	0.49	0.0003	0.0027	-0.0024
8.32	14602	3	2.00	1.50	0.0008	0.0031	-0.0022
8.33	14620	2	2.00	1.14	0.0006	0.0035	-0.0029
8.34	14638	5	2.00	2.57	0.0015	0.0039	-0.0024
8.35	14656	12	2.00	6.20	0.0035	0.0042	-0.0007
8.36	14674	19	2.00	9.38	0.0053	0.0045	0.0008
8.37	14692	30	2.00	14.79	0.0084	0.0049	0.0035
8.38	14710	30	2.00	15.16	0.0086	0.0052	0.0034
8.39	14728	21	2.00	10.25	0.0058	0.0055	0.0003
8.40	14746	27	2.00	13.48	0.0076	0.0059	0.0018
8.41	14764	37	2.00	18.51	0.0105	0.0062	0.0042
8.43	14782	43	2.00	21.68	0.0123	0.0066	0.0057
8.44	14800	49	2.00	24.60	0.0065	0.0069	-0.0004

Appendix B - Lake Seven CHAR Data

cm Top_i (cm)	age Top_i (yr BP)	char Count_i (#)	char Vol_i (cm^3)	char Con_i (# cm^{-3})	char Acc_i (# cm^{-2} yr^{-1})	charBkg (# cm^{-2} yr^{-1})	char Peak (# cm^{-2} yr^{-1})
	-55	0	2.00	0.00	0.0000	-0.0016	0.0016
0.02	-38	0	2.00	0.00	0.0000	-0.0002	0.0002
0.03	-21	0	2.00	0.00	0.0000	0.0011	-0.0011
0.05	-4	52	2.00	25.94	0.0250	0.0024	0.0226
0.07	13	70	2.00	34.99	0.0337	0.0038	0.0299
0.08	30	62	2.00	30.97	0.0299	0.0051	0.0247
0.10	47	72	2.00	35.82	0.0345	0.0065	0.0280
0.11	64	73	2.00	36.69	0.0354	0.0079	0.0275
0.13	81	53	2.00	26.32	0.0254	0.0092	0.0161
0.15	98	33	2.00	16.27	0.0157	0.0106	0.0051
0.16	115	33	2.00	16.28	0.0157	0.0120	0.0037
0.18	132	31	2.00	15.60	0.0150	0.0133	0.0017
0.20	149	27	2.00	13.33	0.0128	0.0147	-0.0019
0.21	166	26	2.00	13.07	0.0126	0.0161	-0.0035
0.23	183	24	2.00	12.16	0.0117	0.0175	-0.0058
0.25	200	19	2.00	9.71	0.0093	0.0188	-0.0095
0.26	217	31	2.00	15.53	0.0149	0.0202	-0.0053
0.28	234	40	2.00	19.92	0.0191	0.0215	-0.0024
0.29	251	52	2.00	25.99	0.0250	0.0229	0.0021
0.31	268	59	2.00	29.42	0.0282	0.0243	0.0040
0.33	285	43	2.00	21.52	0.0206	0.0256	-0.0050
0.34	302	42	2.00	21.22	0.0203	0.0270	-0.0066
0.36	319	79	2.00	39.44	0.0378	0.0283	0.0095
0.38	336	69	2.00	34.50	0.0330	0.0296	0.0034
0.39	353	82	2.00	40.89	0.0391	0.0309	0.0083
0.41	370	85	2.00	42.54	0.0407	0.0322	0.0085
0.43	387	105	2.00	52.56	0.0503	0.0336	0.0167
0.44	404	66	2.00	33.11	0.0316	0.0345	-0.0029
0.46	421	68	2.00	33.93	0.0324	0.0353	-0.0029
0.47	438	90	2.00	45.13	0.0431	0.0359	0.0072
0.49	455	94	2.00	46.85	0.0447	0.0365	0.0082
0.51	472	59	2.00	29.32	0.0279	0.0371	-0.0091
0.52	489	80	2.00	39.79	0.0379	0.0378	0.0001
0.54	506	139	2.00	69.50	0.0661	0.0386	0.0275
0.55	523	249	2.00	124.73	0.1186	0.0394	0.0792
0.57	540	334	2.00	167.11	0.1588	0.0401	0.1186
0.59	557	242	2.00	121.05	0.1149	0.0409	0.0740
0.60	574	262	2.00	131.13	0.1244	0.0416	0.0828
0.62	591	184	2.00	92.08	0.0873	0.0423	0.0450
0.64	608	133	2.00	66.51	0.0630	0.0429	0.0201
0.65	625	74	2.00	37.13	0.0351	0.0435	-0.0084

0.67	642	54	2.00	27.14	0.0257	0.0440	-0.0183
0.68	659	77	2.00	38.34	0.0362	0.0444	-0.0082
0.70	676	90	2.00	45.21	0.0427	0.0448	-0.0022
0.72	693	149	2.00	74.26	0.0700	0.0452	0.0248
0.73	710	115	2.00	57.68	0.0543	0.0455	0.0088
0.75	727	72	2.00	36.00	0.0339	0.0458	-0.0119
0.76	744	108	2.00	54.23	0.0510	0.0461	0.0048
0.78	761	125	2.00	62.64	0.0588	0.0465	0.0123
0.80	778	209	2.00	104.31	0.0978	0.0469	0.0509
0.81	795	176	2.00	88.15	0.0826	0.0472	0.0354
0.83	812	111	2.00	55.42	0.0518	0.0471	0.0047
0.84	829	78	2.00	39.13	0.0366	0.0470	-0.0104
0.86	846	120	2.00	59.81	0.0558	0.0467	0.0091
0.88	863	166	2.00	83.19	0.0776	0.0464	0.0312
0.89	880	114	2.00	57.14	0.0532	0.0460	0.0072
0.91	897	129	2.00	64.57	0.0601	0.0459	0.0142
0.92	914	96	2.00	47.92	0.0445	0.0456	-0.0011
0.94	931	110	2.00	54.81	0.0508	0.0452	0.0057
0.95	948	56	2.00	27.93	0.0259	0.0448	-0.0190
0.97	965	37	2.00	18.41	0.0170	0.0444	-0.0274
0.99	982	89	2.00	44.66	0.0413	0.0439	-0.0027
1.00	999	123	2.00	61.69	0.0569	0.0434	0.0135
1.02	1016	97	2.00	48.27	0.0445	0.0429	0.0016
1.03	1033	52	2.00	26.00	0.0239	0.0423	-0.0184
1.05	1050	141	2.00	70.51	0.0648	0.0417	0.0231
1.06	1067	117	2.00	58.43	0.0536	0.0410	0.0126
1.08	1084	171	2.00	85.56	0.0784	0.0404	0.0381
1.10	1101	199	2.00	99.55	0.0911	0.0396	0.0515
1.11	1118	134	2.00	67.02	0.0613	0.0391	0.0222
1.13	1135	78	2.00	38.98	0.0356	0.0387	-0.0031
1.14	1152	87	2.00	43.72	0.0398	0.0385	0.0014
1.16	1169	80	2.00	40.14	0.0365	0.0388	-0.0023
1.17	1186	65	2.00	32.60	0.0296	0.0387	-0.0091
1.19	1203	17	2.00	8.59	0.0078	0.0386	-0.0308
1.20	1220	19	2.00	9.50	0.0086	0.0385	-0.0299
1.22	1237	11	2.00	5.38	0.0049	0.0384	-0.0335
1.23	1254	8	2.00	4.21	0.0038	0.0379	-0.0341
1.25	1271	19	2.00	9.44	0.0085	0.0379	-0.0294
1.27	1288	10	2.00	4.85	0.0044	0.0379	-0.0335
1.28	1305	15	2.00	7.27	0.0065	0.0379	-0.0314
1.30	1322	10	2.00	4.79	0.0043	0.0380	-0.0337
1.31	1339	6	2.00	2.92	0.0026	0.0382	-0.0356
1.33	1356	35	2.00	17.40	0.0156	0.0384	-0.0228
1.34	1373	59	2.00	29.44	0.0263	0.0386	-0.0123
1.36	1390	52	2.00	26.18	0.0233	0.0385	-0.0152
1.37	1407	38	2.00	19.18	0.0171	0.0388	-0.0217
1.39	1424	37	2.00	18.70	0.0166	0.0391	-0.0225
1.40	1441	39	2.00	19.66	0.0174	0.0393	-0.0219
1.42	1458	57	2.00	28.44	0.0251	0.0392	-0.0141
1.43	1475	45	2.00	22.74	0.0200	0.0394	-0.0194

1.45	1492	94	2.00	46.90	0.0412	0.0392	0.0020
1.46	1509	82	2.00	40.95	0.0359	0.0393	-0.0034
1.48	1526	94	2.00	46.83	0.0409	0.0403	0.0006
1.49	1543	108	2.00	53.79	0.0468	0.0412	0.0056
1.51	1560	57	2.00	28.69	0.0249	0.0419	-0.0170
1.52	1577	118	2.00	59.00	0.0510	0.0426	0.0084
1.54	1594	149	2.00	74.74	0.0644	0.0433	0.0211
1.55	1611	161	2.00	80.68	0.0692	0.0439	0.0253
1.57	1628	190	2.00	94.89	0.0811	0.0445	0.0366
1.58	1645	128	2.00	64.22	0.0547	0.0451	0.0095
1.59	1662	123	2.00	61.61	0.0522	0.0458	0.0064
1.61	1679	132	2.00	66.13	0.0558	0.0464	0.0094
1.62	1696	140	2.00	69.90	0.0587	0.0469	0.0118
1.64	1713	122	2.00	61.21	0.0512	0.0474	0.0038
1.65	1730	124	2.00	62.13	0.0517	0.0476	0.0041
1.67	1747	105	2.00	52.47	0.0435	0.0477	-0.0042
1.68	1764	101	2.00	50.72	0.0418	0.0478	-0.0060
1.69	1781	128	2.00	64.02	0.0526	0.0474	0.0052
1.71	1798	99	2.00	49.46	0.0404	0.0467	-0.0063
1.72	1815	123	2.00	61.31	0.0498	0.0459	0.0039
1.74	1832	109	2.00	54.48	0.0441	0.0452	-0.0011
1.75	1849	131	2.00	65.70	0.0528	0.0445	0.0084
1.76	1866	127	2.00	63.74	0.0510	0.0439	0.0071
1.78	1883	78	2.00	38.91	0.0310	0.0434	-0.0124
1.79	1900	60	2.00	29.89	0.0236	0.0433	-0.0197
1.80	1917	51	2.00	25.33	0.0199	0.0431	-0.0231
1.82	1934	48	2.00	24.25	0.0190	0.0430	-0.0240
1.83	1951	54	2.00	26.95	0.0210	0.0428	-0.0218
1.84	1968	54	2.00	27.00	0.0209	0.0423	-0.0215
1.86	1985	65	2.00	32.61	0.0251	0.0419	-0.0168
1.87	2002	60	2.00	30.23	0.0231	0.0420	-0.0189
1.88	2019	79	2.00	39.55	0.0301	0.0421	-0.0120
1.90	2036	65	2.00	32.74	0.0248	0.0422	-0.0175
1.91	2053	94	2.00	47.18	0.0355	0.0423	-0.0069
1.92	2070	95	2.00	47.58	0.0355	0.0424	-0.0069
1.93	2087	155	2.00	77.51	0.0576	0.0423	0.0153
1.95	2104	151	2.00	75.44	0.0557	0.0422	0.0136
1.96	2121	190	2.00	94.76	0.0695	0.0421	0.0275
1.97	2138	246	2.00	123.22	0.0899	0.0420	0.0478
1.98	2155	130	2.00	65.08	0.0472	0.0420	0.0052
2.00	2172	104	2.00	52.04	0.0375	0.0421	-0.0046
2.01	2189	108	2.00	54.06	0.0387	0.0423	-0.0035
2.02	2206	37	2.00	18.62	0.0132	0.0425	-0.0292
2.03	2223	142	2.00	71.21	0.0504	0.0428	0.0076
2.04	2240	74	2.00	36.76	0.0258	0.0431	-0.0173
2.06	2257	62	2.00	30.98	0.0217	0.0435	-0.0219
2.07	2274	87	2.00	43.37	0.0301	0.0439	-0.0137
2.08	2291	77	2.00	38.60	0.0266	0.0442	-0.0175
2.09	2308	134	2.00	66.84	0.0458	0.0444	0.0014
2.10	2325	143	2.00	71.50	0.0487	0.0446	0.0041

2.12	2342	187	2.00	93.40	0.0633	0.0450	0.0183
2.13	2359	227	2.00	113.41	0.0764	0.0455	0.0309
2.14	2376	271	2.00	135.37	0.0906	0.0455	0.0451
2.15	2393	336	2.00	167.90	0.1116	0.0459	0.0657
2.16	2410	354	2.00	176.84	0.1169	0.0459	0.0710
2.17	2427	341	2.00	170.65	0.1121	0.0458	0.0662
2.18	2444	326	2.00	162.83	0.1063	0.0458	0.0605
2.19	2461	318	2.00	158.93	0.1031	0.0457	0.0574
2.21	2478	208	2.00	104.22	0.0672	0.0457	0.0215
2.22	2495	204	2.00	101.87	0.0653	0.0457	0.0196
2.23	2512	166	2.00	83.24	0.0530	0.0461	0.0069
2.24	2529	133	2.00	66.53	0.0421	0.0459	-0.0038
2.25	2546	167	2.00	83.33	0.0524	0.0455	0.0069
2.26	2563	109	2.00	54.35	0.0340	0.0451	-0.0111
2.27	2580	187	2.00	93.69	0.0582	0.0445	0.0137
2.28	2597	172	2.00	85.93	0.0531	0.0443	0.0088
2.29	2614	173	2.00	86.34	0.0530	0.0432	0.0098
2.30	2631	164	2.00	81.94	0.0500	0.0420	0.0081
2.31	2648	115	2.00	57.71	0.0350	0.0405	-0.0054
2.32	2665	139	2.00	69.63	0.0420	0.0391	0.0029
2.33	2682	131	2.00	65.40	0.0392	0.0377	0.0015
2.34	2699	106	2.00	53.12	0.0316	0.0364	-0.0047
2.35	2716	108	2.00	54.03	0.0320	0.0350	-0.0030
2.36	2733	86	2.00	42.92	0.0253	0.0337	-0.0084
2.37	2750	93	2.00	46.36	0.0271	0.0322	-0.0051
2.38	2767	71	2.00	35.40	0.0206	0.0315	-0.0109
2.39	2784	81	2.00	40.43	0.0234	0.0309	-0.0075
2.40	2801	63	2.00	31.70	0.0182	0.0305	-0.0123
2.41	2818	84	2.00	41.87	0.0239	0.0305	-0.0066
2.42	2835	81	2.00	40.55	0.0230	0.0308	-0.0078
2.43	2852	87	2.00	43.31	0.0245	0.0313	-0.0068
2.44	2869	98	2.00	48.94	0.0275	0.0319	-0.0044
2.45	2886	122	2.00	60.85	0.0340	0.0328	0.0012
2.46	2903	107	2.00	53.32	0.0296	0.0338	-0.0042
2.47	2920	91	2.00	45.50	0.0251	0.0350	-0.0099
2.48	2937	152	2.00	76.14	0.0418	0.0361	0.0057
2.49	2954	171	2.00	85.47	0.0467	0.0373	0.0093
2.50	2971	194	2.00	97.00	0.0527	0.0386	0.0141
2.51	2988	201	2.00	100.58	0.0543	0.0399	0.0144
2.52	3005	189	2.00	94.69	0.0508	0.0413	0.0095
2.53	3022	168	2.00	83.79	0.0448	0.0427	0.0020
2.53	3039	140	2.00	69.98	0.0372	0.0441	-0.0069
2.54	3056	120	2.00	60.00	0.0317	0.0455	-0.0137
2.55	3073	123	2.00	61.52	0.0324	0.0467	-0.0144
2.56	3090	136	2.00	67.94	0.0356	0.0478	-0.0123
2.57	3107	146	2.00	73.00	0.0380	0.0487	-0.0106
2.58	3124	171	2.00	85.36	0.0443	0.0492	-0.0049
2.59	3141	210	2.00	104.77	0.0541	0.0495	0.0046
2.60	3158	232	2.00	116.09	0.0597	0.0497	0.0099
2.61	3175	289	2.00	144.34	0.0738	0.0499	0.0239

2.61	3192	327	2.00	163.68	0.0834	0.0501	0.0333
2.62	3209	318	2.00	158.78	0.0806	0.0502	0.0303
2.63	3226	315	2.00	157.68	0.0797	0.0504	0.0293
2.64	3243	304	2.00	152.00	0.0765	0.0506	0.0258
2.65	3260	323	2.00	161.73	0.0810	0.0508	0.0302
2.66	3277	310	2.00	155.20	0.0774	0.0511	0.0264
2.67	3294	277	2.00	138.51	0.0689	0.0514	0.0175
2.67	3311	300	2.00	149.84	0.0742	0.0517	0.0225
2.68	3328	369	2.00	184.38	0.0910	0.0519	0.0391
2.69	3345	256	2.00	128.00	0.0629	0.0522	0.0108
2.70	3362	296	2.00	148.07	0.0725	0.0519	0.0206
2.71	3379	249	2.00	124.48	0.0608	0.0520	0.0088
2.72	3396	216	2.00	108.01	0.0525	0.0520	0.0005
2.72	3413	189	2.00	94.61	0.0459	0.0519	-0.0061
2.73	3430	171	2.00	85.42	0.0413	0.0516	-0.0103
2.74	3447	221	2.00	110.50	0.0532	0.0511	0.0021
2.75	3464	211	2.00	105.56	0.0507	0.0504	0.0002
2.76	3481	188	2.00	93.90	0.0449	0.0497	-0.0048
2.77	3498	150	2.00	74.80	0.0357	0.0491	-0.0134
2.77	3515	136	2.00	68.24	0.0325	0.0485	-0.0160
2.78	3532	219	2.00	109.50	0.0519	0.0478	0.0041
2.79	3549	189	2.00	94.52	0.0447	0.0472	-0.0025
2.80	3566	215	2.00	107.72	0.0508	0.0467	0.0041
2.81	3583	196	2.00	98.10	0.0461	0.0463	-0.0002
2.81	3600	163	2.00	81.61	0.0383	0.0459	-0.0076
2.82	3617	164	2.00	82.00	0.0384	0.0457	-0.0073
2.83	3634	182	2.00	91.14	0.0425	0.0454	-0.0029
2.84	3651	196	2.00	98.15	0.0457	0.0453	0.0004
2.85	3668	242	2.00	121.21	0.0562	0.0451	0.0111
2.85	3685	277	2.00	138.61	0.0642	0.0449	0.0193
2.86	3702	187	2.00	93.50	0.0432	0.0446	-0.0014
2.87	3719	134	2.00	66.78	0.0308	0.0443	-0.0135
2.88	3736	178	2.00	89.24	0.0410	0.0439	-0.0029
2.88	3753	236	2.00	117.75	0.0540	0.0434	0.0105
2.89	3770	281	2.00	140.61	0.0643	0.0430	0.0214
2.90	3787	202	2.00	101.00	0.0461	0.0424	0.0036
2.91	3804	214	2.00	107.05	0.0487	0.0419	0.0069
2.92	3821	214	2.00	106.91	0.0486	0.0413	0.0073
2.92	3838	204	2.00	102.24	0.0464	0.0405	0.0058
2.93	3855	182	2.00	91.00	0.0412	0.0396	0.0015
2.94	3872	191	2.00	95.34	0.0430	0.0386	0.0045
2.95	3889	151	2.00	75.69	0.0341	0.0373	-0.0032
2.95	3906	145	2.00	72.36	0.0326	0.0359	-0.0033
2.96	3923	216	2.00	108.00	0.0485	0.0344	0.0141
2.97	3940	152	2.00	75.78	0.0340	0.0329	0.0011
2.98	3957	144	2.00	71.78	0.0321	0.0314	0.0007
2.98	3974	131	2.00	65.73	0.0294	0.0299	-0.0005
2.99	3991	111	2.00	55.50	0.0247	0.0285	-0.0037
3.00	4008	151	2.00	75.48	0.0336	0.0272	0.0064
3.01	4025	102	2.00	51.14	0.0227	0.0257	-0.0030

3.02	4042	66	2.00	33.17	0.0147	0.0246	-0.0099
3.02	4059	43	2.00	21.49	0.0095	0.0236	-0.0141
3.03	4076	42	2.00	21.00	0.0093	0.0227	-0.0135
3.04	4093	59	2.00	29.31	0.0129	0.0220	-0.0091
3.05	4110	76	2.00	38.21	0.0168	0.0215	-0.0047
3.05	4127	95	2.00	47.41	0.0209	0.0211	-0.0002
3.06	4144	87	2.00	43.50	0.0191	0.0207	-0.0016
3.07	4161	86	2.00	43.16	0.0189	0.0204	-0.0015
3.08	4178	76	2.00	38.02	0.0167	0.0203	-0.0036
3.08	4195	57	2.00	28.50	0.0125	0.0202	-0.0078
3.09	4212	92	2.00	46.00	0.0201	0.0203	-0.0002
3.10	4229	102	2.00	51.23	0.0224	0.0205	0.0019
3.10	4246	121	2.00	60.58	0.0264	0.0207	0.0057
3.11	4263	151	2.00	75.50	0.0329	0.0210	0.0119
3.12	4280	143	2.00	71.68	0.0312	0.0212	0.0100
3.13	4297	127	2.00	63.65	0.0277	0.0215	0.0062
3.13	4314	106	2.00	52.90	0.0230	0.0218	0.0011
3.14	4331	72	2.00	36.00	0.0156	0.0222	-0.0066
3.15	4348	65	2.00	32.43	0.0140	0.0226	-0.0085
3.16	4365	61	2.00	30.40	0.0132	0.0229	-0.0098
3.16	4382	75	2.00	37.54	0.0162	0.0233	-0.0071
3.17	4399	156	2.00	78.00	0.0337	0.0236	0.0100
3.18	4416	117	2.00	58.50	0.0252	0.0240	0.0013
3.19	4433	102	2.00	51.08	0.0220	0.0243	-0.0023
3.19	4450	95	2.00	47.71	0.0206	0.0247	-0.0042
3.20	4467	100	2.00	50.00	0.0215	0.0254	-0.0039
3.21	4484	127	2.00	63.62	0.0274	0.0260	0.0014
3.22	4501	155	2.00	77.72	0.0334	0.0266	0.0068
3.22	4518	188	2.00	94.00	0.0404	0.0273	0.0131
3.23	4535	203	2.00	101.35	0.0435	0.0279	0.0156
3.24	4552	201	2.00	100.59	0.0431	0.0284	0.0148
3.24	4569	180	2.00	89.95	0.0386	0.0287	0.0099
3.25	4586	115	2.00	57.50	0.0246	0.0288	-0.0042
3.26	4603	106	2.00	52.75	0.0226	0.0288	-0.0062
3.27	4620	136	2.00	67.88	0.0290	0.0288	0.0002
3.27	4637	170	2.00	85.24	0.0365	0.0287	0.0077
3.28	4654	182	2.00	91.00	0.0389	0.0287	0.0102
3.29	4671	176	2.00	88.05	0.0376	0.0286	0.0090
3.30	4688	191	2.00	95.63	0.0408	0.0285	0.0123
3.30	4705	222	2.00	111.00	0.0474	0.0284	0.0190
3.31	4722	87	2.00	43.27	0.0185	0.0282	-0.0097
3.32	4739	97	2.00	48.33	0.0206	0.0280	-0.0074
3.32	4756	91	2.00	45.47	0.0194	0.0279	-0.0085
3.33	4773	42	2.00	21.00	0.0090	0.0277	-0.0187
3.34	4790	86	2.00	42.92	0.0183	0.0274	-0.0091
3.35	4807	149	2.00	74.52	0.0317	0.0270	0.0047
3.35	4824	206	2.00	103.08	0.0439	0.0266	0.0173
3.36	4841	129	2.00	64.50	0.0275	0.0262	0.0013
3.37	4858	113	2.00	56.45	0.0240	0.0257	-0.0016
3.38	4875	123	2.00	61.28	0.0261	0.0252	0.0008

3.38	4892	158	2.00	79.00	0.0336	0.0248	0.0088
3.39	4909	177	2.00	88.36	0.0376	0.0244	0.0132
3.40	4926	143	2.00	71.54	0.0304	0.0238	0.0067
3.40	4943	118	2.00	58.79	0.0250	0.0230	0.0021
3.41	4960	130	2.00	65.00	0.0277	0.0220	0.0057
3.42	4977	103	2.00	51.58	0.0219	0.0208	0.0011
3.43	4994	91	2.00	45.56	0.0194	0.0195	-0.0002
3.43	5011	85	2.00	42.27	0.0180	0.0182	-0.0002
3.44	5028	105	2.00	52.50	0.0223	0.0170	0.0054
3.45	5045	89	2.00	44.46	0.0189	0.0156	0.0033
3.45	5062	59	2.00	29.53	0.0126	0.0143	-0.0017
3.46	5079	0	2.00	0.00	0.0000	0.0129	-0.0129
3.47	5096	0	2.00	0.00	0.0000	0.0116	-0.0116
3.48	5113	8	2.00	4.00	0.0017	0.0105	-0.0087
3.48	5130	18	2.00	9.01	0.0038	0.0093	-0.0055
3.49	5147	33	2.00	16.50	0.0070	0.0083	-0.0013
3.50	5164	20	2.00	10.21	0.0044	0.0074	-0.0030
3.51	5181	17	2.00	8.54	0.0036	0.0065	-0.0029
3.51	5198	19	2.00	9.50	0.0041	0.0058	-0.0017
3.52	5215	14	2.00	7.05	0.0030	0.0052	-0.0022
3.53	5232	20	2.00	10.02	0.0043	0.0048	-0.0005
3.53	5249	24	2.00	11.77	0.0050	0.0045	0.0005
3.54	5266	22	2.00	11.00	0.0047	0.0044	0.0003
3.55	5283	24	2.00	11.85	0.0051	0.0044	0.0007
3.56	5300	25	2.00	12.48	0.0053	0.0043	0.0010
3.56	5317	26	2.00	13.05	0.0056	0.0042	0.0014
3.57	5334	27	2.00	13.50	0.0058	0.0041	0.0016
3.58	5351	17	2.00	8.39	0.0036	0.0041	-0.0005
3.59	5368	13	2.00	6.50	0.0028	0.0040	-0.0012
3.59	5385	13	2.00	6.50	0.0028	0.0039	-0.0011
3.60	5402	21	2.00	10.45	0.0045	0.0038	0.0007
3.61	5419	20	2.00	10.19	0.0044	0.0037	0.0006
3.61	5436	19	2.00	9.37	0.0040	0.0037	0.0004
3.62	5453	15	2.00	7.50	0.0032	0.0036	-0.0004
3.63	5470	10	2.00	4.84	0.0021	0.0036	-0.0015
3.64	5487	9	2.00	4.50	0.0019	0.0035	-0.0016
3.64	5504	10	2.00	4.90	0.0021	0.0035	-0.0014
3.65	5521	14	2.00	7.00	0.0030	0.0035	-0.0005
3.66	5538	13	2.00	6.60	0.0029	0.0035	-0.0007
3.67	5555	18	2.00	9.13	0.0040	0.0036	0.0004
3.67	5572	25	2.00	12.30	0.0053	0.0037	0.0017
3.68	5589	20	2.00	10.00	0.0043	0.0038	0.0005
3.69	5606	18	2.00	8.91	0.0039	0.0040	-0.0001
3.70	5623	18	2.00	9.24	0.0040	0.0042	-0.0002
3.70	5640	21	2.00	10.42	0.0045	0.0045	0.0001
3.71	5657	13	2.00	6.50	0.0028	0.0047	-0.0019
3.72	5674	14	2.00	6.84	0.0030	0.0050	-0.0020
3.72	5691	15	2.00	7.65	0.0033	0.0052	-0.0019
3.73	5708	18	2.00	9.00	0.0039	0.0054	-0.0014
3.74	5725	26	2.00	12.92	0.0057	0.0055	0.0002

3.75	5742	34	2.00	17.14	0.0075	0.0056	0.0019
3.75	5759	38	2.00	19.20	0.0084	0.0056	0.0028
3.76	5776	37	2.00	18.50	0.0081	0.0057	0.0025
3.77	5793	44	2.00	21.86	0.0096	0.0057	0.0039
3.78	5810	32	2.00	15.75	0.0070	0.0058	0.0012
3.78	5827	26	2.00	13.17	0.0058	0.0059	0.0000
3.79	5844	32	2.00	16.00	0.0071	0.0059	0.0011
3.80	5861	26	2.00	13.11	0.0058	0.0060	-0.0002
3.81	5878	25	2.00	12.36	0.0055	0.0060	-0.0005
3.81	5895	22	2.00	10.91	0.0048	0.0060	-0.0011
3.82	5912	17	2.00	8.50	0.0038	0.0059	-0.0021
3.83	5929	10	2.00	5.03	0.0022	0.0057	-0.0035
3.84	5946	12	2.00	6.01	0.0027	0.0055	-0.0028
3.85	5963	21	2.00	10.27	0.0046	0.0053	-0.0007
3.85	5980	34	2.00	17.12	0.0077	0.0051	0.0026
3.86	5997	39	2.00	19.50	0.0088	0.0048	0.0039
3.87	6014	40	2.00	20.24	0.0091	0.0047	0.0045
3.88	6031	37	2.00	18.33	0.0083	0.0045	0.0038
3.88	6048	28	2.00	14.11	0.0064	0.0044	0.0020
3.89	6065	10	2.00	5.00	0.0023	0.0043	-0.0020
3.90	6082	11	2.00	5.42	0.0025	0.0041	-0.0017
3.91	6099	10	2.00	4.96	0.0023	0.0040	-0.0018
3.91	6116	8	2.00	4.13	0.0019	0.0039	-0.0020
3.92	6133	6	2.00	3.00	0.0014	0.0037	-0.0023
3.93	6150	13	2.00	6.35	0.0029	0.0035	-0.0006
3.94	6167	14	2.00	6.84	0.0031	0.0034	-0.0002
3.95	6184	13	2.00	6.61	0.0030	0.0033	-0.0002
3.95	6201	12	2.00	6.11	0.0028	0.0033	-0.0005
3.96	6218	14	2.00	7.00	0.0032	0.0034	-0.0001
3.97	6235	13	2.00	6.58	0.0030	0.0035	-0.0005
3.98	6252	11	2.00	5.65	0.0026	0.0037	-0.0011
3.98	6269	11	2.00	5.74	0.0027	0.0040	-0.0013
3.99	6286	15	2.00	7.48	0.0035	0.0043	-0.0008
4.00	6303	14	2.00	7.00	0.0033	0.0045	-0.0013
4.01	6320	10	2.00	5.08	0.0024	0.0048	-0.0024
4.02	6337	20	2.00	9.84	0.0046	0.0050	-0.0004
4.02	6354	32	2.00	16.01	0.0075	0.0052	0.0023
4.03	6371	38	2.00	19.00	0.0089	0.0053	0.0036
4.04	6388	38	2.00	19.00	0.0089	0.0055	0.0035
4.05	6405	22	2.00	11.14	0.0053	0.0056	-0.0003
4.06	6422	25	2.00	12.26	0.0058	0.0057	0.0001
4.06	6439	32	2.00	15.87	0.0075	0.0058	0.0017
4.07	6456	31	2.00	15.49	0.0073	0.0059	0.0015
4.08	6473	30	2.00	15.00	0.0071	0.0059	0.0012
4.09	6490	25	2.00	12.27	0.0058	0.0060	-0.0001
4.10	6507	22	2.00	10.96	0.0052	0.0060	-0.0008
4.10	6524	20	2.00	10.19	0.0049	0.0060	-0.0011
4.11	6541	19	2.00	9.38	0.0045	0.0059	-0.0015
4.12	6558	16	2.00	8.00	0.0038	0.0059	-0.0021
4.13	6575	23	2.00	11.43	0.0055	0.0059	-0.0004

4.14	6592	20	2.00	10.10	0.0049	0.0059	-0.0010
4.15	6609	22	2.00	10.86	0.0052	0.0059	-0.0007
4.15	6626	26	2.00	13.21	0.0064	0.0060	0.0004
4.16	6643	24	2.00	12.00	0.0058	0.0060	-0.0002
4.17	6660	40	2.00	19.85	0.0096	0.0061	0.0035
4.18	6677	28	2.00	13.84	0.0067	0.0063	0.0005
4.19	6694	20	2.00	9.75	0.0048	0.0064	-0.0016
4.19	6711	20	2.00	10.13	0.0049	0.0065	-0.0015
4.20	6728	29	2.00	14.30	0.0070	0.0066	0.0004
4.21	6745	32	2.00	16.00	0.0078	0.0067	0.0011
4.22	6762	31	2.00	15.52	0.0076	0.0068	0.0008
4.23	6779	25	2.00	12.48	0.0061	0.0069	-0.0008
4.24	6796	30	2.00	14.86	0.0073	0.0071	0.0003
4.24	6813	30	2.00	15.11	0.0075	0.0072	0.0003
4.25	6830	26	2.00	12.78	0.0063	0.0074	-0.0010
4.26	6847	42	2.00	21.00	0.0104	0.0076	0.0029
4.27	6864	24	2.00	12.08	0.0060	0.0078	-0.0018
4.28	6881	18	2.00	9.17	0.0046	0.0080	-0.0034
4.29	6898	25	2.00	12.57	0.0063	0.0082	-0.0019
4.30	6915	31	2.00	15.67	0.0078	0.0084	-0.0006
4.30	6932	33	2.00	16.36	0.0082	0.0086	-0.0004
4.31	6949	34	2.00	17.17	0.0086	0.0087	-0.0001
4.32	6966	56	2.00	28.00	0.0141	0.0088	0.0052
4.33	6983	40	2.00	20.12	0.0101	0.0089	0.0012
4.34	7000	31	2.00	15.33	0.0077	0.0090	-0.0012
4.35	7017	40	2.00	20.23	0.0102	0.0090	0.0012
4.36	7034	45	2.00	22.57	0.0114	0.0091	0.0023
4.36	7051	41	2.00	20.54	0.0104	0.0092	0.0012
4.37	7068	44	2.00	22.17	0.0113	0.0093	0.0020
4.38	7085	47	2.00	23.50	0.0120	0.0094	0.0026
4.39	7102	26	2.00	12.99	0.0066	0.0095	-0.0028
4.40	7119	32	2.00	16.11	0.0082	0.0095	-0.0013
4.41	7136	30	2.00	15.05	0.0077	0.0095	-0.0018
4.42	7153	23	2.00	11.49	0.0059	0.0095	-0.0036
4.42	7170	22	2.00	11.14	0.0057	0.0095	-0.0037
4.43	7187	33	2.00	16.71	0.0086	0.0094	-0.0008
4.44	7204	46	2.00	23.11	0.0119	0.0093	0.0027
4.45	7221	49	2.00	24.50	0.0127	0.0091	0.0035
4.46	7238	42	2.00	21.23	0.0110	0.0090	0.0020
4.47	7255	32	2.00	16.22	0.0084	0.0088	-0.0004
4.48	7272	55	2.00	27.26	0.0142	0.0086	0.0056
4.49	7289	44	2.00	21.82	0.0114	0.0083	0.0030
4.49	7306	31	2.00	15.32	0.0080	0.0081	-0.0001
4.50	7323	35	2.00	17.57	0.0092	0.0077	0.0014
4.51	7340	20	2.00	9.84	0.0051	0.0074	-0.0022
4.52	7357	35	2.00	17.29	0.0091	0.0070	0.0021
4.53	7374	19	2.00	9.50	0.0050	0.0065	-0.0015
4.54	7391	33	2.00	16.29	0.0086	0.0060	0.0025
4.55	7408	27	2.00	13.46	0.0071	0.0056	0.0015
4.56	7425	10	2.00	5.11	0.0027	0.0051	-0.0024

4.57	7442	2	2.00	0.94	0.0005	0.0047	-0.0042
4.58	7459	3	2.00	1.61	0.0009	0.0044	-0.0035
4.58	7476	9	2.00	4.34	0.0023	0.0041	-0.0018
4.59	7493	14	2.00	7.00	0.0037	0.0040	-0.0003
4.60	7510	14	2.00	6.88	0.0037	0.0040	-0.0003
4.61	7527	12	2.00	6.00	0.0032	0.0040	-0.0008
4.62	7544	12	2.00	6.00	0.0032	0.0041	-0.0009
4.63	7561	6	2.00	3.25	0.0017	0.0043	-0.0026
4.64	7578	4	2.00	2.18	0.0012	0.0045	-0.0034
4.65	7595	10	2.00	4.88	0.0026	0.0048	-0.0022
4.66	7612	15	2.00	7.56	0.0041	0.0051	-0.0010
4.67	7629	18	2.00	9.03	0.0049	0.0055	-0.0006
4.67	7646	28	2.00	13.91	0.0075	0.0058	0.0017
4.68	7663	38	2.00	18.80	0.0102	0.0062	0.0039
4.69	7680	36	2.00	17.90	0.0097	0.0066	0.0031
4.70	7697	37	2.00	18.46	0.0100	0.0069	0.0031
4.71	7714	30	2.00	15.15	0.0082	0.0073	0.0009
4.72	7731	14	2.00	7.06	0.0038	0.0076	-0.0038
4.73	7748	23	2.00	11.50	0.0063	0.0078	-0.0016
4.74	7765	18	2.00	9.17	0.0050	0.0080	-0.0030
4.75	7782	46	2.00	23.11	0.0126	0.0081	0.0046
4.76	7799	56	2.00	27.84	0.0152	0.0081	0.0072
4.77	7816	25	2.00	12.66	0.0069	0.0080	-0.0011
4.78	7833	25	2.00	12.63	0.0069	0.0080	-0.0010
4.79	7850	45	2.00	22.67	0.0125	0.0079	0.0046
4.80	7867	35	2.00	17.43	0.0096	0.0078	0.0018
4.80	7884	24	2.00	11.88	0.0065	0.0078	-0.0012
4.81	7901	35	2.00	17.43	0.0096	0.0078	0.0019
4.82	7918	24	2.00	12.12	0.0067	0.0077	-0.0010
4.83	7935	10	2.00	5.16	0.0029	0.0077	-0.0048
4.84	7952	19	2.00	9.60	0.0053	0.0076	-0.0023
4.85	7969	25	2.00	12.39	0.0069	0.0075	-0.0007
4.86	7986	23	2.00	11.75	0.0065	0.0074	-0.0009
4.87	8003	32	2.00	16.00	0.0089	0.0073	0.0016
4.88	8020	19	2.00	9.51	0.0053	0.0073	-0.0020
4.89	8037	35	2.00	17.53	0.0098	0.0072	0.0026
4.90	8054	25	2.00	12.65	0.0071	0.0071	-0.0001
4.91	8071	30	2.00	14.94	0.0084	0.0071	0.0013
4.92	8088	28	2.00	13.92	0.0078	0.0072	0.0006
4.93	8105	25	2.00	12.38	0.0070	0.0073	-0.0003
4.94	8122	34	2.00	17.23	0.0097	0.0074	0.0023
4.95	8139	25	2.00	12.32	0.0069	0.0076	-0.0007
4.96	8156	18	2.00	8.80	0.0050	0.0078	-0.0028
4.97	8173	27	2.00	13.25	0.0075	0.0080	-0.0005
4.98	8190	24	2.00	11.76	0.0067	0.0081	-0.0015
4.99	8207	17	2.00	8.47	0.0048	0.0083	-0.0035
4.99	8224	18	2.00	9.05	0.0051	0.0085	-0.0034
5.00	8241	19	2.00	9.74	0.0055	0.0087	-0.0032
5.01	8258	38	2.00	18.87	0.0107	0.0089	0.0018
5.02	8275	58	2.00	29.11	0.0166	0.0090	0.0075

5.03	8292	49	2.00	24.72	0.0141	0.0092	0.0049
5.04	8309	40	2.00	19.77	0.0113	0.0094	0.0019
5.05	8326	24	2.00	11.88	0.0068	0.0096	-0.0028
5.06	8343	30	2.00	14.78	0.0085	0.0097	-0.0012
5.07	8360	43	2.00	21.58	0.0124	0.0098	0.0026
5.08	8377	46	2.00	23.07	0.0132	0.0099	0.0034
5.09	8394	37	2.00	18.57	0.0107	0.0099	0.0008
5.10	8411	38	2.00	18.94	0.0109	0.0099	0.0010
5.11	8428	35	2.00	17.37	0.0100	0.0098	0.0002
5.12	8445	16	2.00	7.84	0.0045	0.0098	-0.0053
5.13	8462	35	2.00	17.69	0.0102	0.0097	0.0005
5.14	8479	26	2.00	13.08	0.0076	0.0097	-0.0021
5.15	8496	55	2.00	27.72	0.0160	0.0096	0.0064
5.16	8513	28	2.00	13.98	0.0081	0.0095	-0.0014
5.17	8530	17	2.00	8.50	0.0049	0.0094	-0.0044
5.18	8547	24	2.00	11.96	0.0069	0.0092	-0.0022
5.19	8564	42	2.00	21.24	0.0123	0.0089	0.0034
5.20	8581	21	2.00	10.47	0.0061	0.0087	-0.0026
5.21	8598	65	2.00	32.72	0.0190	0.0084	0.0106
5.22	8615	38	2.00	19.04	0.0111	0.0082	0.0029
5.23	8632	51	2.00	25.40	0.0148	0.0079	0.0069
5.24	8649	33	2.00	16.39	0.0096	0.0077	0.0019
5.25	8666	19	2.00	9.61	0.0056	0.0074	-0.0018
5.26	8683	29	2.00	14.39	0.0084	0.0071	0.0013
5.27	8700	18	2.00	8.76	0.0051	0.0069	-0.0018
5.28	8717	16	2.00	8.00	0.0047	0.0066	-0.0019
5.29	8734	6	2.00	3.16	0.0018	0.0063	-0.0045
5.30	8751	16	2.00	8.20	0.0048	0.0061	-0.0013
5.31	8768	15	2.00	7.25	0.0043	0.0059	-0.0016
5.32	8785	20	2.00	10.05	0.0059	0.0057	0.0002
5.33	8802	26	2.00	13.11	0.0077	0.0057	0.0020
5.34	8819	9	2.00	4.38	0.0026	0.0058	-0.0032
5.35	8836	13	2.00	6.47	0.0038	0.0060	-0.0022
5.36	8853	11	2.00	5.70	0.0034	0.0062	-0.0028
5.37	8870	17	2.00	8.55	0.0050	0.0064	-0.0014
5.38	8887	17	2.00	8.56	0.0051	0.0066	-0.0016
5.39	8904	27	2.00	13.31	0.0079	0.0068	0.0010
5.40	8921	12	2.00	6.09	0.0036	0.0070	-0.0034
5.41	8938	38	2.00	19.12	0.0113	0.0071	0.0042
5.42	8955	61	2.00	30.32	0.0179	0.0071	0.0108
5.43	8972	42	2.00	21.23	0.0126	0.0072	0.0054
5.44	8989	28	2.00	14.16	0.0084	0.0072	0.0012
5.45	9006	42	2.00	21.20	0.0126	0.0073	0.0053
5.46	9023	34	2.00	16.98	0.0101	0.0074	0.0027
5.47	9040	3	2.00	1.31	0.0008	0.0074	-0.0067
5.48	9057	31	2.00	15.33	0.0091	0.0075	0.0016
5.49	9074	13	2.00	6.65	0.0039	0.0075	-0.0036
5.50	9091	23	2.00	11.68	0.0069	0.0075	-0.0006
5.51	9108	20	2.00	10.09	0.0060	0.0075	-0.0015
5.52	9125	9	2.00	4.68	0.0028	0.0075	-0.0047

5.53	9142	5	2.00	2.54	0.0015	0.0075	-0.0060
5.54	9159	28	2.00	13.88	0.0083	0.0076	0.0007
5.55	9176	31	2.00	15.39	0.0092	0.0077	0.0015
5.56	9193	15	2.00	7.27	0.0043	0.0078	-0.0035
5.57	9210	36	2.00	17.86	0.0106	0.0080	0.0026
5.58	9227	53	2.00	26.28	0.0157	0.0082	0.0075
5.59	9244	26	2.00	12.93	0.0077	0.0084	-0.0007
5.60	9261	25	2.00	12.35	0.0074	0.0086	-0.0013
5.61	9278	33	2.00	16.64	0.0099	0.0089	0.0011
5.62	9295	35	2.00	17.73	0.0106	0.0091	0.0015
5.63	9312	32	2.00	16.05	0.0096	0.0093	0.0003
5.64	9329	41	2.00	20.34	0.0121	0.0094	0.0027
5.65	9346	42	2.00	21.06	0.0126	0.0096	0.0030
5.66	9363	24	2.00	11.91	0.0071	0.0096	-0.0025
5.67	9380	16	2.00	7.78	0.0046	0.0097	-0.0051
5.68	9397	25	2.00	12.31	0.0074	0.0097	-0.0024
5.69	9414	20	2.00	10.17	0.0061	0.0097	-0.0036
5.70	9431	44	2.00	21.95	0.0131	0.0097	0.0034
5.71	9448	58	2.00	29.24	0.0175	0.0096	0.0078
5.72	9465	51	2.00	25.74	0.0154	0.0096	0.0058
5.73	9482	21	2.00	10.33	0.0062	0.0095	-0.0033
5.74	9499	23	2.00	11.47	0.0069	0.0094	-0.0025
5.75	9516	24	2.00	11.95	0.0071	0.0092	-0.0021
5.76	9533	46	2.00	23.24	0.0139	0.0091	0.0048
5.77	9550	54	2.00	26.99	0.0161	0.0089	0.0072
5.78	9567	29	2.00	14.60	0.0087	0.0087	0.0000
5.79	9584	21	2.00	10.55	0.0063	0.0085	-0.0022
5.80	9601	27	2.00	13.57	0.0081	0.0083	-0.0002
5.81	9618	37	2.00	18.37	0.0110	0.0081	0.0029
5.82	9635	17	2.00	8.44	0.0050	0.0079	-0.0029
5.83	9652	16	2.00	7.88	0.0047	0.0077	-0.0030
5.84	9669	25	2.00	12.66	0.0076	0.0076	0.0000
5.85	9686	27	2.00	13.68	0.0082	0.0074	0.0007
5.86	9703	16	2.00	7.79	0.0047	0.0073	-0.0026
5.87	9720	11	2.00	5.50	0.0033	0.0072	-0.0039
5.89	9737	25	2.00	12.30	0.0074	0.0071	0.0003
5.90	9754	28	2.00	13.91	0.0083	0.0069	0.0014
5.91	9771	28	2.00	14.17	0.0085	0.0069	0.0016
5.92	9788	24	2.00	12.06	0.0072	0.0068	0.0004
5.93	9805	19	2.00	9.47	0.0057	0.0068	-0.0011
5.94	9822	28	2.00	13.83	0.0083	0.0068	0.0014
5.95	9839	28	2.00	14.14	0.0085	0.0069	0.0016
5.96	9856	27	2.00	13.32	0.0080	0.0069	0.0010
5.97	9873	22	2.00	10.88	0.0065	0.0071	-0.0005
5.98	9890	19	2.00	9.50	0.0057	0.0072	-0.0015
5.99	9907	18	2.00	9.16	0.0055	0.0073	-0.0019
6.00	9924	18	2.00	9.00	0.0054	0.0075	-0.0021
6.01	9941	21	2.00	10.44	0.0062	0.0076	-0.0013
6.02	9958	19	2.00	9.53	0.0057	0.0076	-0.0019
6.03	9975	28	2.00	13.89	0.0083	0.0077	0.0006

6.04	9992	25	2.00	12.43	0.0074	0.0077	-0.0002
6.05	10009	25	2.00	12.28	0.0073	0.0076	-0.0003
6.06	10026	47	2.00	23.72	0.0142	0.0075	0.0067
6.07	10043	24	2.00	11.78	0.0070	0.0074	-0.0003
6.08	10060	40	2.00	20.18	0.0121	0.0073	0.0048
6.09	10077	48	2.00	23.78	0.0142	0.0072	0.0071
6.10	10094	30	2.00	14.90	0.0089	0.0070	0.0019
6.11	10111	14	2.00	6.88	0.0041	0.0069	-0.0028
6.12	10128	76	2.00	37.93	0.0227	0.0068	0.0159
6.13	10145	23	2.00	11.74	0.0070	0.0067	0.0003
6.14	10162	9	2.00	4.34	0.0026	0.0065	-0.0039
6.15	10179	16	2.00	7.79	0.0047	0.0063	-0.0017
6.16	10196	12	2.00	6.07	0.0036	0.0061	-0.0025
6.17	10213	16	2.00	7.96	0.0048	0.0060	-0.0012
6.18	10230	21	2.00	10.42	0.0062	0.0059	0.0004
6.19	10247	11	2.00	5.50	0.0033	0.0058	-0.0025
6.20	10264	11	2.00	5.66	0.0034	0.0058	-0.0024
6.21	10281	20	2.00	9.97	0.0060	0.0059	0.0000
6.22	10298	47	2.00	23.35	0.0140	0.0061	0.0079
6.23	10315	19	2.00	9.57	0.0057	0.0062	-0.0005
6.24	10332	12	2.00	5.89	0.0035	0.0064	-0.0029
6.25	10349	19	2.00	9.64	0.0058	0.0066	-0.0008
6.26	10366	26	2.00	13.06	0.0078	0.0068	0.0011
6.27	10383	19	2.00	9.27	0.0055	0.0069	-0.0014
6.28	10400	37	2.00	18.32	0.0110	0.0071	0.0039
6.29	10417	33	2.00	16.34	0.0098	0.0072	0.0026
6.30	10434	26	2.00	12.86	0.0077	0.0073	0.0004
6.31	10451	32	2.00	15.96	0.0095	0.0073	0.0022
6.32	10468	17	2.00	8.64	0.0052	0.0073	-0.0022
6.33	10485	15	2.00	7.37	0.0044	0.0073	-0.0029
6.34	10502	21	2.00	10.30	0.0062	0.0072	-0.0011
6.35	10519	37	2.00	18.56	0.0111	0.0072	0.0039
6.36	10536	30	2.00	14.88	0.0089	0.0071	0.0018
6.37	10553	24	2.00	11.92	0.0071	0.0071	0.0001
6.38	10570	27	2.00	13.74	0.0082	0.0071	0.0011
6.39	10587	13	2.00	6.39	0.0038	0.0072	-0.0034
6.40	10604	25	2.00	12.48	0.0075	0.0073	0.0001
6.41	10621	29	2.00	14.74	0.0088	0.0076	0.0012
6.42	10638	16	2.00	7.92	0.0047	0.0080	-0.0032
6.43	10655	14	2.00	7.04	0.0042	0.0084	-0.0042
6.44	10672	11	2.00	5.63	0.0034	0.0090	-0.0056
6.45	10689	16	2.00	8.09	0.0048	0.0096	-0.0048
6.46	10706	19	2.00	9.36	0.0056	0.0102	-0.0046
6.47	10723	35	2.00	17.37	0.0104	0.0107	-0.0003
6.48	10740	47	2.00	23.25	0.0139	0.0112	0.0027
6.50	10757	40	2.00	19.86	0.0119	0.0117	0.0002
6.51	10774	56	2.00	28.04	0.0168	0.0121	0.0046
6.52	10791	87	2.00	43.53	0.0260	0.0126	0.0134
6.53	10808	94	2.00	47.15	0.0282	0.0131	0.0151
6.54	10825	67	2.00	33.61	0.0201	0.0135	0.0066

6.55	10842	56	2.00	28.11	0.0168	0.0139	0.0029
6.56	10859	72	2.00	35.76	0.0214	0.0142	0.0072
6.57	10876	55	2.00	27.57	0.0165	0.0143	0.0022
6.58	10893	47	2.00	23.28	0.0139	0.0143	-0.0004
6.59	10910	42	2.00	21.16	0.0127	0.0141	-0.0014
6.60	10927	38	2.00	18.82	0.0113	0.0136	-0.0023
6.61	10944	41	2.00	20.25	0.0121	0.0129	-0.0008
6.62	10961	48	2.00	24.23	0.0145	0.0120	0.0025
6.63	10978	65	2.00	32.47	0.0194	0.0110	0.0084
6.64	10995	51	2.00	25.63	0.0153	0.0100	0.0054
6.65	11012	30	2.00	15.22	0.0091	0.0089	0.0002
6.66	11029	42	2.00	20.82	0.0125	0.0080	0.0045
6.67	11046	36	2.00	18.21	0.0109	0.0071	0.0038
6.68	11063	6	2.00	3.15	0.0019	0.0062	-0.0043
6.69	11080	0	2.00	0.00	0.0000	0.0054	-0.0054

Appendix C - Comstock Lake CHAR Data

cm Top_i (cm)	age Top_i (yr BP)	char Count_i (#)	char Vol_i (cm^3)	char Con_i (# cm^{-3})	char Acc_i (# cm^{-2} yr^{-1})	charBkg (# cm^{-2} yr^{-1})	char Peak (# cm^{-2} yr^{-1})
0.00	-59	28	3.00	9.44	0.0105	0.0090	0.0015
0.02	-43	25	3.00	8.38	0.0093	0.0092	0.0001
0.04	-27	23	3.00	7.63	0.0085	0.0094	-0.0010
0.05	-11	41	3.00	13.50	0.0150	0.0097	0.0053
0.07	5	52	3.00	17.17	0.0191	0.0099	0.0091
0.09	21	25	3.00	8.23	0.0097	0.0102	-0.0005
0.11	37	24	3.00	7.83	0.0087	0.0104	-0.0017
0.13	53	38	3.00	12.75	0.0142	0.0107	0.0035
0.14	69	33	3.00	10.88	0.0121	0.0110	0.0011
0.16	85	27	3.00	9.00	0.0100	0.0112	-0.0012
0.18	101	21	3.00	6.88	0.0076	0.0115	-0.0038
0.20	117	27	3.00	8.83	0.0098	0.0118	-0.0019
0.21	133	41	3.00	13.79	0.0153	0.0120	0.0033
0.23	149	21	3.00	6.88	0.0076	0.0123	-0.0047
0.25	165	17	3.00	5.75	0.0064	0.0126	-0.0062
0.27	181	17	3.00	5.60	0.0065	0.0129	-0.0064
0.29	197	21	3.00	7.08	0.0081	0.0131	-0.0051
0.30	213	37	3.00	12.27	0.0136	0.0134	0.0002
0.32	229	36	3.00	11.83	0.0131	0.0138	-0.0006
0.34	245	46	3.00	15.29	0.0170	0.0141	0.0029
0.36	261	45	3.00	14.94	0.0166	0.0144	0.0022
0.38	277	37	3.00	12.21	0.0136	0.0146	-0.0010
0.39	293	56	3.00	18.69	0.0208	0.0148	0.0060
0.41	309	86	3.00	28.67	0.0319	0.0150	0.0168
0.43	325	101	3.00	33.71	0.0375	0.0153	0.0221
0.45	341	88	3.00	29.42	0.0327	0.0156	0.0171
0.46	357	86	3.00	28.81	0.0325	0.0159	0.0166
0.48	373	79	3.00	26.25	0.0305	0.0161	0.0144
0.50	389	128	3.00	42.50	0.0472	0.0163	0.0309
0.52	405	114	3.00	38.06	0.0423	0.0164	0.0259
0.54	421	80	3.00	26.73	0.0297	0.0165	0.0132
0.55	437	95	3.00	31.58	0.0351	0.0166	0.0185
0.57	453	67	3.00	22.31	0.0248	0.0166	0.0082
0.59	469	48	3.00	15.85	0.0176	0.0165	0.0011
0.61	485	33	3.00	11.02	0.0122	0.0165	-0.0043
0.63	501	54	3.00	18.06	0.0201	0.0165	0.0036
0.64	517	66	3.00	21.85	0.0243	0.0165	0.0078
0.66	533	48	3.00	16.00	0.0189	0.0165	0.0024
0.68	549	44	3.00	14.60	0.0162	0.0165	-0.0003
0.70	565	59	3.00	19.56	0.0217	0.0164	0.0053
0.72	581	84	3.00	27.90	0.0310	0.0163	0.0147

0.73	597	116	3.00	38.71	0.0430	0.0160	0.0270
0.75	613	95	3.00	31.67	0.0352	0.0157	0.0195
0.77	629	84	3.00	28.13	0.0313	0.0154	0.0159
0.79	645	67	3.00	22.38	0.0249	0.0150	0.0099
0.80	661	73	3.00	24.38	0.0271	0.0147	0.0124
0.82	677	48	3.00	16.00	0.0178	0.0144	0.0034
0.84	693	43	3.00	14.25	0.0143	0.0141	0.0002
0.86	709	40	3.00	13.25	0.0134	0.0138	-0.0003
0.87	725	31	3.00	10.19	0.0107	0.0134	-0.0027
0.89	741	24	3.00	7.94	0.0079	0.0130	-0.0051
0.91	757	27	3.00	9.06	0.0096	0.0128	-0.0031
0.92	773	36	3.00	11.83	0.0118	0.0126	-0.0007
0.94	789	29	3.00	9.69	0.0103	0.0125	-0.0022
0.96	805	20	3.00	6.50	0.0065	0.0125	-0.0060
0.97	821	29	3.00	9.73	0.0102	0.0125	-0.0023
0.99	837	21	3.00	6.88	0.0070	0.0127	-0.0057
1.00	853	32	3.00	10.71	0.0107	0.0129	-0.0022
1.02	869	39	3.00	12.83	0.0136	0.0132	0.0005
1.04	885	21	3.00	6.92	0.0069	0.0134	-0.0065
1.05	901	22	3.00	7.46	0.0079	0.0136	-0.0057
1.07	917	44	3.00	14.54	0.0145	0.0138	0.0007
1.09	933	51	3.00	17.00	0.0181	0.0142	0.0039
1.10	949	55	3.00	18.33	0.0183	0.0145	0.0038
1.12	965	42	3.00	14.10	0.0146	0.0148	-0.0003
1.14	981	63	3.00	20.88	0.0215	0.0152	0.0062
1.15	997	74	3.00	24.67	0.0247	0.0156	0.0091
1.17	1013	74	3.00	24.63	0.0262	0.0160	0.0102
1.19	1029	40	3.00	13.27	0.0134	0.0163	-0.0029
1.20	1045	55	3.00	18.33	0.0194	0.0166	0.0027
1.22	1061	57	3.00	19.00	0.0190	0.0170	0.0020
1.23	1077	82	3.00	27.44	0.0292	0.0173	0.0118
1.25	1093	42	3.00	14.00	0.0140	0.0176	-0.0036
1.27	1109	55	3.00	18.21	0.0186	0.0179	0.0007
1.28	1125	50	3.00	16.58	0.0173	0.0181	-0.0008
1.30	1141	56	3.00	18.54	0.0185	0.0183	0.0003
1.32	1157	47	3.00	15.56	0.0165	0.0185	-0.0019
1.33	1173	57	3.00	19.06	0.0191	0.0186	0.0004
1.35	1189	50	3.00	16.52	0.0176	0.0188	-0.0012
1.37	1205	78	3.00	26.04	0.0260	0.0189	0.0071
1.38	1221	81	3.00	26.83	0.0283	0.0190	0.0093
1.40	1237	72	3.00	23.88	0.0240	0.0191	0.0049
1.42	1253	78	3.00	25.83	0.0260	0.0192	0.0068
1.43	1269	29	3.00	9.67	0.0102	0.0193	-0.0091
1.45	1285	18	3.00	5.83	0.0058	0.0195	-0.0136
1.46	1301	34	3.00	11.38	0.0121	0.0196	-0.0075
1.48	1317	56	3.00	18.54	0.0185	0.0196	-0.0011
1.50	1333	61	3.00	20.27	0.0215	0.0197	0.0018
1.51	1349	59	3.00	19.79	0.0198	0.0198	0.0000
1.53	1365	76	3.00	25.46	0.0265	0.0199	0.0066
1.55	1381	77	3.00	25.56	0.0261	0.0199	0.0062

1.56	1397	55	3.00	18.27	0.0183	0.0199	-0.0017
1.58	1413	44	3.00	14.56	0.0155	0.0199	-0.0045
1.60	1429	57	3.00	19.04	0.0193	0.0200	-0.0007
1.61	1445	63	3.00	20.83	0.0218	0.0200	0.0018
1.63	1461	41	3.00	13.69	0.0137	0.0201	-0.0064
1.65	1477	44	3.00	14.56	0.0155	0.0201	-0.0046
1.66	1493	64	3.00	21.17	0.0212	0.0201	0.0010
1.68	1509	47	3.00	15.75	0.0162	0.0201	-0.0039
1.69	1525	61	3.00	20.23	0.0209	0.0200	0.0009
1.71	1541	64	3.00	21.40	0.0214	0.0200	0.0014
1.73	1557	63	3.00	20.96	0.0223	0.0199	0.0024
1.74	1573	65	3.00	21.67	0.0217	0.0198	0.0019
1.76	1589	67	3.00	22.23	0.0236	0.0196	0.0040
1.78	1605	79	3.00	26.46	0.0265	0.0195	0.0069
1.79	1621	66	3.00	22.00	0.0234	0.0194	0.0039
1.81	1637	31	3.00	10.33	0.0103	0.0193	-0.0090
1.83	1653	40	3.00	13.17	0.0133	0.0192	-0.0059
1.84	1669	41	3.00	13.54	0.0142	0.0191	-0.0049
1.86	1685	49	3.00	16.31	0.0163	0.0189	-0.0026
1.88	1701	74	3.00	24.58	0.0261	0.0187	0.0075
1.89	1717	62	3.00	20.67	0.0207	0.0184	0.0022
1.91	1733	44	3.00	14.77	0.0157	0.0182	-0.0025
1.93	1749	52	3.00	17.35	0.0174	0.0179	-0.0006
1.94	1765	47	3.00	15.71	0.0165	0.0178	-0.0013
1.96	1781	54	3.00	17.96	0.0182	0.0176	0.0006
1.97	1797	48	3.00	15.83	0.0158	0.0176	-0.0018
1.99	1813	62	3.00	20.58	0.0219	0.0176	0.0042
2.01	1829	54	3.00	18.06	0.0184	0.0177	0.0007
2.02	1845	40	3.00	13.38	0.0139	0.0179	-0.0040
2.04	1861	46	3.00	15.25	0.0152	0.0181	-0.0028
2.06	1877	47	3.00	15.63	0.0166	0.0183	-0.0017
2.07	1893	56	3.00	18.60	0.0186	0.0184	0.0002
2.09	1909	47	3.00	15.69	0.0162	0.0186	-0.0024
2.11	1925	68	3.00	22.63	0.0233	0.0188	0.0044
2.12	1941	65	3.00	21.50	0.0215	0.0190	0.0025
2.14	1957	52	3.00	17.29	0.0184	0.0192	-0.0008
2.16	1973	43	3.00	14.33	0.0144	0.0194	-0.0050
2.17	1989	53	3.00	17.67	0.0186	0.0196	-0.0010
2.19	2005	67	3.00	22.38	0.0224	0.0199	0.0025
2.20	2021	59	3.00	19.73	0.0210	0.0201	0.0009
2.22	2037	72	3.00	24.10	0.0241	0.0203	0.0038
2.24	2053	67	3.00	22.31	0.0228	0.0204	0.0024
2.25	2069	45	3.00	14.96	0.0156	0.0204	-0.0048
2.27	2085	42	3.00	13.88	0.0139	0.0204	-0.0065
2.29	2101	34	3.00	11.29	0.0120	0.0203	-0.0083
2.30	2117	35	3.00	11.81	0.0118	0.0203	-0.0084
2.32	2133	77	3.00	25.81	0.0274	0.0201	0.0073
2.34	2149	46	3.00	15.17	0.0152	0.0200	-0.0048
2.35	2165	71	3.00	23.50	0.0248	0.0198	0.0050
2.37	2181	78	3.00	26.10	0.0263	0.0197	0.0066

2.39	2197	89	3.00	29.75	0.0300	0.0195	0.0105
2.40	2213	84	3.00	27.83	0.0294	0.0193	0.0100
2.42	2229	87	3.00	29.04	0.0298	0.0191	0.0107
2.43	2245	68	3.00	22.69	0.0235	0.0189	0.0045
2.45	2261	64	3.00	21.46	0.0215	0.0188	0.0027
2.47	2277	48	3.00	16.15	0.0172	0.0186	-0.0014
2.48	2293	51	3.00	16.96	0.0160	0.0184	-0.0024
2.50	2309	94	3.00	31.46	0.0268	0.0181	0.0087
2.51	2325	53	3.00	17.50	0.0159	0.0178	-0.0019
2.53	2341	25	3.00	8.38	0.0076	0.0174	-0.0098
2.54	2357	26	3.00	8.77	0.0080	0.0170	-0.0091
2.56	2373	39	3.00	12.83	0.0109	0.0166	-0.0057
2.57	2389	52	3.00	17.48	0.0159	0.0162	-0.0003
2.58	2405	62	3.00	20.79	0.0189	0.0158	0.0031
2.60	2421	52	3.00	17.35	0.0154	0.0154	0.0000
2.61	2437	71	3.00	23.50	0.0205	0.0151	0.0053
2.63	2453	54	3.00	17.96	0.0163	0.0148	0.0015
2.64	2469	41	3.00	13.67	0.0124	0.0146	-0.0022
2.66	2485	49	3.00	16.42	0.0140	0.0144	-0.0004
2.67	2501	81	3.00	26.96	0.0245	0.0141	0.0104
2.68	2517	46	3.00	15.17	0.0138	0.0140	-0.0002
2.70	2533	34	3.00	11.42	0.0102	0.0138	-0.0037
2.71	2549	28	3.00	9.33	0.0081	0.0138	-0.0056
2.73	2565	39	3.00	12.92	0.0117	0.0137	-0.0020
2.74	2581	35	3.00	11.54	0.0105	0.0137	-0.0032
2.76	2597	30	3.00	9.92	0.0085	0.0137	-0.0052
2.77	2613	56	3.00	18.75	0.0170	0.0137	0.0033
2.78	2629	52	3.00	17.46	0.0159	0.0138	0.0021
2.80	2645	52	3.00	17.46	0.0159	0.0139	0.0020
2.81	2661	34	3.00	11.23	0.0097	0.0141	-0.0043
2.83	2677	34	3.00	11.31	0.0101	0.0143	-0.0042
2.84	2693	41	3.00	13.54	0.0123	0.0145	-0.0022
2.86	2709	50	3.00	16.50	0.0149	0.0148	0.0001
2.87	2725	49	3.00	16.27	0.0139	0.0150	-0.0010
2.88	2741	86	3.00	28.67	0.0261	0.0151	0.0109
2.90	2757	62	3.00	20.79	0.0189	0.0153	0.0036
2.91	2773	53	3.00	17.75	0.0154	0.0155	-0.0001
2.93	2789	62	3.00	20.56	0.0184	0.0156	0.0028
2.94	2805	71	3.00	23.54	0.0214	0.0156	0.0058
2.96	2821	80	3.00	26.67	0.0241	0.0157	0.0085
2.97	2837	88	3.00	29.40	0.0252	0.0157	0.0095
2.98	2853	52	3.00	17.42	0.0158	0.0156	0.0002
3.00	2869	76	3.00	25.23	0.0229	0.0156	0.0073
3.01	2885	78	3.00	25.83	0.0235	0.0157	0.0078
3.03	2901	65	3.00	21.79	0.0186	0.0157	0.0029
3.04	2917	47	3.00	15.75	0.0143	0.0156	-0.0013
3.06	2933	53	3.00	17.63	0.0160	0.0155	0.0005
3.07	2949	46	3.00	15.38	0.0135	0.0153	-0.0018
3.09	2965	55	3.00	18.29	0.0161	0.0151	0.0010
3.10	2981	45	3.00	14.90	0.0135	0.0149	-0.0014

3.11	2997	43	3.00	14.21	0.0129	0.0147	-0.0018
3.13	3013	58	3.00	19.17	0.0163	0.0145	0.0019
3.14	3029	37	3.00	12.25	0.0111	0.0143	-0.0031
3.16	3045	46	3.00	15.23	0.0138	0.0141	-0.0003
3.17	3061	57	3.00	19.13	0.0168	0.0140	0.0028
3.19	3077	45	3.00	14.96	0.0132	0.0140	-0.0008
3.20	3093	51	3.00	17.10	0.0155	0.0140	0.0015
3.21	3109	83	3.00	27.50	0.0250	0.0140	0.0110
3.23	3125	38	3.00	12.75	0.0109	0.0140	-0.0031
3.24	3141	29	3.00	9.50	0.0086	0.0140	-0.0053
3.26	3157	94	3.00	31.17	0.0283	0.0139	0.0144
3.27	3173	43	3.00	14.29	0.0130	0.0139	-0.0009
3.29	3189	24	3.00	8.10	0.0069	0.0139	-0.0069
3.30	3205	47	3.00	15.63	0.0141	0.0138	0.0003
3.31	3221	92	3.00	30.65	0.0279	0.0138	0.0141
3.33	3237	77	3.00	25.79	0.0231	0.0137	0.0094
3.34	3253	47	3.00	15.67	0.0136	0.0136	-0.0001
3.36	3269	59	3.00	19.50	0.0177	0.0136	0.0042
3.37	3285	54	3.00	17.96	0.0163	0.0135	0.0028
3.39	3301	54	3.00	17.96	0.0154	0.0135	0.0019
3.40	3317	54	3.00	17.94	0.0162	0.0134	0.0028
3.41	3333	64	3.00	21.31	0.0194	0.0134	0.0060
3.43	3349	35	3.00	11.58	0.0104	0.0133	-0.0030
3.44	3365	33	3.00	11.10	0.0096	0.0133	-0.0036
3.46	3381	30	3.00	9.92	0.0090	0.0132	-0.0042
3.47	3397	46	3.00	15.29	0.0139	0.0131	0.0008
3.49	3413	66	3.00	22.10	0.0189	0.0131	0.0059
3.50	3429	40	3.00	13.31	0.0120	0.0129	-0.0009
3.51	3445	42	3.00	14.02	0.0127	0.0130	-0.0003
3.53	3461	33	3.00	10.94	0.0099	0.0131	-0.0031
3.54	3477	36	3.00	11.83	0.0103	0.0132	-0.0029
3.56	3493	44	3.00	14.60	0.0130	0.0132	-0.0002
3.57	3509	36	3.00	12.08	0.0110	0.0135	-0.0025
3.59	3525	35	3.00	11.50	0.0105	0.0138	-0.0033
3.60	3541	31	3.00	10.17	0.0087	0.0141	-0.0055
3.61	3557	44	3.00	14.67	0.0133	0.0144	-0.0011
3.63	3573	64	3.00	21.46	0.0195	0.0147	0.0048
3.64	3589	52	3.00	17.33	0.0151	0.0149	0.0002
3.66	3605	47	3.00	15.71	0.0140	0.0151	-0.0011
3.67	3621	67	3.00	22.25	0.0202	0.0153	0.0050
3.69	3637	82	3.00	27.27	0.0248	0.0155	0.0093
3.70	3653	76	3.00	25.25	0.0215	0.0157	0.0059
3.71	3669	70	3.00	23.31	0.0212	0.0159	0.0053
3.73	3685	63	3.00	20.85	0.0190	0.0160	0.0029
3.74	3701	108	3.00	36.00	0.0314	0.0162	0.0152
3.76	3717	97	3.00	32.17	0.0218	0.0162	0.0056
3.77	3733	86	3.00	28.67	0.0171	0.0162	0.0010
3.78	3749	86	3.00	28.67	0.0176	0.0160	0.0016
3.79	3765	63	3.00	20.88	0.0125	0.0158	-0.0032
3.80	3781	78	3.00	25.88	0.0152	0.0154	-0.0002

3.81	3797	74	3.00	24.81	0.0151	0.0149	0.0002
3.82	3813	68	3.00	22.63	0.0137	0.0143	-0.0007
3.83	3829	106	3.00	35.17	0.0207	0.0137	0.0070
3.83	3845	101	3.00	33.71	0.0204	0.0130	0.0073
3.84	3861	77	3.00	25.63	0.0156	0.0124	0.0032
3.85	3877	96	3.00	31.88	0.0192	0.0118	0.0074
3.86	3893	74	3.00	24.79	0.0152	0.0113	0.0038
3.87	3909	56	3.00	18.54	0.0109	0.0108	0.0001
3.88	3925	32	3.00	10.75	0.0064	0.0104	-0.0040
3.89	3941	25	3.00	8.17	0.0050	0.0101	-0.0051
3.90	3957	27	3.00	9.10	0.0054	0.0097	-0.0044
3.91	3973	31	3.00	10.46	0.0062	0.0094	-0.0032
3.92	3989	20	3.00	6.67	0.0041	0.0090	-0.0049
3.93	4005	20	3.00	6.77	0.0040	0.0087	-0.0047
3.94	4021	25	3.00	8.40	0.0052	0.0084	-0.0032
3.95	4037	28	3.00	9.33	0.0055	0.0083	-0.0028
3.96	4053	54	3.00	18.00	0.0106	0.0082	0.0023
3.97	4069	43	3.00	14.25	0.0089	0.0083	0.0006
3.98	4085	39	3.00	13.06	0.0077	0.0083	-0.0006
3.99	4101	36	3.00	12.13	0.0071	0.0084	-0.0013
4.00	4117	30	3.00	10.10	0.0062	0.0085	-0.0023
4.01	4133	43	3.00	14.27	0.0085	0.0086	-0.0001
4.02	4149	54	3.00	18.08	0.0111	0.0087	0.0024
4.03	4165	63	3.00	21.00	0.0125	0.0088	0.0037
4.04	4181	200	3.00	66.81	0.0393	0.0089	0.0304
4.05	4197	160	3.00	53.17	0.0325	0.0089	0.0236
4.06	4213	101	3.00	33.71	0.0203	0.0090	0.0113
4.07	4229	74	3.00	24.77	0.0146	0.0091	0.0055
4.08	4245	58	3.00	19.17	0.0116	0.0091	0.0025
4.09	4261	64	3.00	21.33	0.0129	0.0092	0.0038
4.09	4277	50	3.00	16.71	0.0098	0.0092	0.0006
4.10	4293	31	3.00	10.21	0.0061	0.0093	-0.0031
4.11	4309	42	3.00	14.00	0.0086	0.0093	-0.0008
4.12	4325	53	3.00	17.65	0.0106	0.0093	0.0012
4.13	4341	30	3.00	9.96	0.0061	0.0094	-0.0033
4.14	4357	23	3.00	7.75	0.0046	0.0094	-0.0048
4.15	4373	23	3.00	7.81	0.0046	0.0093	-0.0047
4.16	4389	26	3.00	8.75	0.0054	0.0093	-0.0039
4.17	4405	51	3.00	17.00	0.0100	0.0093	0.0007
4.18	4421	65	3.00	21.73	0.0128	0.0093	0.0035
4.19	4437	67	3.00	22.23	0.0138	0.0094	0.0044
4.20	4453	47	3.00	15.67	0.0092	0.0094	-0.0002
4.21	4469	22	3.00	7.33	0.0046	0.0095	-0.0049
4.22	4485	36	3.00	12.00	0.0071	0.0097	-0.0026
4.23	4501	69	3.00	22.94	0.0135	0.0099	0.0036
4.24	4517	41	3.00	13.75	0.0085	0.0101	-0.0015
4.25	4533	71	3.00	23.71	0.0141	0.0102	0.0038
4.26	4549	69	3.00	22.90	0.0135	0.0104	0.0031
4.27	4565	49	3.00	16.33	0.0101	0.0105	-0.0005
4.28	4581	28	3.00	9.33	0.0056	0.0106	-0.0050

4.29	4597	38	3.00	12.71	0.0078	0.0106	-0.0028
4.30	4613	52	3.00	17.29	0.0104	0.0107	-0.0003
4.31	4629	60	3.00	20.00	0.0118	0.0107	0.0011
4.32	4645	66	3.00	21.94	0.0134	0.0108	0.0026
4.33	4661	71	3.00	23.79	0.0144	0.0109	0.0035
4.34	4677	62	3.00	20.50	0.0121	0.0111	0.0010
4.34	4693	57	3.00	19.10	0.0115	0.0113	0.0003
4.35	4709	50	3.00	16.54	0.0101	0.0115	-0.0014
4.36	4725	28	3.00	9.29	0.0055	0.0117	-0.0063
4.37	4741	39	3.00	13.15	0.0079	0.0120	-0.0041
4.38	4757	48	3.00	16.10	0.0099	0.0122	-0.0024
4.39	4773	33	3.00	10.83	0.0065	0.0125	-0.0060
4.40	4789	56	3.00	18.67	0.0115	0.0127	-0.0013
4.41	4805	69	3.00	23.04	0.0136	0.0130	0.0006
4.42	4821	47	3.00	15.75	0.0093	0.0132	-0.0038
4.43	4837	127	3.00	42.21	0.0262	0.0134	0.0128
4.44	4853	82	3.00	27.44	0.0161	0.0136	0.0026
4.45	4869	87	3.00	29.00	0.0171	0.0138	0.0033
4.46	4885	225	3.00	75.00	0.0469	0.0139	0.0329
4.47	4901	105	3.00	35.00	0.0206	0.0141	0.0065
4.48	4917	247	3.00	82.19	0.0512	0.0142	0.0369
4.49	4933	261	3.00	86.90	0.0513	0.0143	0.0370
4.50	4949	167	3.00	55.50	0.0326	0.0145	0.0181
4.51	4965	89	3.00	29.60	0.0183	0.0147	0.0036
4.52	4981	171	3.00	56.90	0.0339	0.0149	0.0189
4.53	4997	151	3.00	50.33	0.0296	0.0151	0.0145
4.54	5013	74	3.00	24.58	0.0151	0.0153	-0.0002
4.55	5029	77	3.00	25.54	0.0153	0.0155	-0.0001
4.56	5045	74	3.00	24.71	0.0151	0.0156	-0.0005
4.57	5061	138	3.00	45.92	0.0276	0.0157	0.0120
4.58	5077	169	3.00	56.35	0.0331	0.0157	0.0174
4.59	5093	105	3.00	35.00	0.0212	0.0157	0.0055
4.60	5109	46	3.00	15.33	0.0093	0.0157	-0.0064
4.60	5125	66	3.00	22.13	0.0130	0.0156	-0.0026
4.61	5141	95	3.00	31.75	0.0191	0.0156	0.0035
4.62	5157	81	3.00	27.04	0.0165	0.0155	0.0010
4.63	5173	71	3.00	23.50	0.0138	0.0155	-0.0017
4.64	5189	76	3.00	25.17	0.0150	0.0154	-0.0004
4.65	5205	84	3.00	28.08	0.0173	0.0154	0.0019
4.66	5221	116	3.00	38.71	0.0230	0.0154	0.0077
4.67	5237	130	3.00	43.27	0.0267	0.0154	0.0114
4.68	5253	156	3.00	52.13	0.0307	0.0153	0.0153
4.69	5269	73	3.00	24.46	0.0144	0.0153	-0.0009
4.70	5285	48	3.00	16.10	0.0100	0.0153	-0.0053
4.71	5301	38	3.00	12.67	0.0075	0.0153	-0.0078
4.72	5317	52	3.00	17.33	0.0102	0.0153	-0.0051
4.73	5333	59	3.00	19.52	0.0122	0.0152	-0.0031
4.74	5349	81	3.00	26.85	0.0159	0.0152	0.0007
4.75	5365	93	3.00	31.13	0.0193	0.0151	0.0042
4.76	5381	104	3.00	34.58	0.0205	0.0151	0.0054

4.77	5397	79	3.00	26.33	0.0155	0.0150	0.0005
4.78	5413	83	3.00	27.58	0.0170	0.0150	0.0020
4.79	5429	60	3.00	19.92	0.0119	0.0149	-0.0030
4.80	5445	84	3.00	28.00	0.0165	0.0149	0.0015
4.81	5461	188	3.00	62.79	0.0384	0.0149	0.0235
4.82	5477	131	3.00	43.79	0.0264	0.0149	0.0114
4.83	5493	71	3.00	23.54	0.0143	0.0149	-0.0006
4.84	5509	81	3.00	26.88	0.0162	0.0148	0.0014
4.85	5525	88	3.00	29.33	0.0173	0.0148	0.0025
4.85	5541	66	3.00	22.02	0.0133	0.0147	-0.0014
4.86	5557	42	3.00	14.10	0.0086	0.0145	-0.0059
4.87	5573	65	3.00	21.67	0.0127	0.0143	-0.0016
4.88	5589	78	3.00	26.04	0.0156	0.0141	0.0015
4.89	5605	64	3.00	21.31	0.0131	0.0139	-0.0008
4.90	5621	67	3.00	22.33	0.0131	0.0137	-0.0006
4.91	5637	73	3.00	24.27	0.0144	0.0135	0.0010
4.92	5653	85	3.00	28.46	0.0176	0.0132	0.0044
4.93	5669	87	3.00	29.04	0.0172	0.0130	0.0042
4.94	5685	84	3.00	27.96	0.0173	0.0128	0.0046
4.95	5701	55	3.00	18.23	0.0107	0.0126	-0.0019
4.96	5717	50	3.00	16.67	0.0098	0.0124	-0.0026
4.97	5733	59	3.00	19.67	0.0123	0.0122	0.0001
4.98	5749	52	3.00	17.33	0.0102	0.0120	-0.0018
4.99	5765	61	3.00	20.46	0.0120	0.0118	0.0002
5.00	5781	53	3.00	17.75	0.0110	0.0117	-0.0007
5.01	5797	51	3.00	17.04	0.0101	0.0115	-0.0014
5.02	5813	53	3.00	17.54	0.0108	0.0114	-0.0006
5.03	5829	45	3.00	14.96	0.0089	0.0113	-0.0024
5.04	5845	45	3.00	15.08	0.0089	0.0113	-0.0024
5.05	5861	63	3.00	21.06	0.0129	0.0113	0.0016
5.06	5877	63	3.00	20.92	0.0125	0.0113	0.0012
5.07	5893	54	3.00	18.00	0.0106	0.0114	-0.0009
5.08	5909	48	3.00	15.88	0.0097	0.0116	-0.0019
5.09	5925	44	3.00	14.63	0.0088	0.0118	-0.0029
5.10	5941	64	3.00	21.33	0.0129	0.0120	0.0009
5.11	5957	70	3.00	23.33	0.0142	0.0123	0.0019
5.11	5973	54	3.00	17.90	0.0105	0.0125	-0.0020
5.12	5989	60	3.00	20.08	0.0121	0.0128	-0.0007
5.13	6005	76	3.00	25.17	0.0154	0.0131	0.0023
5.14	6021	71	3.00	23.71	0.0139	0.0134	0.0006
5.15	6037	52	3.00	17.17	0.0103	0.0136	-0.0033
5.16	6053	49	3.00	16.17	0.0100	0.0138	-0.0038
5.17	6069	79	3.00	26.17	0.0154	0.0139	0.0015
5.18	6085	73	3.00	24.46	0.0145	0.0141	0.0004
5.19	6101	84	3.00	27.88	0.0173	0.0142	0.0031
5.20	6117	88	3.00	29.44	0.0174	0.0143	0.0031
5.21	6133	93	3.00	31.10	0.0194	0.0144	0.0050
5.22	6149	98	3.00	32.67	0.0192	0.0145	0.0047
5.23	6165	55	3.00	18.33	0.0108	0.0145	-0.0037
5.24	6181	98	3.00	32.71	0.0204	0.0145	0.0058

5.25	6197	68	3.00	22.73	0.0134	0.0145	-0.0011
5.26	6213	59	3.00	19.67	0.0116	0.0144	-0.0028
5.27	6229	47	3.00	15.81	0.0098	0.0142	-0.0044
5.28	6245	85	3.00	28.27	0.0168	0.0140	0.0028
5.29	6261	81	3.00	26.83	0.0165	0.0138	0.0027
5.30	6277	73	3.00	24.33	0.0145	0.0135	0.0010
5.31	6293	73	3.00	24.23	0.0143	0.0133	0.0010
5.32	6309	77	3.00	25.58	0.0156	0.0130	0.0026
5.33	6325	67	3.00	22.17	0.0133	0.0129	0.0005
5.34	6341	60	3.00	19.85	0.0117	0.0127	-0.0010
5.35	6357	59	3.00	19.67	0.0119	0.0125	-0.0006
5.36	6373	45	3.00	14.83	0.0090	0.0123	-0.0033
5.36	6389	36	3.00	12.08	0.0073	0.0120	-0.0047
5.37	6405	42	3.00	14.04	0.0086	0.0118	-0.0032
5.38	6421	49	3.00	16.42	0.0097	0.0114	-0.0017
5.39	6437	68	3.00	22.56	0.0135	0.0110	0.0025
5.40	6453	77	3.00	25.79	0.0158	0.0106	0.0052
5.41	6469	75	3.00	24.92	0.0147	0.0102	0.0045
5.42	6485	67	3.00	22.17	0.0132	0.0097	0.0035
5.43	6501	47	3.00	15.73	0.0097	0.0093	0.0004
5.44	6517	50	3.00	16.50	0.0097	0.0090	0.0007
5.45	6533	61	3.00	20.29	0.0120	0.0087	0.0033
5.46	6549	79	3.00	26.46	0.0165	0.0083	0.0081
5.47	6565	160	3.00	53.33	0.0314	0.0080	0.0233
5.48	6581	71	3.00	23.67	0.0059	0.0077	-0.0018
5.48	6597	71	3.00	23.67	0.0059	0.0074	-0.0014
5.49	6613	57	3.00	18.83	0.0047	0.0070	-0.0023
5.49	6629	42	3.00	14.00	0.0034	0.0066	-0.0032
5.50	6645	42	3.00	14.00	0.0034	0.0062	-0.0028
5.50	6661	65	3.00	21.81	0.0053	0.0059	-0.0006
5.50	6677	67	3.00	22.33	0.0054	0.0056	-0.0001
5.51	6693	64	3.00	21.21	0.0052	0.0054	-0.0002
5.51	6709	58	3.00	19.33	0.0048	0.0053	-0.0004
5.52	6725	58	3.00	19.33	0.0048	0.0052	-0.0004
5.52	6741	55	3.00	18.46	0.0045	0.0053	-0.0008
5.52	6757	55	3.00	18.33	0.0045	0.0054	-0.0009
5.53	6773	54	3.00	17.92	0.0044	0.0055	-0.0011
5.53	6789	51	3.00	17.00	0.0041	0.0057	-0.0015
5.54	6805	51	3.00	17.00	0.0041	0.0058	-0.0016
5.54	6821	61	3.00	20.25	0.0050	0.0059	-0.0009
5.54	6837	64	3.00	21.33	0.0053	0.0060	-0.0007
5.55	6853	74	3.00	24.67	0.0061	0.0060	0.0001
5.55	6869	104	3.00	34.67	0.0085	0.0060	0.0024
5.55	6885	104	3.00	34.67	0.0085	0.0060	0.0024
5.56	6901	118	3.00	39.48	0.0096	0.0060	0.0036
5.56	6917	125	3.00	41.67	0.0102	0.0060	0.0041
5.57	6933	119	3.00	39.67	0.0097	0.0060	0.0037
5.57	6949	77	3.00	25.67	0.0064	0.0060	0.0004
5.57	6965	77	3.00	25.67	0.0064	0.0060	0.0004
5.58	6981	68	3.00	22.54	0.0055	0.0060	-0.0005

5.58	6997	62	3.00	20.67	0.0050	0.0060	-0.0009
5.59	7013	61	3.00	20.21	0.0049	0.0059	-0.0010
5.59	7029	40	3.00	13.33	0.0033	0.0059	-0.0026
5.59	7045	40	3.00	13.33	0.0033	0.0058	-0.0026
5.60	7061	46	3.00	15.33	0.0038	0.0057	-0.0020
5.60	7077	52	3.00	17.33	0.0043	0.0057	-0.0013
5.61	7093	52	3.00	17.33	0.0043	0.0056	-0.0013
5.61	7109	69	3.00	23.00	0.0056	0.0056	0.0000
5.61	7125	69	3.00	23.00	0.0056	0.0056	0.0000
5.62	7141	97	3.00	32.33	0.0079	0.0056	0.0023
5.62	7157	133	3.00	44.33	0.0108	0.0056	0.0052
5.63	7173	133	3.00	44.33	0.0108	0.0057	0.0051
5.63	7189	60	3.00	20.13	0.0050	0.0057	-0.0007
5.63	7205	50	3.00	16.67	0.0042	0.0058	-0.0016
5.64	7221	65	3.00	21.79	0.0054	0.0058	-0.0004
5.64	7237	91	3.00	30.33	0.0074	0.0058	0.0016
5.65	7253	91	3.00	30.33	0.0074	0.0057	0.0017
5.65	7269	61	3.00	20.31	0.0050	0.0056	-0.0007
5.65	7285	54	3.00	18.00	0.0044	0.0056	-0.0012
5.66	7301	62	3.00	20.75	0.0051	0.0055	-0.0004
5.66	7317	87	3.00	29.00	0.0072	0.0053	0.0019
5.67	7333	87	3.00	29.00	0.0072	0.0053	0.0020
5.67	7349	56	3.00	18.75	0.0046	0.0052	-0.0006
5.67	7365	46	3.00	15.33	0.0037	0.0052	-0.0014
5.68	7381	46	3.00	15.40	0.0038	0.0052	-0.0014
5.68	7397	47	3.00	15.67	0.0038	0.0052	-0.0014
5.68	7413	47	3.00	15.67	0.0038	0.0054	-0.0015
5.69	7429	49	3.00	16.29	0.0040	0.0055	-0.0015
5.69	7445	50	3.00	16.67	0.0042	0.0057	-0.0015
5.70	7461	53	3.00	17.67	0.0044	0.0059	-0.0015
5.70	7477	74	3.00	24.67	0.0060	0.0061	-0.0001
5.70	7493	74	3.00	24.67	0.0060	0.0063	-0.0003
5.71	7509	72	3.00	23.92	0.0058	0.0065	-0.0006
5.71	7525	70	3.00	23.33	0.0057	0.0066	-0.0009
5.72	7541	70	3.00	23.33	0.0057	0.0067	-0.0010
5.72	7557	137	3.00	45.67	0.0114	0.0068	0.0046
5.72	7573	137	3.00	45.67	0.0114	0.0070	0.0045
5.73	7589	138	3.00	45.83	0.0113	0.0071	0.0042
5.73	7605	138	3.00	46.00	0.0112	0.0072	0.0040
5.74	7621	138	3.00	46.00	0.0112	0.0073	0.0039
5.74	7637	99	3.00	32.88	0.0080	0.0074	0.0006
5.74	7653	96	3.00	32.00	0.0078	0.0075	0.0003
5.75	7669	81	3.00	26.88	0.0066	0.0076	-0.0010
5.75	7685	55	3.00	18.33	0.0046	0.0077	-0.0031
5.76	7701	55	3.00	18.33	0.0046	0.0076	-0.0031
5.76	7717	56	3.00	18.63	0.0046	0.0076	-0.0031
5.76	7733	56	3.00	18.67	0.0046	0.0075	-0.0030
5.77	7749	80	3.00	26.69	0.0065	0.0075	-0.0010
5.77	7765	133	3.00	44.33	0.0108	0.0075	0.0034
5.78	7781	133	3.00	44.33	0.0108	0.0075	0.0033

5.78	7797	100	3.00	33.33	0.0083	0.0076	0.0007
5.78	7813	89	3.00	29.67	0.0074	0.0077	-0.0003
5.79	7829	89	3.00	29.67	0.0074	0.0079	-0.0005
5.79	7845	89	3.00	29.67	0.0072	0.0081	-0.0008
5.79	7861	89	3.00	29.67	0.0072	0.0082	-0.0010
5.80	7877	88	3.00	29.44	0.0072	0.0084	-0.0012
5.80	7893	88	3.00	29.33	0.0072	0.0084	-0.0013
5.81	7909	100	3.00	33.21	0.0081	0.0085	-0.0003
5.81	7925	181	3.00	60.33	0.0151	0.0084	0.0067
5.81	7941	181	3.00	60.33	0.0151	0.0083	0.0068
5.82	7957	140	3.00	46.58	0.0115	0.0081	0.0034
5.82	7973	115	3.00	38.33	0.0093	0.0079	0.0014
5.83	7989	116	3.00	38.69	0.0094	0.0078	0.0017
5.83	8005	132	3.00	44.00	0.0107	0.0076	0.0031
5.83	8021	132	3.00	44.00	0.0107	0.0075	0.0033
5.84	8037	106	3.00	35.33	0.0087	0.0073	0.0014
5.84	8053	80	3.00	26.67	0.0067	0.0072	-0.0005
5.85	8069	80	3.00	26.67	0.0067	0.0070	-0.0003
5.85	8085	33	3.00	11.00	0.0027	0.0067	-0.0040
5.85	8101	33	3.00	11.00	0.0027	0.0064	-0.0037
5.86	8117	36	3.00	12.02	0.0029	0.0061	-0.0032
5.86	8133	40	3.00	13.33	0.0033	0.0058	-0.0025
5.87	8149	40	3.00	13.33	0.0033	0.0054	-0.0022
5.87	8165	75	3.00	25.00	0.0062	0.0051	0.0011
5.87	8181	80	3.00	26.67	0.0067	0.0049	0.0018
5.88	8197	76	3.00	25.42	0.0063	0.0046	0.0017
5.88	8213	70	3.00	23.33	0.0057	0.0044	0.0013
5.89	8229	70	3.00	23.33	0.0057	0.0043	0.0014
5.89	8245	54	3.00	17.92	0.0044	0.0042	0.0001
5.89	8261	50	3.00	16.67	0.0041	0.0042	-0.0001
5.90	8277	44	3.00	14.58	0.0036	0.0042	-0.0006
5.90	8293	25	3.00	8.33	0.0021	0.0042	-0.0021
5.91	8309	25	3.00	8.33	0.0021	0.0042	-0.0021
5.91	8325	33	3.00	10.83	0.0027	0.0041	-0.0014
5.91	8341	35	3.00	11.67	0.0028	0.0040	-0.0012
5.92	8357	39	3.00	12.92	0.0032	0.0039	-0.0007
5.92	8373	55	3.00	18.33	0.0045	0.0038	0.0007
5.92	8389	55	3.00	18.33	0.0045	0.0037	0.0008
5.93	8405	58	3.00	19.38	0.0048	0.0036	0.0012
5.93	8421	60	3.00	20.00	0.0050	0.0035	0.0015
5.94	8437	60	3.00	20.00	0.0050	0.0034	0.0016
5.94	8453	60	3.00	20.00	0.0049	0.0033	0.0016
5.94	8469	60	3.00	20.00	0.0049	0.0032	0.0017
5.95	8485	38	3.00	12.50	0.0030	0.0031	-0.0001
5.95	8501	20	3.00	6.67	0.0016	0.0031	-0.0014
5.96	8517	20	3.00	6.67	0.0016	0.0030	-0.0013
5.96	8533	30	3.00	10.00	0.0025	0.0029	-0.0004
5.96	8549	30	3.00	10.00	0.0025	0.0027	-0.0002
5.97	8565	26	3.00	8.67	0.0021	0.0026	-0.0005
5.97	8581	22	3.00	7.33	0.0018	0.0025	-0.0007

5.98	8597	22	3.00	7.33	0.0018	0.0024	-0.0006
5.98	8613	20	3.00	6.71	0.0016	0.0023	-0.0006
5.98	8629	20	3.00	6.67	0.0016	0.0022	-0.0006
5.99	8645	23	3.00	7.79	0.0019	0.0022	-0.0002
5.99	8661	29	3.00	9.67	0.0024	0.0021	0.0003
6.00	8677	29	3.00	9.67	0.0024	0.0022	0.0003
6.00	8693	26	3.00	8.50	0.0021	0.0022	-0.0001
6.00	8709	25	3.00	8.33	0.0020	0.0022	-0.0002
6.01	8725	26	3.00	8.54	0.0021	0.0023	-0.0002
6.01	8741	27	3.00	9.00	0.0022	0.0023	-0.0001
6.02	8757	27	3.00	9.00	0.0022	0.0023	-0.0001
6.02	8773	26	3.00	8.75	0.0022	0.0024	-0.0002
6.02	8789	26	3.00	8.67	0.0022	0.0024	-0.0002
6.03	8805	30	3.00	9.83	0.0024	0.0024	0.0000
6.03	8821	40	3.00	13.33	0.0033	0.0025	0.0008
6.03	8837	40	3.00	13.33	0.0033	0.0025	0.0008
6.04	8853	33	3.00	11.04	0.0027	0.0025	0.0002
6.04	8869	30	3.00	10.00	0.0024	0.0026	-0.0001
6.05	8885	30	3.00	10.04	0.0025	0.0026	-0.0002
6.05	8901	31	3.00	10.33	0.0026	0.0027	-0.0001
6.05	8917	31	3.00	10.33	0.0026	0.0028	-0.0002
6.06	8933	30	3.00	10.13	0.0025	0.0028	-0.0003
6.06	8949	30	3.00	10.00	0.0024	0.0029	-0.0004
6.07	8965	30	3.00	10.00	0.0024	0.0029	-0.0005
6.07	8981	30	3.00	10.00	0.0025	0.0029	-0.0004
6.07	8997	30	3.00	10.00	0.0025	0.0030	-0.0005
6.08	9013	40	3.00	13.38	0.0033	0.0030	0.0003
6.08	9029	48	3.00	16.00	0.0039	0.0030	0.0009
6.09	9045	48	3.00	16.00	0.0039	0.0030	0.0009
6.09	9061	49	3.00	16.33	0.0040	0.0031	0.0009
6.09	9077	49	3.00	16.33	0.0040	0.0031	0.0009
6.10	9093	39	3.00	12.83	0.0032	0.0031	0.0001
6.10	9109	25	3.00	8.33	0.0021	0.0031	-0.0010
6.11	9125	25	3.00	8.33	0.0021	0.0031	-0.0010
6.11	9141	43	3.00	14.27	0.0035	0.0031	0.0004
6.11	9157	44	3.00	14.67	0.0036	0.0030	0.0005
6.12	9173	42	3.00	13.92	0.0034	0.0030	0.0004
6.12	9189	38	3.00	12.67	0.0031	0.0029	0.0002
6.13	9205	38	3.00	12.67	0.0031	0.0029	0.0002
6.13	9221	40	3.00	13.48	0.0034	0.0028	0.0006
6.13	9237	41	3.00	13.67	0.0034	0.0027	0.0007
6.14	9253	33	3.00	10.85	0.0027	0.0026	0.0001
6.14	9269	14	3.00	4.67	0.0011	0.0025	-0.0014
6.15	9285	14	3.00	4.67	0.0011	0.0024	-0.0013
6.15	9301	39	3.00	12.92	0.0032	0.0024	0.0008
6.15	9317	47	3.00	15.67	0.0038	0.0023	0.0015
6.16	9333	40	3.00	13.17	0.0032	0.0022	0.0010
6.16	9349	7	3.00	2.33	0.0006	0.0022	-0.0016
6.16	9365	7	3.00	2.33	0.0006	0.0021	-0.0015
6.17	9381	26	3.00	8.52	0.0021	0.0021	0.0000

6.17	9397	34	3.00	11.33	0.0028	0.0020	0.0007
6.18	9413	31	3.00	10.17	0.0025	0.0020	0.0005
6.18	9429	6	3.00	2.00	0.0005	0.0020	-0.0015
6.18	9445	6	3.00	2.00	0.0005	0.0019	-0.0015
6.19	9461	18	3.00	6.13	0.0015	0.0019	-0.0004
6.19	9477	28	3.00	9.33	0.0023	0.0019	0.0004
6.20	9493	28	3.00	9.27	0.0023	0.0019	0.0004
6.20	9509	25	3.00	8.33	0.0020	0.0019	0.0002
6.20	9525	25	3.00	8.33	0.0020	0.0019	0.0002
6.21	9541	30	3.00	10.00	0.0024	0.0018	0.0006
6.21	9557	35	3.00	11.67	0.0028	0.0018	0.0010
6.22	9573	35	3.00	11.67	0.0028	0.0018	0.0010
6.22	9589	13	3.00	4.48	0.0011	0.0018	-0.0007
6.22	9605	12	3.00	4.00	0.0010	0.0018	-0.0008
6.23	9621	19	3.00	6.33	0.0016	0.0019	-0.0003
6.23	9637	28	3.00	9.33	0.0023	0.0019	0.0004
6.24	9653	28	3.00	9.33	0.0023	0.0019	0.0004
6.24	9669	12	3.00	4.08	0.0010	0.0019	-0.0010
6.24	9685	10	3.00	3.33	0.0008	0.0020	-0.0012
6.25	9701	16	3.00	5.21	0.0013	0.0021	-0.0008
6.25	9717	28	3.00	9.33	0.0023	0.0022	0.0002
6.26	9733	28	3.00	9.33	0.0023	0.0023	0.0001
6.26	9749	17	3.00	5.81	0.0014	0.0024	-0.0009
6.26	9765	15	3.00	5.00	0.0012	0.0025	-0.0012
6.27	9781	21	3.00	7.00	0.0017	0.0025	-0.0008
6.27	9797	39	3.00	13.00	0.0032	0.0026	0.0005
6.27	9813	39	3.00	13.00	0.0032	0.0027	0.0005
6.28	9829	44	3.00	14.60	0.0036	0.0028	0.0009
6.28	9845	46	3.00	15.33	0.0038	0.0028	0.0010
6.29	9861	49	3.00	16.27	0.0040	0.0029	0.0012
6.29	9877	61	3.00	20.33	0.0050	0.0030	0.0020
6.29	9893	61	3.00	20.33	0.0050	0.0030	0.0019
6.30	9909	38	3.00	12.63	0.0031	0.0031	0.0000
6.30	9925	24	3.00	8.00	0.0020	0.0032	-0.0013
6.31	9941	25	3.00	8.25	0.0020	0.0033	-0.0013
6.31	9957	36	3.00	12.00	0.0030	0.0034	-0.0004
6.31	9973	36	3.00	12.00	0.0030	0.0034	-0.0004
6.32	9989	27	3.00	9.00	0.0022	0.0035	-0.0013
6.32	10005	20	3.00	6.67	0.0016	0.0035	-0.0019
6.33	10021	20	3.00	6.67	0.0016	0.0035	-0.0019
6.33	10037	60	3.00	20.00	0.0049	0.0035	0.0014
6.33	10053	60	3.00	20.00	0.0049	0.0034	0.0015
6.34	10069	54	3.00	18.10	0.0045	0.0033	0.0011
6.34	10085	47	3.00	15.67	0.0039	0.0033	0.0007
6.35	10101	47	3.00	15.67	0.0039	0.0032	0.0007
6.35	10117	73	3.00	24.42	0.0060	0.0031	0.0029
6.35	10133	75	3.00	25.00	0.0061	0.0030	0.0031
6.36	10149	59	3.00	19.75	0.0048	0.0029	0.0019
6.36	10165	33	3.00	11.00	0.0027	0.0028	-0.0001
6.37	10181	33	3.00	11.00	0.0027	0.0027	0.0000

6.37	10197	15	3.00	5.04	0.0013	0.0026	-0.0013
6.37	10213	11	3.00	3.67	0.0009	0.0025	-0.0016
6.38	10229	11	3.00	3.56	0.0009	0.0024	-0.0016
6.38	10245	10	3.00	3.33	0.0008	0.0025	-0.0017
6.39	10261	10	3.00	3.33	0.0008	0.0026	-0.0018
6.39	10277	12	3.00	4.08	0.0010	0.0028	-0.0018
6.39	10293	13	3.00	4.33	0.0011	0.0029	-0.0019
6.40	10309	13	3.00	4.46	0.0013	0.0031	-0.0018
6.40	10325	15	3.00	5.00	0.0023	0.0032	-0.0009
6.41	10341	69	3.00	22.88	0.0100	0.0033	0.0067
6.42	10357	84	3.00	27.88	0.0123	0.0034	0.0089
6.42	10373	88	3.00	29.33	0.0133	0.0035	0.0098
6.43	10389	116	3.00	38.67	0.0168	0.0037	0.0131
6.44	10405	79	3.00	26.29	0.0117	0.0038	0.0079
6.44	10421	51	3.00	16.85	0.0076	0.0040	0.0036
6.45	10437	53	3.00	17.67	0.0077	0.0042	0.0035
6.46	10453	36	3.00	11.92	0.0054	0.0044	0.0010
6.47	10469	29	3.00	9.75	0.0044	0.0046	-0.0002
6.47	10485	28	3.00	9.33	0.0041	0.0047	-0.0007
6.48	10501	45	3.00	14.96	0.0068	0.0048	0.0019
6.49	10517	35	3.00	11.77	0.0052	0.0049	0.0003
6.49	10533	27	3.00	8.92	0.0039	0.0049	-0.0010
6.50	10549	25	3.00	8.33	0.0038	0.0048	-0.0010
6.51	10565	27	3.00	8.83	0.0039	0.0047	-0.0008
6.52	10581	27	3.00	9.10	0.0040	0.0046	-0.0006
6.52	10597	28	3.00	9.33	0.0042	0.0045	-0.0002
6.53	10613	26	3.00	8.71	0.0038	0.0044	-0.0006
6.54	10629	25	3.00	8.17	0.0036	0.0043	-0.0007
6.54	10645	24	3.00	8.08	0.0037	0.0042	-0.0005
6.55	10661	33	3.00	11.00	0.0048	0.0041	0.0007
6.56	10677	31	3.00	10.31	0.0046	0.0040	0.0006
6.57	10693	33	3.00	10.83	0.0049	0.0040	0.0009
6.57	10709	38	3.00	12.67	0.0055	0.0039	0.0016
6.58	10725	35	3.00	11.79	0.0053	0.0039	0.0015
6.59	10741	29	3.00	9.50	0.0042	0.0039	0.0004
6.59	10757	22	3.00	7.29	0.0032	0.0039	-0.0007
6.60	10773	20	3.00	6.67	0.0030	0.0039	-0.0009
6.61	10789	17	3.00	5.52	0.0024	0.0040	-0.0015
6.61	10805	15	3.00	5.00	0.0022	0.0040	-0.0018
6.62	10821	15	3.00	5.00	0.0023	0.0041	-0.0018
6.63	10837	26	3.00	8.79	0.0038	0.0041	-0.0003
6.64	10853	25	3.00	8.17	0.0036	0.0042	-0.0006
6.64	10869	21	3.00	6.88	0.0031	0.0042	-0.0011
6.65	10885	30	3.00	10.00	0.0043	0.0043	0.0001
6.66	10901	26	3.00	8.75	0.0039	0.0044	-0.0004
6.66	10917	29	3.00	9.67	0.0043	0.0044	-0.0001
6.67	10933	44	3.00	14.67	0.0064	0.0045	0.0019
6.68	10949	46	3.00	15.48	0.0070	0.0046	0.0024
6.69	10965	44	3.00	14.65	0.0065	0.0047	0.0018
6.69	10981	40	3.00	13.33	0.0058	0.0048	0.0010

6.70	10997	40	3.00	13.33	0.0061	0.0049	0.0011
6.71	11013	33	3.00	10.83	0.0048	0.0049	-0.0002
6.71	11029	27	3.00	9.15	0.0040	0.0049	-0.0009
6.72	11045	25	3.00	8.33	0.0038	0.0049	-0.0011
6.73	11061	27	3.00	8.88	0.0039	0.0048	-0.0009
6.74	11077	32	3.00	10.63	0.0047	0.0046	0.0001
6.74	11093	40	3.00	13.33	0.0061	0.0045	0.0016
6.75	11109	31	3.00	10.33	0.0045	0.0043	0.0002
6.76	11125	36	3.00	12.02	0.0054	0.0041	0.0013
6.76	11141	45	3.00	14.96	0.0067	0.0039	0.0028
6.77	11157	66	3.00	22.00	0.0096	0.0037	0.0058
6.78	11173	24	3.00	8.00	0.0036	0.0036	0.0000
6.79	11189	8	3.00	2.71	0.0012	0.0035	-0.0023
6.79	11205	5	3.00	1.67	0.0007	0.0034	-0.0026
6.80	11221	13	3.00	4.48	0.0020	0.0033	-0.0013
6.81	11237	15	3.00	4.85	0.0022	0.0032	-0.0011
6.81	11253	15	3.00	5.13	0.0022	0.0032	-0.0009
6.82	11269	18	3.00	6.00	0.0027	0.0031	-0.0004
6.83	11285	13	3.00	4.25	0.0019	0.0031	-0.0012
6.84	11301	13	3.00	4.40	0.0019	0.0031	-0.0012
6.84	11317	18	3.00	6.00	0.0027	0.0031	-0.0004
6.85	11333	19	3.00	6.31	0.0028	0.0032	-0.0004
6.86	11349	20	3.00	6.50	0.0029	0.0033	-0.0004
6.86	11365	21	3.00	7.04	0.0032	0.0034	-0.0002
6.87	11381	29	3.00	9.67	0.0042	0.0035	0.0007
6.88	11397	26	3.00	8.52	0.0038	0.0036	0.0002
6.88	11413	31	3.00	10.19	0.0046	0.0037	0.0009
6.89	11429	45	3.00	15.00	0.0065	0.0038	0.0027
6.90	11445	28	3.00	9.17	0.0041	0.0038	0.0003
6.91	11461	31	3.00	10.33	0.0046	0.0038	0.0008
6.91	11477	36	3.00	12.04	0.0053	0.0038	0.0014
6.92	11493	23	3.00	7.67	0.0035	0.0038	-0.0004
6.93	11509	31	3.00	10.19	0.0045	0.0038	0.0007
6.93	11525	32	3.00	10.50	0.0046	0.0038	0.0008
6.94	11541	24	3.00	8.00	0.0036	0.0037	-0.0001
6.95	11557	29	3.00	9.75	0.0043	0.0037	0.0006
6.96	11573	21	3.00	7.08	0.0031	0.0037	-0.0005
6.96	11589	10	3.00	3.48	0.0016	0.0036	-0.0021
6.97	11605	17	3.00	5.67	0.0025	0.0036	-0.0012
6.98	11621	16	3.00	5.25	0.0023	0.0036	-0.0013
6.98	11637	19	3.00	6.17	0.0028	0.0036	-0.0009
6.99	11653	29	3.00	9.67	0.0042	0.0037	0.0005
7.00	11669	21	3.00	6.96	0.0031	0.0037	-0.0006
7.01	11685	19	3.00	6.48	0.0029	0.0037	-0.0008
7.01	11701	20	3.00	6.67	0.0029	0.0037	-0.0008
7.02	11717	15	3.00	5.00	0.0023	0.0037	-0.0015
7.03	11733	39	3.00	12.92	0.0057	0.0037	0.0020
7.03	11749	48	3.00	15.98	0.0070	0.0037	0.0033
7.04	11765	26	3.00	8.67	0.0039	0.0037	0.0002
7.05	11781	40	3.00	13.27	0.0058	0.0037	0.0021

7.06	11797	39	3.00	12.96	0.0057	0.0037	0.0020
7.06	11813	32	3.00	10.67	0.0048	0.0037	0.0012
7.07	11829	27	3.00	9.00	0.0039	0.0036	0.0003
7.08	11845	24	3.00	8.06	0.0036	0.0035	0.0000
7.08	11861	20	3.00	6.65	0.0030	0.0035	-0.0005
7.09	11877	11	3.00	3.67	0.0016	0.0034	-0.0018
7.10	11893	10	3.00	3.42	0.0015	0.0033	-0.0017
7.11	11909	15	3.00	4.83	0.0022	0.0032	-0.0010
7.11	11925	22	3.00	7.33	0.0032	0.0030	0.0001
7.12	11941	15	3.00	5.15	0.0023	0.0029	-0.0006
7.13	11957	26	3.00	8.56	0.0038	0.0028	0.0010
7.13	11973	31	3.00	10.38	0.0045	0.0027	0.0018
7.14	11989	11	3.00	3.67	0.0017	0.0027	-0.0010
7.15	12005	8	3.00	2.67	0.0012	0.0026	-0.0014
7.16	12021	10	3.00	3.27	0.0014	0.0026	-0.0012
7.16	12037	16	3.00	5.33	0.0024	0.0026	-0.0002
7.17	12053	24	3.00	7.83	0.0034	0.0026	0.0008
7.18	12069	25	3.00	8.17	0.0036	0.0027	0.0010
7.18	12085	24	3.00	7.83	0.0035	0.0027	0.0008
7.19	12101	13	3.00	4.33	0.0019	0.0027	-0.0009
7.20	12117	11	3.00	3.65	0.0016	0.0028	-0.0012
7.20	12133	12	3.00	3.85	0.0017	0.0029	-0.0012
7.21	12149	15	3.00	5.00	0.0022	0.0030	-0.0008
7.22	12165	19	3.00	6.46	0.0029	0.0030	-0.0001
7.23	12181	24	3.00	7.83	0.0035	0.0031	0.0004
7.23	12197	27	3.00	8.85	0.0039	0.0032	0.0007
7.24	12213	20	3.00	6.67	0.0030	0.0032	-0.0002
7.25	12229	21	3.00	6.90	0.0030	0.0033	-0.0002
7.25	12245	23	3.00	7.58	0.0033	0.0033	0.0001
7.26	12261	28	3.00	9.33	0.0042	0.0033	0.0010
7.27	12277	21	3.00	7.00	0.0031	0.0033	-0.0002
7.28	12293	28	3.00	9.44	0.0042	0.0033	0.0009
7.28	12309	40	3.00	13.42	0.0061	0.0033	0.0028
7.29	12325	59	3.00	19.67	0.0086	0.0033	0.0052
7.30	12341	26	3.00	8.63	0.0039	0.0033	0.0005
7.30	12357	9	3.00	2.83	0.0013	0.0033	-0.0021
7.31	12373	16	3.00	5.33	0.0023	0.0034	-0.0010
7.32	12389	16	3.00	5.33	0.0024	0.0034	-0.0010
7.33	12405	15	3.00	4.90	0.0022	0.0034	-0.0012
7.33	12421	13	3.00	4.33	0.0019	0.0033	-0.0015
7.34	12437	10	3.00	3.33	0.0015	0.0033	-0.0018
7.35	12453	21	3.00	7.08	0.0031	0.0033	-0.0002
7.35	12469	28	3.00	9.33	0.0041	0.0033	0.0008
7.36	12485	28	3.00	9.33	0.0042	0.0033	0.0009
7.37	12501	27	3.00	9.06	0.0040	0.0033	0.0007
7.38	12517	26	3.00	8.75	0.0039	0.0033	0.0005
7.38	12533	25	3.00	8.33	0.0038	0.0034	0.0004
7.39	12549	21	3.00	7.00	0.0030	0.0034	-0.0004
7.40	12565	28	3.00	9.44	0.0041	0.0035	0.0006
7.40	12581	32	3.00	10.79	0.0047	0.0035	0.0012

7.41	12597	21	3.00	7.00	0.0032	0.0036	-0.0004
7.42	12613	19	3.00	6.25	0.0027	0.0037	-0.0009
7.43	12629	24	3.00	7.88	0.0035	0.0038	-0.0003
7.43	12645	36	3.00	12.00	0.0055	0.0039	0.0016
7.44	12661	20	3.00	6.69	0.0029	0.0041	-0.0011
7.45	12677	14	3.00	4.67	0.0021	0.0043	-0.0022
7.45	12693	11	3.00	3.58	0.0016	0.0045	-0.0029
7.46	12709	23	3.00	7.67	0.0033	0.0048	-0.0015
7.47	12725	27	3.00	9.04	0.0041	0.0051	-0.0010
7.47	12741	29	3.00	9.77	0.0044	0.0054	-0.0010
7.48	12757	30	3.00	10.00	0.0043	0.0056	-0.0013
7.49	12773	27	3.00	9.13	0.0041	0.0059	-0.0018
7.50	12789	41	3.00	13.67	0.0061	0.0062	-0.0001
7.50	12805	56	3.00	18.58	0.0081	0.0064	0.0017
7.51	12821	67	3.00	22.33	0.0102	0.0067	0.0035
7.52	12837	64	3.00	21.19	0.0093	0.0069	0.0024
7.52	12853	65	3.00	21.75	0.0096	0.0071	0.0024
7.53	12869	75	3.00	25.00	0.0114	0.0074	0.0040
7.54	12885	68	3.00	22.67	0.0099	0.0076	0.0023
7.55	12901	59	3.00	19.56	0.0087	0.0079	0.0008
7.55	12917	47	3.00	15.52	0.0070	0.0081	-0.0011
7.56	12933	25	3.00	8.33	0.0036	0.0083	-0.0047
7.57	12949	39	3.00	12.92	0.0058	0.0085	-0.0027
7.57	12965	53	3.00	17.67	0.0079	0.0087	-0.0007
7.58	12981	71	3.00	23.67	0.0103	0.0088	0.0015
7.59	12997	43	3.00	14.46	0.0065	0.0089	-0.0024
7.60	13013	50	3.00	16.56	0.0074	0.0091	-0.0017
7.60	13029	66	3.00	22.00	0.0096	0.0092	0.0004
7.61	13045	41	3.00	13.67	0.0062	0.0093	-0.0031
7.62	13061	80	3.00	26.58	0.0118	0.0094	0.0023
7.62	13077	94	3.00	31.27	0.0137	0.0096	0.0041
7.63	13093	54	3.00	18.00	0.0082	0.0097	-0.0015
7.64	13109	81	3.00	26.94	0.0118	0.0099	0.0019
7.65	13125	79	3.00	26.38	0.0117	0.0100	0.0017
7.65	13141	66	3.00	22.00	0.0100	0.0102	-0.0002
7.66	13157	121	3.00	40.33	0.0175	0.0103	0.0072
7.67	13173	118	3.00	39.21	0.0075	0.0105	-0.0030

Appendix D - Lake George CHAR Data

cm Top_i (cm)	age Top_i (yr BP)	char Count_i (#)	char Vol_i (cm^3)	char Con_i (# cm^{-3})	char Acc_i (# cm^{-2} yr^{-1})	charBkg (# cm^{-2} yr^{-1})	char Peak (# cm^{-2} yr^{-1})
0.00	-59	33	3.00	11.00	0.0147	0.0146	0.0002
0.02	-45	15	3.00	5.07	0.0072	0.0159	-0.0087
0.04	-31	39	3.00	12.93	0.0185	0.0173	0.0012
0.06	-17	45	3.00	15.12	0.0204	0.0186	0.0018
0.08	-3	41	3.00	13.81	0.0194	0.0200	-0.0006
0.10	11	55	3.00	18.45	0.0264	0.0214	0.0050
0.12	25	55	3.00	18.43	0.0244	0.0227	0.0017
0.14	39	55	3.00	18.17	0.0260	0.0240	0.0019
0.16	53	63	3.00	21.05	0.0290	0.0254	0.0036
0.18	67	68	3.00	22.55	0.0311	0.0267	0.0043
0.19	81	57	3.00	19.05	0.0265	0.0280	-0.0016
0.21	95	57	3.00	18.93	0.0258	0.0293	-0.0035
0.23	109	46	3.00	15.29	0.0218	0.0306	-0.0088
0.25	123	40	3.00	13.48	0.0179	0.0319	-0.0140
0.27	137	45	3.00	15.02	0.0215	0.0331	-0.0117
0.29	151	72	3.00	23.93	0.0339	0.0343	-0.0004
0.31	165	98	3.00	32.67	0.0438	0.0355	0.0083
0.33	179	127	3.00	42.17	0.0602	0.0365	0.0237
0.35	193	122	3.00	40.67	0.0545	0.0371	0.0173
0.37	207	140	3.00	46.52	0.0659	0.0376	0.0282
0.39	221	118	3.00	39.21	0.0560	0.0381	0.0180
0.41	235	120	3.00	39.98	0.0530	0.0384	0.0146
0.43	249	113	3.00	37.79	0.0540	0.0388	0.0152
0.45	263	98	3.00	32.60	0.0445	0.0391	0.0054
0.47	277	91	3.00	30.36	0.0422	0.0393	0.0029
0.49	291	78	3.00	25.90	0.0370	0.0394	-0.0024
0.51	305	111	3.00	36.88	0.0489	0.0393	0.0096
0.52	319	100	3.00	33.19	0.0474	0.0389	0.0085
0.54	333	83	3.00	27.69	0.0385	0.0383	0.0002
0.56	347	76	3.00	25.40	0.0347	0.0375	-0.0028
0.58	361	71	3.00	23.57	0.0331	0.0365	-0.0035
0.60	375	62	3.00	20.55	0.0278	0.0357	-0.0079
0.62	389	60	3.00	19.93	0.0285	0.0349	-0.0064
0.64	403	71	3.00	23.76	0.0315	0.0342	-0.0027
0.66	417	70	3.00	23.17	0.0331	0.0337	-0.0006
0.68	431	56	3.00	18.50	0.0264	0.0333	-0.0069
0.70	445	58	3.00	19.19	0.0255	0.0330	-0.0076
0.72	459	72	3.00	23.88	0.0341	0.0329	0.0012
0.74	473	47	3.00	15.62	0.0211	0.0328	-0.0117
0.76	487	58	3.00	19.26	0.0270	0.0330	-0.0059
0.78	501	56	3.00	18.81	0.0269	0.0332	-0.0064

0.80	515	69	3.00	22.86	0.0303	0.0337	-0.0033
0.82	529	129	3.00	43.02	0.0615	0.0342	0.0273
0.84	543	91	3.00	30.21	0.0416	0.0348	0.0068
0.86	557	93	3.00	31.00	0.0427	0.0356	0.0071
0.87	571	77	3.00	25.81	0.0369	0.0363	0.0005
0.89	585	67	3.00	22.19	0.0294	0.0372	-0.0077
0.91	599	75	3.00	25.14	0.0359	0.0380	-0.0021
0.93	613	83	3.00	27.64	0.0388	0.0390	-0.0002
0.95	627	41	3.00	13.64	0.0184	0.0400	-0.0215
0.97	641	74	3.00	24.52	0.0347	0.0411	-0.0063
0.99	655	147	3.00	48.83	0.0654	0.0422	0.0232
1.01	669	118	3.00	39.33	0.0527	0.0436	0.0091
1.03	683	118	3.00	39.21	0.0471	0.0449	0.0021
1.05	697	107	3.00	35.81	0.0433	0.0463	-0.0030
1.06	711	126	3.00	42.00	0.0525	0.0477	0.0048
1.08	725	85	3.00	28.38	0.0329	0.0492	-0.0162
1.10	739	108	3.00	36.12	0.0451	0.0507	-0.0055
1.11	753	81	3.00	26.88	0.0312	0.0523	-0.0211
1.13	767	104	3.00	34.71	0.0434	0.0538	-0.0104
1.15	781	143	3.00	47.57	0.0576	0.0554	0.0022
1.16	795	127	3.00	42.21	0.0507	0.0569	-0.0062
1.18	809	155	3.00	51.67	0.0646	0.0585	0.0061
1.20	823	138	3.00	45.86	0.0532	0.0601	-0.0069
1.22	837	187	3.00	62.19	0.0777	0.0618	0.0160
1.23	851	212	3.00	70.67	0.0827	0.0633	0.0195
1.25	865	141	3.00	47.10	0.0584	0.0646	-0.0062
1.27	879	152	3.00	50.74	0.0619	0.0658	-0.0039
1.28	893	220	3.00	73.48	0.0875	0.0668	0.0207
1.30	907	269	3.00	89.76	0.1122	0.0675	0.0447
1.32	921	247	3.00	82.38	0.0956	0.0680	0.0277
1.33	935	256	3.00	85.36	0.1067	0.0683	0.0384
1.35	949	153	3.00	51.00	0.0638	0.0685	-0.0048
1.37	963	131	3.00	43.79	0.0508	0.0687	-0.0179
1.39	977	228	3.00	76.14	0.0952	0.0689	0.0263
1.40	991	252	3.00	84.14	0.0985	0.0690	0.0295
1.42	1005	325	3.00	108.26	0.1343	0.0692	0.0651
1.44	1019	263	3.00	87.81	0.1071	0.0693	0.0379
1.45	1033	311	3.00	103.52	0.1232	0.0693	0.0539
1.47	1047	244	3.00	81.24	0.1015	0.0693	0.0323
1.49	1061	316	3.00	105.38	0.1223	0.0686	0.0537
1.50	1075	233	3.00	77.52	0.0969	0.0685	0.0284
1.52	1089	166	3.00	55.17	0.0651	0.0683	-0.0032
1.54	1103	201	3.00	66.95	0.0824	0.0681	0.0143
1.56	1117	249	3.00	83.05	0.1022	0.0677	0.0345
1.57	1131	213	3.00	70.83	0.0836	0.0672	0.0164
1.59	1145	144	3.00	47.95	0.0599	0.0665	-0.0066
1.61	1159	151	3.00	50.48	0.0586	0.0657	-0.0071
1.62	1173	174	3.00	58.05	0.0726	0.0647	0.0079
1.64	1187	142	3.00	47.29	0.0563	0.0637	-0.0074
1.66	1201	156	3.00	51.93	0.0634	0.0626	0.0007

1.67	1215	111	3.00	37.14	0.0461	0.0615	-0.0155
1.69	1229	159	3.00	53.00	0.0620	0.0603	0.0017
1.71	1243	164	3.00	54.81	0.0685	0.0592	0.0093
1.73	1257	102	3.00	34.02	0.0395	0.0581	-0.0186
1.74	1271	109	3.00	36.17	0.0452	0.0571	-0.0119
1.76	1285	115	3.00	38.33	0.0460	0.0563	-0.0103
1.78	1299	149	3.00	49.76	0.0602	0.0554	0.0048
1.79	1313	127	3.00	42.24	0.0528	0.0544	-0.0016
1.81	1327	188	3.00	62.79	0.0729	0.0537	0.0192
1.83	1341	240	3.00	79.90	0.0999	0.0528	0.0470
1.84	1355	144	3.00	48.02	0.0557	0.0523	0.0034
1.86	1369	87	3.00	28.95	0.0362	0.0520	-0.0158
1.88	1383	126	3.00	42.10	0.0526	0.0518	0.0009
1.90	1397	132	3.00	43.95	0.0510	0.0517	-0.0007
1.91	1411	254	3.00	84.50	0.1056	0.0519	0.0537
1.93	1425	122	3.00	40.67	0.0488	0.0522	-0.0034
1.95	1439	105	3.00	35.05	0.0424	0.0526	-0.0102
1.96	1453	103	3.00	34.19	0.0427	0.0532	-0.0104
1.98	1467	108	3.00	35.90	0.0417	0.0538	-0.0121
2.00	1481	112	3.00	37.45	0.0468	0.0548	-0.0080
2.01	1495	78	3.00	25.98	0.0302	0.0555	-0.0254
2.03	1509	147	3.00	48.86	0.0611	0.0563	0.0048
2.05	1523	124	3.00	41.24	0.0499	0.0571	-0.0072
2.06	1537	106	3.00	35.19	0.0422	0.0580	-0.0158
2.08	1551	178	3.00	59.33	0.0742	0.0589	0.0152
2.10	1565	412	3.00	137.38	0.1595	0.0599	0.0996
2.12	1579	301	3.00	100.33	0.1254	0.0607	0.0647
2.13	1593	176	3.00	58.52	0.0685	0.0616	0.0069
2.15	1607	205	3.00	68.19	0.0846	0.0623	0.0223
2.17	1621	173	3.00	57.67	0.0704	0.0625	0.0079
2.18	1635	144	3.00	48.14	0.0573	0.0635	-0.0062
2.20	1649	165	3.00	54.86	0.0686	0.0634	0.0052
2.22	1663	177	3.00	59.10	0.0686	0.0638	0.0048
2.23	1677	192	3.00	63.95	0.0799	0.0642	0.0157
2.25	1691	113	3.00	37.50	0.0443	0.0645	-0.0203
2.27	1705	185	3.00	61.67	0.0759	0.0648	0.0111
2.29	1719	213	3.00	70.90	0.0872	0.0650	0.0222
2.30	1733	209	3.00	69.67	0.0822	0.0651	0.0172
2.32	1747	261	3.00	86.98	0.1087	0.0651	0.0436
2.34	1761	259	3.00	86.45	0.1003	0.0650	0.0353
2.35	1775	120	3.00	40.10	0.0501	0.0650	-0.0149
2.37	1789	175	3.00	58.38	0.0730	0.0650	0.0080
2.39	1803	155	3.00	51.57	0.0599	0.0649	-0.0050
2.40	1817	124	3.00	41.43	0.0518	0.0648	-0.0130
2.42	1831	112	3.00	37.17	0.0439	0.0646	-0.0207
2.44	1845	104	3.00	34.67	0.0426	0.0645	-0.0218
2.46	1859	113	3.00	37.52	0.0462	0.0642	-0.0181
2.47	1873	156	3.00	52.00	0.0614	0.0640	-0.0026
2.49	1887	193	3.00	64.38	0.0671	0.0636	0.0035
2.50	1901	288	3.00	96.00	0.1006	0.0633	0.0373

2.52	1915	260	3.00	86.81	0.0882	0.0629	0.0252
2.53	1929	332	3.00	110.50	0.1166	0.0626	0.0540
2.55	1943	305	3.00	101.62	0.1089	0.0624	0.0465
2.56	1957	260	3.00	86.62	0.0866	0.0622	0.0244
2.58	1971	204	3.00	67.83	0.0727	0.0620	0.0106
2.59	1985	148	3.00	49.21	0.0492	0.0619	-0.0127
2.61	1999	177	3.00	59.07	0.0633	0.0619	0.0014
2.62	2013	194	3.00	64.57	0.0646	0.0619	0.0027
2.63	2027	175	3.00	58.43	0.0621	0.0619	0.0002
2.65	2041	385	3.00	128.19	0.1292	0.0619	0.0673
2.66	2055	320	3.00	106.50	0.1124	0.0619	0.0505
2.68	2069	222	3.00	73.95	0.0751	0.0620	0.0131
2.69	2083	247	3.00	82.24	0.0862	0.0619	0.0243
2.71	2097	142	3.00	47.43	0.0489	0.0617	-0.0127
2.72	2111	150	3.00	50.05	0.0532	0.0614	-0.0081
2.74	2125	163	3.00	54.38	0.0544	0.0610	-0.0066
2.75	2139	382	3.00	127.21	0.1363	0.0606	0.0757
2.77	2153	414	3.00	138.14	0.1381	0.0601	0.0780
2.78	2167	150	3.00	49.90	0.0535	0.0596	-0.0062
2.79	2181	190	3.00	63.29	0.0633	0.0592	0.0041
2.81	2195	192	3.00	64.14	0.0687	0.0587	0.0101
2.82	2209	262	3.00	87.17	0.0872	0.0582	0.0290
2.84	2223	205	3.00	68.45	0.0733	0.0577	0.0157
2.85	2237	160	3.00	53.24	0.0532	0.0572	-0.0040
2.87	2251	154	3.00	51.40	0.0551	0.0566	-0.0015
2.88	2265	235	3.00	78.33	0.0783	0.0558	0.0225
2.90	2279	154	3.00	51.33	0.0550	0.0550	0.0000
2.91	2293	171	3.00	57.05	0.0589	0.0541	0.0048
2.92	2307	142	3.00	47.40	0.0493	0.0531	-0.0038
2.94	2321	114	3.00	37.88	0.0388	0.0521	-0.0133
2.95	2335	217	3.00	72.29	0.0757	0.0512	0.0245
2.97	2349	266	3.00	88.52	0.0899	0.0500	0.0399
2.98	2363	185	3.00	61.67	0.0651	0.0487	0.0164
3.00	2377	160	3.00	53.29	0.0537	0.0473	0.0064
3.01	2391	52	3.00	17.33	0.0184	0.0460	-0.0276
3.03	2405	80	3.00	26.81	0.0268	0.0447	-0.0179
3.04	2419	167	3.00	55.55	0.0595	0.0433	0.0162
3.06	2433	240	3.00	79.98	0.0800	0.0421	0.0379
3.07	2447	147	3.00	48.93	0.0524	0.0409	0.0116
3.08	2461	103	3.00	34.29	0.0365	0.0397	-0.0033
3.10	2475	90	3.00	30.07	0.0303	0.0386	-0.0083
3.11	2489	92	3.00	30.50	0.0322	0.0376	-0.0054
3.13	2503	108	3.00	36.14	0.0367	0.0365	0.0002
3.14	2517	108	3.00	35.90	0.0376	0.0356	0.0020
3.16	2531	68	3.00	22.57	0.0231	0.0347	-0.0116
3.17	2545	69	3.00	22.93	0.0238	0.0339	-0.0101
3.19	2559	41	3.00	13.57	0.0140	0.0332	-0.0192
3.20	2573	73	3.00	24.33	0.0251	0.0328	-0.0077
3.21	2587	79	3.00	26.31	0.0274	0.0322	-0.0048
3.23	2601	91	3.00	30.45	0.0312	0.0317	-0.0005

3.24	2615	138	3.00	45.90	0.0481	0.0311	0.0169
3.26	2629	143	3.00	47.62	0.0510	0.0309	0.0201
3.27	2643	97	3.00	32.17	0.0322	0.0307	0.0015
3.29	2657	66	3.00	22.00	0.0236	0.0306	-0.0070
3.30	2671	90	3.00	30.14	0.0301	0.0305	-0.0004
3.32	2685	76	3.00	25.19	0.0270	0.0305	-0.0035
3.33	2699	111	3.00	37.10	0.0371	0.0306	0.0065
3.35	2713	84	3.00	27.88	0.0299	0.0308	-0.0009
3.36	2727	92	3.00	30.81	0.0308	0.0310	-0.0002
3.37	2741	113	3.00	37.81	0.0402	0.0312	0.0090
3.39	2755	46	3.00	15.29	0.0154	0.0314	-0.0160
3.40	2769	51	3.00	16.83	0.0178	0.0316	-0.0138
3.42	2783	82	3.00	27.33	0.0278	0.0316	-0.0038
3.43	2797	88	3.00	29.33	0.0307	0.0316	-0.0009
3.45	2811	142	3.00	47.24	0.0487	0.0315	0.0172
3.46	2825	216	3.00	71.86	0.0764	0.0314	0.0450
3.48	2839	120	3.00	39.86	0.0399	0.0313	0.0086
3.49	2853	55	3.00	18.40	0.0197	0.0311	-0.0114
3.51	2867	75	3.00	24.83	0.0248	0.0310	-0.0061
3.52	2881	111	3.00	36.95	0.0396	0.0309	0.0087
3.53	2895	107	3.00	35.62	0.0356	0.0308	0.0048
3.55	2909	126	3.00	42.05	0.0451	0.0312	0.0139
3.56	2923	119	3.00	39.50	0.0395	0.0317	0.0078
3.58	2937	100	3.00	33.21	0.0356	0.0322	0.0034
3.59	2951	80	3.00	26.57	0.0266	0.0327	-0.0061
3.61	2965	65	3.00	21.74	0.0233	0.0333	-0.0100
3.62	2979	64	3.00	21.38	0.0222	0.0339	-0.0117
3.64	2993	45	3.00	15.10	0.0156	0.0346	-0.0190
3.65	3007	89	3.00	29.81	0.0308	0.0355	-0.0047
3.66	3021	65	3.00	21.62	0.0225	0.0363	-0.0138
3.68	3035	56	3.00	18.81	0.0193	0.0371	-0.0179
3.69	3049	59	3.00	19.81	0.0208	0.0379	-0.0171
3.71	3063	74	3.00	24.67	0.0251	0.0386	-0.0135
3.72	3077	68	3.00	22.67	0.0239	0.0393	-0.0154
3.74	3091	158	3.00	52.79	0.0532	0.0401	0.0131
3.75	3105	176	3.00	58.62	0.0623	0.0409	0.0215
3.77	3119	174	3.00	57.95	0.0580	0.0415	0.0164
3.78	3133	163	3.00	54.19	0.0581	0.0420	0.0161
3.80	3147	236	3.00	78.62	0.0842	0.0421	0.0421
3.81	3161	255	3.00	85.14	0.0851	0.0419	0.0433
3.82	3175	268	3.00	89.24	0.0949	0.0413	0.0536
3.84	3189	290	3.00	96.71	0.0975	0.0405	0.0569
3.85	3203	238	3.00	79.33	0.0837	0.0397	0.0440
3.87	3217	228	3.00	75.90	0.0771	0.0390	0.0381
3.88	3231	129	3.00	43.10	0.0451	0.0384	0.0068
3.90	3245	102	3.00	34.10	0.0349	0.0379	-0.0030
3.91	3259	164	3.00	54.50	0.0567	0.0375	0.0191
3.93	3273	178	3.00	59.38	0.0613	0.0372	0.0241
3.94	3287	222	3.00	74.05	0.0764	0.0369	0.0395
3.95	3301	235	3.00	78.19	0.0813	0.0365	0.0448

3.97	3315	324	3.00	107.93	0.1105	0.0360	0.0745
3.98	3329	284	3.00	94.52	0.0990	0.0354	0.0637
4.00	3343	260	3.00	86.52	0.0927	0.0346	0.0581
4.01	3357	248	3.00	82.67	0.0827	0.0337	0.0490
4.03	3371	232	3.00	77.29	0.0828	0.0326	0.0502
4.04	3385	200	3.00	66.57	0.0666	0.0313	0.0352
4.06	3399	194	3.00	64.64	0.0693	0.0300	0.0393
4.07	3413	97	3.00	32.33	0.0285	0.0286	-0.0002
4.08	3427	93	3.00	30.95	0.0206	0.0273	-0.0067
4.09	3441	89	3.00	29.50	0.0200	0.0261	-0.0061
4.10	3455	36	3.00	12.05	0.0085	0.0249	-0.0164
4.11	3469	71	3.00	23.57	0.0157	0.0238	-0.0081
4.12	3483	102	3.00	34.05	0.0227	0.0224	0.0003
4.13	3497	143	3.00	47.67	0.0318	0.0209	0.0108
4.14	3511	64	3.00	21.33	0.0152	0.0198	-0.0045
4.15	3525	47	3.00	15.67	0.0104	0.0195	-0.0090
4.16	3539	126	3.00	41.98	0.0280	0.0194	0.0086
4.17	3553	63	3.00	21.14	0.0141	0.0194	-0.0053
4.18	3567	50	3.00	16.55	0.0117	0.0194	-0.0078
4.19	3581	22	3.00	7.43	0.0050	0.0195	-0.0144
4.20	3595	26	3.00	8.81	0.0059	0.0195	-0.0136
4.21	3609	63	3.00	20.83	0.0139	0.0195	-0.0056
4.22	3623	84	3.00	28.00	0.0194	0.0195	0.0000
4.23	3637	110	3.00	36.62	0.0252	0.0195	0.0057
4.24	3651	125	3.00	41.67	0.0278	0.0196	0.0082
4.24	3665	144	3.00	47.86	0.0319	0.0197	0.0123
4.25	3679	158	3.00	52.71	0.0360	0.0197	0.0163
4.26	3693	112	3.00	37.38	0.0261	0.0198	0.0062
4.27	3707	77	3.00	25.57	0.0170	0.0200	-0.0030
4.28	3721	90	3.00	30.05	0.0200	0.0202	-0.0002
4.29	3735	84	3.00	28.00	0.0189	0.0204	-0.0016
4.30	3749	69	3.00	22.86	0.0162	0.0207	-0.0045
4.31	3763	82	3.00	27.31	0.0182	0.0210	-0.0028
4.32	3777	55	3.00	18.33	0.0122	0.0213	-0.0090
4.33	3791	104	3.00	34.67	0.0231	0.0215	0.0017
4.34	3805	163	3.00	54.17	0.0385	0.0217	0.0168
4.35	3819	70	3.00	23.17	0.0155	0.0219	-0.0064
4.36	3833	105	3.00	34.95	0.0233	0.0220	0.0013
4.37	3847	55	3.00	18.48	0.0123	0.0222	-0.0099
4.38	3861	47	3.00	15.71	0.0110	0.0224	-0.0114
4.39	3875	66	3.00	22.14	0.0151	0.0226	-0.0076
4.40	3889	107	3.00	35.69	0.0238	0.0229	0.0009
4.41	3903	117	3.00	39.14	0.0261	0.0232	0.0029
4.42	3917	128	3.00	42.67	0.0295	0.0235	0.0060
4.43	3931	149	3.00	49.67	0.0343	0.0238	0.0105
4.43	3945	158	3.00	52.71	0.0351	0.0240	0.0111
4.44	3959	139	3.00	46.31	0.0309	0.0243	0.0065
4.45	3973	81	3.00	27.05	0.0184	0.0246	-0.0062
4.46	3987	67	3.00	22.19	0.0155	0.0249	-0.0094
4.47	4001	101	3.00	33.74	0.0225	0.0252	-0.0027

4.48	4015	122	3.00	40.67	0.0271	0.0256	0.0016
4.49	4029	185	3.00	61.79	0.0414	0.0259	0.0155
4.50	4043	291	3.00	96.88	0.0689	0.0262	0.0426
4.51	4057	78	3.00	26.00	0.0173	0.0266	-0.0092
4.52	4071	188	3.00	62.67	0.0418	0.0268	0.0150
4.53	4085	109	3.00	36.36	0.0242	0.0270	-0.0028
4.54	4099	93	3.00	30.90	0.0219	0.0272	-0.0053
4.55	4113	114	3.00	38.05	0.0256	0.0273	-0.0017
4.56	4127	86	3.00	28.60	0.0191	0.0275	-0.0085
4.57	4141	56	3.00	18.52	0.0123	0.0278	-0.0154
4.58	4155	176	3.00	58.74	0.0410	0.0280	0.0130
4.59	4169	159	3.00	53.10	0.0363	0.0282	0.0081
4.60	4183	97	3.00	32.48	0.0217	0.0285	-0.0069
4.61	4197	119	3.00	39.50	0.0263	0.0289	-0.0025
4.61	4211	151	3.00	50.38	0.0346	0.0293	0.0053
4.62	4225	205	3.00	68.48	0.0475	0.0299	0.0176
4.63	4239	208	3.00	69.19	0.0461	0.0305	0.0156
4.64	4253	83	3.00	27.71	0.0185	0.0313	-0.0128
4.65	4267	74	3.00	24.74	0.0165	0.0322	-0.0157
4.66	4281	97	3.00	32.24	0.0217	0.0331	-0.0114
4.67	4295	153	3.00	51.00	0.0361	0.0340	0.0021
4.68	4309	108	3.00	36.07	0.0240	0.0350	-0.0109
4.69	4323	150	3.00	50.00	0.0333	0.0362	-0.0028
4.70	4337	142	3.00	47.33	0.0316	0.0372	-0.0056
4.71	4351	172	3.00	57.24	0.0407	0.0381	0.0026
4.72	4365	475	3.00	158.29	0.1061	0.0392	0.0669
4.73	4379	510	3.00	170.00	0.1133	0.0403	0.0730
4.74	4393	361	3.00	120.38	0.0803	0.0415	0.0388
4.75	4407	437	3.00	145.71	0.1021	0.0426	0.0595
4.76	4421	368	3.00	122.76	0.0835	0.0437	0.0398
4.77	4435	309	3.00	102.83	0.0686	0.0447	0.0238
4.78	4449	256	3.00	85.48	0.0570	0.0456	0.0113
4.79	4463	189	3.00	63.00	0.0435	0.0464	-0.0029
4.80	4477	110	3.00	36.50	0.0252	0.0469	-0.0217
4.80	4491	82	3.00	27.19	0.0181	0.0471	-0.0290
4.81	4505	164	3.00	54.64	0.0364	0.0472	-0.0108
4.82	4519	253	3.00	84.38	0.0574	0.0472	0.0102
4.83	4533	264	3.00	87.86	0.0616	0.0472	0.0143
4.84	4547	372	3.00	124.10	0.0827	0.0472	0.0356
4.85	4561	313	3.00	104.48	0.0697	0.0471	0.0226
4.86	4575	449	3.00	149.55	0.1002	0.0469	0.0533
4.87	4589	298	3.00	99.21	0.0705	0.0466	0.0240
4.88	4603	254	3.00	84.67	0.0564	0.0461	0.0104
4.89	4617	365	3.00	121.67	0.0811	0.0455	0.0356
4.90	4631	312	3.00	104.02	0.0693	0.0449	0.0245
4.91	4645	270	3.00	90.10	0.0637	0.0443	0.0194
4.92	4659	111	3.00	36.86	0.0248	0.0438	-0.0190
4.93	4673	64	3.00	21.26	0.0142	0.0433	-0.0291
4.94	4687	82	3.00	27.43	0.0183	0.0428	-0.0245
4.95	4701	125	3.00	41.60	0.0290	0.0422	-0.0132

4.96	4715	112	3.00	37.17	0.0254	0.0414	-0.0160
4.97	4729	100	3.00	33.24	0.0222	0.0407	-0.0186
4.98	4743	153	3.00	50.83	0.0339	0.0401	-0.0062
4.98	4757	163	3.00	54.29	0.0373	0.0395	-0.0022
4.99	4771	136	3.00	45.33	0.0315	0.0390	-0.0076
5.00	4785	154	3.00	51.36	0.0342	0.0388	-0.0045
5.01	4799	128	3.00	42.52	0.0283	0.0386	-0.0103
5.02	4813	131	3.00	43.55	0.0295	0.0384	-0.0090
5.03	4827	181	3.00	60.31	0.0425	0.0382	0.0043
5.04	4841	268	3.00	89.43	0.0596	0.0379	0.0217
5.05	4855	221	3.00	73.69	0.0491	0.0380	0.0111
5.06	4869	209	3.00	69.67	0.0464	0.0377	0.0088
5.07	4883	274	3.00	91.33	0.0652	0.0373	0.0279
5.08	4897	308	3.00	102.67	0.0684	0.0370	0.0314
5.09	4911	206	3.00	68.62	0.0457	0.0367	0.0091
5.10	4925	248	3.00	82.57	0.0550	0.0363	0.0187
5.11	4939	351	3.00	117.02	0.0824	0.0360	0.0463
5.12	4953	342	3.00	113.88	0.0771	0.0358	0.0413
5.13	4967	357	3.00	119.00	0.0793	0.0356	0.0438
5.14	4981	292	3.00	97.48	0.0650	0.0354	0.0296
5.15	4995	206	3.00	68.62	0.0476	0.0351	0.0125
5.16	5009	137	3.00	45.52	0.0313	0.0347	-0.0035
5.17	5023	124	3.00	41.33	0.0276	0.0342	-0.0067
5.17	5037	129	3.00	43.00	0.0287	0.0336	-0.0050
5.18	5051	104	3.00	34.60	0.0237	0.0329	-0.0092
5.19	5065	106	3.00	35.24	0.0246	0.0321	-0.0075
5.20	5079	146	3.00	48.67	0.0324	0.0316	0.0008
5.21	5093	119	3.00	39.81	0.0265	0.0312	-0.0047
5.22	5107	79	3.00	26.38	0.0178	0.0308	-0.0131
5.23	5121	84	3.00	28.10	0.0199	0.0303	-0.0104
5.24	5135	46	3.00	15.31	0.0102	0.0299	-0.0197
5.25	5149	149	3.00	49.67	0.0331	0.0297	0.0034
5.26	5163	169	3.00	56.33	0.0376	0.0298	0.0078
5.27	5177	174	3.00	57.88	0.0386	0.0300	0.0085
5.28	5191	216	3.00	72.00	0.0509	0.0306	0.0203
5.29	5205	157	3.00	52.33	0.0352	0.0315	0.0038
5.30	5219	105	3.00	35.05	0.0234	0.0326	-0.0093
5.31	5233	124	3.00	41.33	0.0276	0.0340	-0.0064
5.32	5247	106	3.00	35.48	0.0247	0.0349	-0.0101
5.33	5261	95	3.00	31.50	0.0215	0.0359	-0.0143
5.34	5275	117	3.00	39.00	0.0260	0.0376	-0.0116
5.35	5289	112	3.00	37.33	0.0249	0.0394	-0.0145
5.35	5303	121	3.00	40.24	0.0276	0.0412	-0.0135
5.36	5317	303	3.00	100.86	0.0700	0.0430	0.0269
5.37	5331	504	3.00	168.12	0.1121	0.0449	0.0672
5.38	5345	550	3.00	183.38	0.1223	0.0472	0.0751
5.39	5359	606	3.00	202.14	0.1368	0.0490	0.0878
5.40	5373	549	3.00	183.00	0.1288	0.0511	0.0777
5.41	5387	498	3.00	165.90	0.1106	0.0529	0.0577
5.42	5401	502	3.00	167.38	0.1116	0.0548	0.0568

5.43	5415	270	3.00	90.00	0.0600	0.0567	0.0033
5.44	5429	196	3.00	65.33	0.0436	0.0586	-0.0151
5.45	5443	199	3.00	66.26	0.0442	0.0606	-0.0164
5.46	5457	313	3.00	104.33	0.0696	0.0624	0.0072
5.47	5471	403	3.00	134.24	0.0895	0.0642	0.0253
5.48	5485	369	3.00	123.05	0.0820	0.0655	0.0165
5.49	5499	230	3.00	76.57	0.0490	0.0672	-0.0182
5.50	5513	317	3.00	105.50	0.0681	0.0688	-0.0006
5.50	5527	435	3.00	145.05	0.0967	0.0703	0.0264
5.51	5541	417	3.00	139.05	0.0927	0.0716	0.0211
5.52	5555	420	3.00	139.90	0.0933	0.0727	0.0206
5.53	5569	316	3.00	105.33	0.0702	0.0734	-0.0032
5.54	5583	364	3.00	121.43	0.0802	0.0740	0.0063
5.55	5597	390	3.00	130.00	0.0812	0.0743	0.0070
5.56	5611	435	3.00	145.00	0.0967	0.0745	0.0222
5.57	5625	510	3.00	170.07	0.1134	0.0746	0.0388
5.58	5639	441	3.00	146.86	0.0979	0.0747	0.0232
5.59	5653	750	3.00	250.05	0.1667	0.0748	0.0919
5.60	5667	559	3.00	186.48	0.1188	0.0749	0.0439
5.61	5681	513	3.00	171.05	0.1110	0.0752	0.0358
5.62	5695	397	3.00	132.33	0.0882	0.0754	0.0128
5.62	5709	260	3.00	86.62	0.0577	0.0754	-0.0177
5.63	5723	323	3.00	107.69	0.0718	0.0752	-0.0034
5.64	5737	351	3.00	116.95	0.0780	0.0750	0.0030
5.65	5751	283	3.00	94.21	0.0620	0.0748	-0.0128
5.66	5765	201	3.00	67.10	0.0421	0.0746	-0.0324
5.67	5779	114	3.00	38.00	0.0253	0.0743	-0.0490
5.68	5793	336	3.00	112.00	0.0747	0.0741	0.0006
5.69	5807	180	3.00	60.00	0.0400	0.0738	-0.0338
5.70	5821	282	3.00	94.00	0.0627	0.0735	-0.0108
5.71	5835	216	3.00	72.05	0.0480	0.0732	-0.0251
5.72	5849	279	3.00	93.14	0.0593	0.0729	-0.0136
5.73	5863	345	3.00	114.95	0.0746	0.0727	0.0019
5.74	5877	295	3.00	98.17	0.0654	0.0725	-0.0070
5.74	5891	319	3.00	106.24	0.0708	0.0722	-0.0014
5.75	5905	435	3.00	145.14	0.0968	0.0719	0.0248
5.76	5919	414	3.00	137.86	0.0919	0.0716	0.0203
5.77	5933	390	3.00	130.07	0.0856	0.0711	0.0144
5.78	5947	277	3.00	92.33	0.0580	0.0703	-0.0123
5.79	5961	225	3.00	75.00	0.0500	0.0698	-0.0198
5.80	5975	478	3.00	159.33	0.1062	0.0692	0.0370
5.81	5989	350	3.00	116.62	0.0777	0.0689	0.0088
5.82	6003	316	3.00	105.33	0.0702	0.0683	0.0019
5.83	6017	529	3.00	176.29	0.1118	0.0680	0.0437
5.84	6031	451	3.00	150.36	0.0980	0.0674	0.0306
5.85	6045	571	3.00	190.33	0.1269	0.0668	0.0601
5.86	6059	823	3.00	274.33	0.1829	0.0661	0.1168
5.86	6073	1013	3.00	337.62	0.2251	0.0654	0.1597
5.87	6087	964	3.00	321.40	0.2143	0.0646	0.1496
5.88	6101	655	3.00	218.43	0.1430	0.0642	0.0789

5.89	6115	583	3.00	194.19	0.1225	0.0634	0.0591
5.90	6129	413	3.00	137.74	0.0918	0.0628	0.0290
5.91	6143	429	3.00	143.00	0.0953	0.0619	0.0334
5.92	6157	327	3.00	109.00	0.0727	0.0611	0.0116
5.93	6171	231	3.00	77.12	0.0514	0.0601	-0.0087
5.94	6185	134	3.00	44.67	0.0298	0.0592	-0.0294
5.95	6199	253	3.00	84.45	0.0535	0.0582	-0.0047
5.96	6213	188	3.00	62.60	0.0408	0.0572	-0.0164
5.97	6227	150	3.00	50.14	0.0334	0.0563	-0.0228
5.98	6241	251	3.00	83.50	0.0557	0.0553	0.0004
5.98	6255	345	3.00	115.14	0.0768	0.0542	0.0225
5.99	6269	256	3.00	85.29	0.0569	0.0531	0.0037
6.00	6283	72	3.00	24.00	0.0157	0.0521	-0.0364
6.01	6297	78	3.00	25.86	0.0163	0.0510	-0.0347
6.02	6311	114	3.00	37.93	0.0253	0.0500	-0.0247
6.03	6325	150	3.00	50.00	0.0333	0.0491	-0.0157
6.04	6339	233	3.00	77.67	0.0518	0.0482	0.0036
6.05	6353	177	3.00	59.10	0.0394	0.0472	-0.0078
6.06	6367	221	3.00	73.67	0.0465	0.0463	0.0002
6.07	6381	161	3.00	53.71	0.0352	0.0455	-0.0103
6.08	6395	255	3.00	84.95	0.0566	0.0447	0.0119
6.09	6409	210	3.00	70.00	0.0467	0.0440	0.0027
6.10	6423	180	3.00	59.83	0.0399	0.0433	-0.0034
6.10	6437	264	3.00	88.10	0.0587	0.0425	0.0162
6.11	6451	252	3.00	84.02	0.0548	0.0417	0.0130
6.12	6465	147	3.00	49.10	0.0311	0.0409	-0.0097
6.13	6479	118	3.00	39.24	0.0262	0.0399	-0.0138
6.14	6493	117	3.00	38.83	0.0259	0.0390	-0.0131
6.15	6507	201	3.00	67.00	0.0447	0.0379	0.0067
6.16	6521	358	3.00	119.33	0.0796	0.0369	0.0427
6.17	6535	300	3.00	99.83	0.0666	0.0358	0.0307
6.18	6549	271	3.00	90.33	0.0570	0.0349	0.0221
6.19	6563	180	3.00	59.95	0.0393	0.0338	0.0055
6.20	6577	168	3.00	55.83	0.0372	0.0327	0.0045
6.21	6591	140	3.00	46.67	0.0311	0.0316	-0.0005
6.22	6605	174	3.00	57.83	0.0386	0.0305	0.0080
6.22	6619	187	3.00	62.43	0.0416	0.0295	0.0121
6.23	6633	128	3.00	42.71	0.0278	0.0285	-0.0006
6.24	6647	120	3.00	40.14	0.0254	0.0275	-0.0020
6.25	6661	50	3.00	16.67	0.0111	0.0265	-0.0154
6.26	6675	80	3.00	26.76	0.0178	0.0255	-0.0076
6.27	6689	84	3.00	28.00	0.0187	0.0244	-0.0058
6.28	6703	79	3.00	26.33	0.0176	0.0233	-0.0058
6.29	6717	68	3.00	22.62	0.0142	0.0222	-0.0080
6.30	6731	75	3.00	24.95	0.0164	0.0211	-0.0047
6.31	6745	78	3.00	25.90	0.0173	0.0200	-0.0027
6.32	6759	109	3.00	36.29	0.0242	0.0190	0.0052
6.33	6773	122	3.00	40.67	0.0271	0.0179	0.0092
6.34	6787	114	3.00	38.00	0.0253	0.0171	0.0082
6.34	6801	90	3.00	29.90	0.0194	0.0165	0.0029

6.35	6815	66	3.00	22.10	0.0141	0.0160	-0.0019
6.36	6829	64	3.00	21.36	0.0142	0.0156	-0.0014
6.37	6843	42	3.00	14.14	0.0094	0.0153	-0.0058
6.38	6857	84	3.00	27.88	0.0186	0.0150	0.0036
6.39	6871	40	3.00	13.33	0.0089	0.0147	-0.0058
6.40	6885	56	3.00	18.67	0.0124	0.0145	-0.0020
6.41	6899	20	3.00	6.60	0.0041	0.0141	-0.0100
6.42	6913	25	3.00	8.29	0.0054	0.0138	-0.0083
6.43	6927	42	3.00	14.00	0.0093	0.0134	-0.0041
6.44	6941	65	3.00	21.57	0.0144	0.0131	0.0013
6.45	6955	83	3.00	27.71	0.0185	0.0127	0.0057
6.46	6969	66	3.00	21.83	0.0146	0.0124	0.0021
6.46	6983	63	3.00	21.10	0.0137	0.0122	0.0015
6.47	6997	80	3.00	26.71	0.0170	0.0120	0.0050
6.48	7011	49	3.00	16.36	0.0109	0.0119	-0.0010
6.49	7025	56	3.00	18.71	0.0125	0.0118	0.0006
6.50	7039	74	3.00	24.79	0.0165	0.0118	0.0047
6.51	7053	66	3.00	22.00	0.0147	0.0118	0.0029
6.52	7067	45	3.00	15.00	0.0094	0.0118	-0.0025
6.53	7081	31	3.00	10.43	0.0069	0.0119	-0.0050
6.54	7095	40	3.00	13.33	0.0089	0.0120	-0.0031
6.55	7109	51	3.00	16.95	0.0113	0.0121	-0.0008
6.56	7123	48	3.00	16.07	0.0107	0.0123	-0.0016
6.57	7137	45	3.00	15.00	0.0100	0.0125	-0.0025
6.58	7151	34	3.00	11.33	0.0073	0.0128	-0.0055
6.58	7165	47	3.00	15.52	0.0099	0.0131	-0.0032
6.59	7179	75	3.00	25.00	0.0167	0.0135	0.0032
6.60	7193	38	3.00	12.69	0.0085	0.0138	-0.0054
6.61	7207	31	3.00	10.38	0.0069	0.0143	-0.0073
6.62	7221	37	3.00	12.45	0.0083	0.0147	-0.0064
6.63	7235	107	3.00	35.67	0.0238	0.0152	0.0086
6.64	7249	74	3.00	24.67	0.0154	0.0157	-0.0003
6.65	7263	75	3.00	24.95	0.0165	0.0163	0.0002
6.66	7277	90	3.00	29.98	0.0200	0.0169	0.0031
6.67	7291	90	3.00	29.90	0.0199	0.0175	0.0024
6.68	7305	89	3.00	29.76	0.0198	0.0181	0.0018
6.69	7319	112	3.00	37.43	0.0250	0.0187	0.0063
6.70	7333	117	3.00	39.00	0.0252	0.0192	0.0060
6.70	7347	95	3.00	31.79	0.0203	0.0197	0.0006
6.71	7361	69	3.00	22.95	0.0153	0.0202	-0.0049
6.72	7375	61	3.00	20.40	0.0136	0.0205	-0.0069
6.73	7389	114	3.00	37.86	0.0252	0.0207	0.0045
6.74	7403	90	3.00	29.83	0.0198	0.0208	-0.0010
6.75	7417	44	3.00	14.67	0.0092	0.0209	-0.0117
6.76	7431	126	3.00	41.90	0.0278	0.0208	0.0070
6.77	7445	157	3.00	52.29	0.0349	0.0208	0.0141
6.78	7459	152	3.00	50.52	0.0337	0.0207	0.0130
6.79	7473	103	3.00	34.43	0.0230	0.0205	0.0025
6.80	7487	63	3.00	21.05	0.0140	0.0203	-0.0063
6.81	7501	83	3.00	27.67	0.0178	0.0200	-0.0023

6.82	7515	123	3.00	41.10	0.0264	0.0197	0.0067
6.82	7529	135	3.00	45.12	0.0301	0.0194	0.0107
6.83	7543	97	3.00	32.38	0.0216	0.0190	0.0026
6.84	7557	42	3.00	13.93	0.0093	0.0185	-0.0093
6.85	7571	30	3.00	10.00	0.0067	0.0180	-0.0113
6.86	7585	38	3.00	12.81	0.0085	0.0174	-0.0089
6.87	7599	148	3.00	49.33	0.0308	0.0168	0.0141
6.88	7613	109	3.00	36.33	0.0241	0.0161	0.0080
6.89	7627	98	3.00	32.76	0.0218	0.0154	0.0064
6.90	7641	105	3.00	34.95	0.0145	0.0147	-0.0003
6.90	7655	107	3.00	35.67	0.0123	0.0141	-0.0018
6.91	7669	107	3.00	35.67	0.0120	0.0136	-0.0016
6.91	7683	107	3.00	35.67	0.0119	0.0132	-0.0013
6.92	7697	84	3.00	28.05	0.0095	0.0128	-0.0033
6.92	7711	67	3.00	22.33	0.0077	0.0125	-0.0048
6.93	7725	87	3.00	28.83	0.0099	0.0122	-0.0022
6.93	7739	106	3.00	35.33	0.0122	0.0119	0.0003
6.94	7753	87	3.00	28.90	0.0098	0.0116	-0.0018
6.94	7767	61	3.00	20.33	0.0068	0.0113	-0.0045
6.95	7781	63	3.00	21.10	0.0071	0.0110	-0.0039
6.95	7795	69	3.00	23.00	0.0079	0.0107	-0.0027
6.96	7809	76	3.00	25.36	0.0087	0.0104	-0.0016
6.96	7823	102	3.00	34.00	0.0117	0.0101	0.0016
6.97	7837	107	3.00	35.62	0.0122	0.0099	0.0023
6.97	7851	136	3.00	45.33	0.0151	0.0098	0.0053
6.98	7865	136	3.00	45.33	0.0151	0.0097	0.0054
6.98	7879	132	3.00	44.00	0.0152	0.0096	0.0056
6.98	7893	132	3.00	44.00	0.0152	0.0096	0.0056
6.99	7907	61	3.00	20.17	0.0070	0.0096	-0.0027
6.99	7921	55	3.00	18.33	0.0063	0.0097	-0.0034
7.00	7935	38	3.00	12.62	0.0042	0.0097	-0.0055
7.00	7949	35	3.00	11.67	0.0039	0.0098	-0.0059
7.01	7963	63	3.00	20.95	0.0072	0.0098	-0.0027
7.01	7977	74	3.00	24.67	0.0085	0.0098	-0.0013
7.02	7991	74	3.00	24.67	0.0085	0.0099	-0.0014
7.02	8005	74	3.00	24.67	0.0085	0.0099	-0.0014
7.03	8019	82	3.00	27.33	0.0092	0.0099	-0.0007
7.03	8033	88	3.00	29.33	0.0098	0.0100	-0.0003
7.04	8047	76	3.00	25.19	0.0085	0.0102	-0.0017
7.04	8061	59	3.00	19.67	0.0068	0.0104	-0.0037
7.05	8075	103	3.00	34.19	0.0118	0.0108	0.0010
7.05	8089	181	3.00	60.33	0.0208	0.0112	0.0096
7.06	8103	149	3.00	49.76	0.0170	0.0116	0.0054
7.06	8117	70	3.00	23.33	0.0078	0.0122	-0.0044
7.07	8131	74	3.00	24.57	0.0082	0.0127	-0.0045
7.07	8145	96	3.00	32.00	0.0110	0.0132	-0.0022
7.08	8159	98	3.00	32.67	0.0113	0.0137	-0.0025
7.08	8173	124	3.00	41.33	0.0143	0.0142	0.0000
7.09	8187	124	3.00	41.33	0.0143	0.0147	-0.0004
7.09	8201	102	3.00	34.00	0.0113	0.0151	-0.0038

7.09	8215	102	3.00	34.00	0.0113	0.0155	-0.0042
7.10	8229	182	3.00	60.57	0.0208	0.0159	0.0049
7.10	8243	195	3.00	65.00	0.0224	0.0163	0.0061
7.11	8257	160	3.00	53.48	0.0184	0.0166	0.0018
7.11	8271	151	3.00	50.33	0.0174	0.0170	0.0004
7.12	8285	173	3.00	57.71	0.0194	0.0174	0.0021
7.12	8299	182	3.00	60.67	0.0202	0.0178	0.0025
7.13	8313	179	3.00	59.52	0.0202	0.0181	0.0021
7.13	8327	176	3.00	58.67	0.0202	0.0185	0.0017
7.14	8341	171	3.00	57.00	0.0193	0.0189	0.0005
7.14	8355	166	3.00	55.33	0.0184	0.0192	-0.0008
7.15	8369	161	3.00	53.79	0.0181	0.0195	-0.0014
7.15	8383	153	3.00	51.00	0.0176	0.0198	-0.0023
7.16	8397	153	3.00	51.10	0.0176	0.0201	-0.0025
7.16	8411	154	3.00	51.33	0.0177	0.0204	-0.0027
7.17	8425	160	3.00	53.26	0.0182	0.0207	-0.0025
7.17	8439	181	3.00	60.33	0.0201	0.0210	-0.0009
7.18	8453	186	3.00	62.05	0.0207	0.0214	-0.0007
7.18	8467	253	3.00	84.33	0.0291	0.0218	0.0073
7.19	8481	253	3.00	84.33	0.0291	0.0222	0.0068
7.19	8495	100	3.00	33.33	0.0115	0.0226	-0.0111
7.19	8509	100	3.00	33.33	0.0115	0.0229	-0.0114
7.20	8523	237	3.00	79.14	0.0264	0.0231	0.0033
7.20	8537	248	3.00	82.67	0.0276	0.0233	0.0043
7.21	8551	229	3.00	76.38	0.0262	0.0234	0.0028
7.21	8565	224	3.00	74.67	0.0257	0.0234	0.0024
7.22	8579	195	3.00	64.90	0.0224	0.0234	-0.0010
7.22	8593	183	3.00	61.00	0.0210	0.0233	-0.0023
7.23	8607	263	3.00	87.79	0.0296	0.0233	0.0064
7.23	8621	308	3.00	102.67	0.0342	0.0232	0.0110
7.24	8635	320	3.00	106.50	0.0361	0.0231	0.0130
7.24	8649	331	3.00	110.33	0.0380	0.0231	0.0149
7.25	8663	218	3.00	72.76	0.0251	0.0231	0.0020
7.25	8677	68	3.00	22.67	0.0078	0.0231	-0.0153
7.26	8691	90	3.00	29.93	0.0102	0.0231	-0.0129
7.26	8705	129	3.00	43.00	0.0143	0.0231	-0.0088
7.27	8719	140	3.00	46.71	0.0157	0.0231	-0.0074
7.27	8733	181	3.00	60.33	0.0208	0.0230	-0.0022
7.28	8747	183	3.00	61.14	0.0211	0.0228	-0.0018
7.28	8761	198	3.00	66.00	0.0228	0.0227	0.0001
7.29	8775	197	3.00	65.67	0.0226	0.0225	0.0001
7.29	8789	184	3.00	61.33	0.0204	0.0223	-0.0019
7.30	8803	184	3.00	61.33	0.0204	0.0221	-0.0017
7.30	8817	238	3.00	79.29	0.0273	0.0220	0.0053
7.30	8831	242	3.00	80.67	0.0278	0.0218	0.0060
7.31	8845	217	3.00	72.38	0.0250	0.0216	0.0033
7.31	8859	213	3.00	71.00	0.0245	0.0215	0.0030
7.32	8873	222	3.00	74.14	0.0249	0.0213	0.0036
7.32	8887	225	3.00	75.00	0.0250	0.0211	0.0039
7.33	8901	235	3.00	78.21	0.0266	0.0208	0.0058

7.33	8915	240	3.00	80.00	0.0276	0.0205	0.0071
7.34	8929	180	3.00	60.00	0.0207	0.0201	0.0006
7.34	8943	135	3.00	45.00	0.0155	0.0196	-0.0041
7.35	8957	129	3.00	43.00	0.0146	0.0190	-0.0044
7.35	8971	123	3.00	41.00	0.0137	0.0183	-0.0047
7.36	8985	149	3.00	49.81	0.0168	0.0175	-0.0007
7.36	8999	197	3.00	65.67	0.0226	0.0167	0.0060
7.37	9013	152	3.00	50.71	0.0175	0.0158	0.0017
7.37	9027	40	3.00	13.33	0.0046	0.0148	-0.0102
7.38	9041	69	3.00	23.12	0.0079	0.0139	-0.0060
7.38	9055	177	3.00	59.00	0.0197	0.0130	0.0067
7.39	9069	178	3.00	59.31	0.0198	0.0121	0.0077
7.39	9083	190	3.00	63.33	0.0218	0.0113	0.0105
7.40	9097	190	3.00	63.33	0.0218	0.0106	0.0112
7.40	9111	28	3.00	9.33	0.0032	0.0100	-0.0068
7.40	9125	28	3.00	9.33	0.0032	0.0094	-0.0062
7.41	9139	35	3.00	11.81	0.0039	0.0089	-0.0049
7.41	9153	36	3.00	12.00	0.0040	0.0083	-0.0043
7.42	9167	24	3.00	8.07	0.0028	0.0078	-0.0051
7.42	9181	21	3.00	7.00	0.0024	0.0074	-0.0049
7.43	9195	35	3.00	11.52	0.0040	0.0069	-0.0029
7.43	9209	40	3.00	13.33	0.0046	0.0065	-0.0019
7.44	9223	39	3.00	12.90	0.0044	0.0062	-0.0018
7.44	9237	38	3.00	12.67	0.0042	0.0059	-0.0017
7.45	9251	45	3.00	15.00	0.0051	0.0058	-0.0007
7.45	9265	52	3.00	17.33	0.0060	0.0056	0.0003
7.46	9279	62	3.00	20.62	0.0071	0.0056	0.0015
7.46	9293	75	3.00	25.00	0.0086	0.0056	0.0030
7.47	9307	59	3.00	19.76	0.0067	0.0057	0.0010
7.47	9321	31	3.00	10.33	0.0034	0.0059	-0.0024
7.48	9335	33	3.00	10.83	0.0036	0.0060	-0.0024
7.48	9349	38	3.00	12.67	0.0044	0.0061	-0.0018
7.49	9363	43	3.00	14.43	0.0050	0.0062	-0.0012
7.49	9377	75	3.00	25.00	0.0086	0.0063	0.0023
7.50	9391	76	3.00	25.26	0.0087	0.0063	0.0024
7.50	9405	86	3.00	28.67	0.0096	0.0064	0.0032
7.51	9419	86	3.00	28.67	0.0096	0.0064	0.0031
7.51	9433	51	3.00	16.90	0.0058	0.0065	-0.0007
7.51	9447	48	3.00	16.00	0.0055	0.0067	-0.0011
7.52	9461	56	3.00	18.57	0.0062	0.0069	-0.0006
7.52	9475	57	3.00	19.00	0.0063	0.0071	-0.0008
7.53	9489	56	3.00	18.52	0.0063	0.0074	-0.0011
7.53	9503	55	3.00	18.33	0.0063	0.0077	-0.0014
7.54	9517	56	3.00	18.55	0.0064	0.0080	-0.0017
7.54	9531	56	3.00	18.67	0.0064	0.0084	-0.0019
7.55	9545	49	3.00	16.19	0.0055	0.0087	-0.0033
7.55	9559	43	3.00	14.33	0.0048	0.0091	-0.0044
7.56	9573	42	3.00	13.90	0.0047	0.0096	-0.0049
7.56	9587	40	3.00	13.33	0.0046	0.0102	-0.0056
7.57	9601	68	3.00	22.50	0.0078	0.0108	-0.0030

7.57	9615	117	3.00	39.00	0.0134	0.0115	0.0020
7.58	9629	156	3.00	51.86	0.0177	0.0122	0.0055
7.58	9643	252	3.00	84.00	0.0280	0.0130	0.0150
7.59	9657	224	3.00	74.67	0.0250	0.0137	0.0113
7.59	9671	56	3.00	18.67	0.0064	0.0144	-0.0080
7.60	9685	58	3.00	19.38	0.0067	0.0151	-0.0084
7.60	9699	86	3.00	28.67	0.0099	0.0157	-0.0058
7.61	9713	86	3.00	28.67	0.0099	0.0162	-0.0063
7.61	9727	170	3.00	56.67	0.0189	0.0167	0.0022
7.61	9741	170	3.00	56.67	0.0189	0.0171	0.0017
7.62	9755	297	3.00	98.95	0.0340	0.0175	0.0164
7.62	9769	318	3.00	106.00	0.0366	0.0179	0.0187
7.63	9783	236	3.00	78.50	0.0271	0.0182	0.0089
7.63	9797	213	3.00	71.00	0.0245	0.0184	0.0060
7.64	9811	169	3.00	56.24	0.0189	0.0187	0.0002
7.64	9825	151	3.00	50.33	0.0168	0.0190	-0.0022
7.65	9839	154	3.00	51.29	0.0174	0.0192	-0.0018
7.65	9853	156	3.00	52.00	0.0179	0.0195	-0.0015
7.66	9867	134	3.00	44.50	0.0153	0.0196	-0.0043
7.66	9881	111	3.00	37.00	0.0128	0.0198	-0.0070
7.67	9895	159	3.00	53.14	0.0181	0.0198	-0.0017
7.67	9909	224	3.00	74.67	0.0249	0.0196	0.0052
7.68	9923	199	3.00	66.48	0.0224	0.0194	0.0030
7.68	9937	138	3.00	46.00	0.0159	0.0191	-0.0033
7.69	9951	138	3.00	46.14	0.0159	0.0188	-0.0029
7.69	9965	140	3.00	46.67	0.0161	0.0185	-0.0024
7.70	9979	166	3.00	55.38	0.0190	0.0183	0.0007
7.70	9993	323	3.00	107.67	0.0359	0.0182	0.0177
7.71	10007	323	3.00	107.67	0.0359	0.0181	0.0177
7.71	10021	204	3.00	68.00	0.0234	0.0182	0.0053
7.71	10035	204	3.00	68.00	0.0234	0.0182	0.0052
7.72	10049	110	3.00	36.74	0.0127	0.0183	-0.0056
7.72	10063	103	3.00	34.33	0.0118	0.0184	-0.0065
7.73	10077	136	3.00	45.19	0.0151	0.0184	-0.0033
7.73	10091	141	3.00	47.00	0.0157	0.0184	-0.0027
7.74	10105	79	3.00	26.29	0.0090	0.0183	-0.0093
7.74	10119	54	3.00	18.00	0.0062	0.0182	-0.0120
7.75	10133	125	3.00	41.79	0.0144	0.0180	-0.0036
7.75	10147	165	3.00	55.00	0.0190	0.0178	0.0012
7.76	10161	181	3.00	60.33	0.0204	0.0175	0.0029
7.76	10175	193	3.00	64.33	0.0214	0.0172	0.0043
7.77	10189	219	3.00	72.90	0.0247	0.0169	0.0078
7.77	10203	253	3.00	84.33	0.0291	0.0166	0.0125
7.78	10217	208	3.00	69.45	0.0239	0.0163	0.0077
7.78	10231	128	3.00	42.67	0.0147	0.0160	-0.0013
7.79	10245	142	3.00	47.43	0.0162	0.0158	0.0004
7.79	10259	178	3.00	59.33	0.0198	0.0156	0.0042
7.80	10273	170	3.00	56.62	0.0190	0.0153	0.0037
7.80	10287	121	3.00	40.33	0.0139	0.0150	-0.0011
7.81	10301	119	3.00	39.62	0.0137	0.0146	-0.0009

7.81	10315	91	3.00	30.33	0.0105	0.0142	-0.0037
7.82	10329	91	3.00	30.33	0.0105	0.0137	-0.0032
7.82	10343	83	3.00	27.67	0.0092	0.0132	-0.0039
7.82	10357	83	3.00	27.67	0.0092	0.0126	-0.0034
7.83	10371	96	3.00	31.95	0.0110	0.0120	-0.0011
7.83	10385	98	3.00	32.67	0.0113	0.0115	-0.0003
7.84	10399	74	3.00	24.55	0.0085	0.0111	-0.0026
7.84	10413	67	3.00	22.33	0.0077	0.0107	-0.0030
7.85	10427	106	3.00	35.19	0.0118	0.0104	0.0014
7.85	10441	121	3.00	40.33	0.0134	0.0102	0.0033
7.86	10455	99	3.00	33.10	0.0112	0.0100	0.0013
7.86	10469	83	3.00	27.67	0.0095	0.0099	-0.0003
7.87	10483	87	3.00	28.83	0.0098	0.0098	0.0000
7.87	10497	90	3.00	30.00	0.0100	0.0097	0.0003
7.88	10511	79	3.00	26.19	0.0088	0.0097	-0.0009
7.88	10525	58	3.00	19.33	0.0067	0.0097	-0.0031
7.89	10539	55	3.00	18.48	0.0064	0.0098	-0.0034
7.89	10553	49	3.00	16.33	0.0056	0.0099	-0.0042
7.90	10567	64	3.00	21.26	0.0073	0.0100	-0.0027
7.90	10581	118	3.00	39.33	0.0131	0.0100	0.0031
7.91	10595	117	3.00	39.14	0.0131	0.0101	0.0029
7.91	10609	110	3.00	36.67	0.0126	0.0102	0.0024
7.92	10623	110	3.00	36.67	0.0126	0.0103	0.0023
7.92	10637	48	3.00	16.00	0.0055	0.0104	-0.0049
7.92	10651	48	3.00	16.00	0.0055	0.0105	-0.0049
7.93	10665	86	3.00	28.69	0.0096	0.0105	-0.0009
7.93	10679	89	3.00	29.67	0.0099	0.0105	-0.0006
7.94	10693	121	3.00	40.40	0.0138	0.0105	0.0033
7.94	10707	130	3.00	43.33	0.0149	0.0105	0.0044
7.95	10721	139	3.00	46.43	0.0160	0.0105	0.0056
7.95	10735	143	3.00	47.67	0.0164	0.0104	0.0061
7.96	10749	99	3.00	32.88	0.0111	0.0103	0.0008
7.96	10763	74	3.00	24.67	0.0082	0.0102	-0.0020
7.97	10777	80	3.00	26.67	0.0090	0.0101	-0.0010
7.97	10791	86	3.00	28.67	0.0099	0.0099	-0.0001
7.98	10805	91	3.00	30.38	0.0105	0.0098	0.0007
7.98	10819	98	3.00	32.67	0.0113	0.0097	0.0016
7.99	10833	82	3.00	27.31	0.0093	0.0095	-0.0002
7.99	10847	53	3.00	17.67	0.0059	0.0093	-0.0035
8.00	10861	53	3.00	17.67	0.0059	0.0092	-0.0032
8.00	10875	53	3.00	17.67	0.0061	0.0090	-0.0029
8.01	10889	59	3.00	19.52	0.0067	0.0088	-0.0020
8.01	10903	92	3.00	30.67	0.0106	0.0086	0.0020
8.02	10917	90	3.00	29.98	0.0103	0.0084	0.0019
8.02	10931	63	3.00	21.00	0.0070	0.0082	-0.0012
8.03	10945	63	3.00	21.00	0.0070	0.0081	-0.0011
8.03	10959	82	3.00	27.19	0.0094	0.0081	0.0013
8.03	10973	83	3.00	27.67	0.0095	0.0080	0.0015
8.04	10987	68	3.00	22.81	0.0079	0.0080	-0.0001
8.04	11001	66	3.00	22.00	0.0076	0.0079	-0.0003

8.05	11015	62	3.00	20.69	0.0069	0.0079	-0.0010
8.05	11029	61	3.00	20.33	0.0068	0.0079	-0.0012
8.06	11043	80	3.00	26.76	0.0091	0.0080	0.0012
8.06	11057	91	3.00	30.33	0.0105	0.0080	0.0025
8.07	11071	66	3.00	22.14	0.0076	0.0080	-0.0004
8.07	11085	48	3.00	16.00	0.0055	0.0081	-0.0025
8.08	11099	55	3.00	18.33	0.0062	0.0081	-0.0019
8.08	11113	62	3.00	20.67	0.0069	0.0081	-0.0013
8.09	11127	66	3.00	21.86	0.0074	0.0082	-0.0008
8.09	11141	72	3.00	24.00	0.0083	0.0083	0.0000
8.10	11155	73	3.00	24.29	0.0084	0.0084	0.0000
8.10	11169	75	3.00	25.00	0.0086	0.0084	0.0002
8.11	11183	77	3.00	25.50	0.0087	0.0085	0.0002
8.11	11197	82	3.00	27.33	0.0091	0.0086	0.0006
8.12	11211	81	3.00	27.12	0.0091	0.0086	0.0005
8.12	11225	73	3.00	24.33	0.0084	0.0086	-0.0003
8.13	11239	73	3.00	24.33	0.0084	0.0087	-0.0003
8.13	11253	82	3.00	27.33	0.0094	0.0088	0.0006
8.13	11267	82	3.00	27.33	0.0094	0.0089	0.0005
8.14	11281	95	3.00	31.67	0.0106	0.0091	0.0015
8.14	11295	96	3.00	32.00	0.0107	0.0093	0.0014
8.15	11309	95	3.00	31.74	0.0109	0.0095	0.0014
8.15	11323	95	3.00	31.67	0.0109	0.0097	0.0012
8.16	11337	69	3.00	23.10	0.0080	0.0100	-0.0020
8.16	11351	59	3.00	19.67	0.0068	0.0102	-0.0034
8.17	11365	59	3.00	19.67	0.0066	0.0103	-0.0037
8.17	11379	59	3.00	19.67	0.0066	0.0105	-0.0039
8.18	11393	64	3.00	21.33	0.0072	0.0106	-0.0033
8.18	11407	69	3.00	23.00	0.0079	0.0106	-0.0027
8.19	11421	91	3.00	30.43	0.0105	0.0107	-0.0002
8.19	11435	121	3.00	40.33	0.0139	0.0108	0.0031
8.20	11449	132	3.00	44.14	0.0150	0.0109	0.0041
8.20	11463	153	3.00	51.00	0.0170	0.0111	0.0059
8.21	11477	150	3.00	50.14	0.0168	0.0113	0.0055
8.21	11491	141	3.00	47.00	0.0162	0.0116	0.0046
8.22	11505	133	3.00	44.38	0.0153	0.0119	0.0034
8.22	11519	86	3.00	28.67	0.0099	0.0123	-0.0024
8.23	11533	84	3.00	27.98	0.0096	0.0126	-0.0030
8.23	11547	57	3.00	19.00	0.0063	0.0129	-0.0065
8.24	11561	57	3.00	19.00	0.0063	0.0132	-0.0068
8.24	11575	56	3.00	18.69	0.0064	0.0134	-0.0070
8.24	11589	56	3.00	18.67	0.0064	0.0137	-0.0073
8.25	11603	141	3.00	46.95	0.0157	0.0140	0.0017
8.25	11617	155	3.00	51.67	0.0172	0.0143	0.0030
8.26	11631	157	3.00	52.38	0.0179	0.0146	0.0033
8.26	11645	158	3.00	52.67	0.0182	0.0150	0.0032
8.27	11659	168	3.00	55.88	0.0193	0.0155	0.0038
8.27	11673	173	3.00	57.67	0.0199	0.0160	0.0039
8.28	11687	128	3.00	42.81	0.0145	0.0166	-0.0021
8.28	11701	95	3.00	31.67	0.0106	0.0172	-0.0066

8.29	11715	104	3.00	34.52	0.0117	0.0178	-0.0061
8.29	11729	115	3.00	38.33	0.0132	0.0184	-0.0052
8.30	11743	161	3.00	53.57	0.0185	0.0190	-0.0005
8.30	11757	243	3.00	81.00	0.0279	0.0195	0.0084
8.31	11771	219	3.00	73.10	0.0250	0.0200	0.0050
8.31	11785	160	3.00	53.33	0.0178	0.0204	-0.0027
8.32	11799	167	3.00	55.57	0.0186	0.0208	-0.0022
8.32	11813	207	3.00	69.00	0.0238	0.0211	0.0027
8.33	11827	209	3.00	69.64	0.0240	0.0213	0.0027
8.33	11841	234	3.00	78.00	0.0269	0.0215	0.0054
8.34	11855	234	3.00	78.00	0.0269	0.0217	0.0052
8.34	11869	178	3.00	59.33	0.0198	0.0219	-0.0021
8.34	11883	178	3.00	59.33	0.0198	0.0221	-0.0023
8.35	11897	211	3.00	70.19	0.0241	0.0222	0.0019
8.35	11911	216	3.00	72.00	0.0248	0.0224	0.0025
8.36	11925	236	3.00	78.55	0.0271	0.0225	0.0046
8.36	11939	241	3.00	80.33	0.0277	0.0225	0.0052
8.37	11953	213	3.00	71.05	0.0239	0.0225	0.0014
8.37	11967	202	3.00	67.33	0.0224	0.0225	-0.0001
8.38	11981	128	3.00	42.76	0.0145	0.0224	-0.0079
8.38	11995	73	3.00	24.33	0.0084	0.0223	-0.0139
8.39	12009	113	3.00	37.50	0.0129	0.0221	-0.0092
8.39	12023	152	3.00	50.67	0.0175	0.0219	-0.0044
8.40	12037	238	3.00	79.24	0.0269	0.0216	0.0053
8.40	12051	352	3.00	117.33	0.0391	0.0214	0.0177
8.41	12065	304	3.00	101.24	0.0341	0.0212	0.0129
8.41	12079	183	3.00	61.00	0.0210	0.0209	0.0001
8.42	12093	186	3.00	62.07	0.0214	0.0207	0.0007
8.42	12107	198	3.00	66.00	0.0228	0.0205	0.0023
8.43	12121	196	3.00	65.19	0.0224	0.0203	0.0021
8.43	12135	181	3.00	60.33	0.0201	0.0201	0.0000
8.44	12149	181	3.00	60.33	0.0201	0.0200	0.0001
8.44	12163	137	3.00	45.67	0.0157	0.0199	-0.0042
8.44	12177	137	3.00	45.67	0.0157	0.0198	-0.0040
8.45	12191	147	3.00	49.07	0.0169	0.0196	-0.0027
8.45	12205	148	3.00	49.33	0.0170	0.0194	-0.0024
8.46	12219	197	3.00	65.62	0.0220	0.0191	0.0028
8.46	12233	205	3.00	68.33	0.0228	0.0189	0.0039
8.47	12247	136	3.00	45.24	0.0155	0.0186	-0.0032
8.47	12261	108	3.00	36.00	0.0124	0.0185	-0.0061
8.48	12275	134	3.00	44.57	0.0154	0.0183	-0.0030
8.48	12289	148	3.00	49.33	0.0170	0.0183	-0.0013
8.49	12303	179	3.00	59.81	0.0202	0.0182	0.0020
8.49	12317	203	3.00	67.67	0.0226	0.0182	0.0043
8.50	12331	185	3.00	61.81	0.0209	0.0182	0.0027
8.50	12345	162	3.00	54.00	0.0186	0.0182	0.0005
8.51	12359	159	3.00	53.05	0.0183	0.0181	0.0002
8.51	12373	154	3.00	51.33	0.0177	0.0180	-0.0003
8.52	12387	148	3.00	49.43	0.0169	0.0179	-0.0010
8.52	12401	134	3.00	44.67	0.0149	0.0178	-0.0029

8.53	12415	139	3.00	46.43	0.0156	0.0178	-0.0022
8.53	12429	171	3.00	57.00	0.0197	0.0177	0.0019
8.54	12443	173	3.00	57.64	0.0199	0.0177	0.0022
8.54	12457	198	3.00	66.00	0.0228	0.0177	0.0050
8.55	12471	198	3.00	66.00	0.0228	0.0178	0.0049
8.55	12485	154	3.00	51.33	0.0171	0.0179	-0.0008
8.55	12499	154	3.00	51.33	0.0171	0.0181	-0.0010
8.56	12513	105	3.00	35.05	0.0120	0.0182	-0.0062
8.56	12527	97	3.00	32.33	0.0111	0.0183	-0.0072
8.57	12541	107	3.00	35.74	0.0123	0.0185	-0.0061
8.57	12555	110	3.00	36.67	0.0126	0.0186	-0.0059
8.58	12569	151	3.00	50.24	0.0169	0.0187	-0.0018
8.58	12583	167	3.00	55.67	0.0186	0.0187	-0.0002
8.59	12597	203	3.00	67.67	0.0230	0.0188	0.0042
8.59	12611	230	3.00	76.67	0.0264	0.0188	0.0076
8.60	12625	190	3.00	63.17	0.0218	0.0189	0.0029
8.60	12639	149	3.00	49.67	0.0171	0.0189	-0.0018
8.61	12653	197	3.00	65.81	0.0224	0.0190	0.0034
8.61	12667	262	3.00	87.33	0.0291	0.0191	0.0100
8.62	12681	227	3.00	75.62	0.0255	0.0191	0.0064
8.62	12695	139	3.00	46.33	0.0160	0.0191	-0.0031
8.63	12709	146	3.00	48.55	0.0166	0.0190	-0.0024
8.63	12723	170	3.00	56.67	0.0189	0.0188	0.0000
8.64	12737	168	3.00	55.98	0.0187	0.0186	0.0001
8.64	12751	141	3.00	47.00	0.0162	0.0182	-0.0020
8.65	12765	141	3.00	47.00	0.0162	0.0178	-0.0016
8.65	12779	188	3.00	62.67	0.0216	0.0172	0.0044
8.65	12793	188	3.00	62.67	0.0216	0.0166	0.0050
8.66	12807	150	3.00	49.98	0.0167	0.0159	0.0008
8.66	12821	147	3.00	49.00	0.0163	0.0152	0.0011
8.67	12835	156	3.00	51.88	0.0178	0.0146	0.0032
8.67	12849	158	3.00	52.67	0.0182	0.0139	0.0043
8.68	12863	112	3.00	37.19	0.0128	0.0132	-0.0003
8.68	12877	93	3.00	31.00	0.0107	0.0125	-0.0018
8.69	12891	79	3.00	26.29	0.0089	0.0117	-0.0029
8.69	12905	71	3.00	23.67	0.0079	0.0110	-0.0031
8.70	12919	104	3.00	34.50	0.0117	0.0103	0.0014
8.70	12933	136	3.00	45.33	0.0156	0.0096	0.0061
8.71	12947	115	3.00	38.48	0.0133	0.0088	0.0044
8.71	12961	88	3.00	29.33	0.0101	0.0081	0.0020
8.72	12975	96	3.00	32.07	0.0071	0.0073	-0.0002

Appendix E - CHAR Parameters

Charcoal parameters are determined prior to running the CHAR Analysis model and must be set specifically for each sediment core. Each parameter is broken down and explained below. Note that Butler Lake parameters are shown slightly differently, this is due to using a previous version of the model, but both yeild the same results.

zoneDiv: Years defining beginning and end of record and any zone divisions. Zone divisions are used for plotting and for analyzing fire return intervals.

yrInterp: Years to interpolate record to. Charcoal counts, sample volume, and sample depths are all interpolated before calculating charcoal accumulation rates.

Transform: An option to transform the data in terms of a base-10 log Transform or a natural log transform.

Method: Here a decision is made on how you want to estimate low-frequency CHAR (aka Cbackground) Such as Lowess Smoother, Lowess smoother, robust to outliers, moving average, moving median, or moving mode.

Yr: Determine years to smooth record over for estimating Cbackground.

cPeak: Determine how you want to calculate high-frequency CHAR (aka Cpeak). Such as residuals (Cpeak= Cinterpolated - Cbackground), ratios (Cpeak = Cinterpolated / Cbackground).

threshType: Decide if you want a globally or locally defined threshold for your CHAR results.

threshMethod: Decide how you want to determine the threshold values for peak identification. Such as user defined threshold values in threshValues (below), base threshold values on a percentile cut-off of a noise distribution, modeled with a 0- or 1-mean Gaussian (for cPeak = 1 or 2, respectively); or 3 for noise distribution to be determined by a Gaussian mixture model.

threshValues: Determine what threshold values you want to evaluate. If threshMethod == 1, thesevalues are in Cpeak units (i.e. either a residual or ratio value). If threshMethod == 2-3, these values are percentiles of the noise distribution (e.g. 0.95). In both cases, the last value (row 20) will be used for peak plotting and peak analysis. minCountP – Cut-off probability for minimum count analysis. E.g. if minCountP = 0.05, then the minimum charcoal count within 75 years before a peak has to have < 5% chance of coming from the same Poisson distribution as the maximum charcoal count associated with the peak. Peaks with a probability > 5% will be flagged and displayed but not included in peak analysis. Set this value to 0.99 to turn it off.

peakFrequ: Years to smooth fire frequency and fire return intervals over.

Cbackground sensitivity: Decide on how you want to evaluate the sensitivity of your results to varying timescales used to define Cbackground.

Also, final decisions need to be made prior to running CHAR, such as saving figures, saving data, and to display all figures from CHAR results.

Butler Lake

Variable	Parameters	Units
zoneDiv	-50	cal. yr BP
	8600	
	11500	
	14850	
yrInterpolate	0	yr
transform	0	index
method	2	index
yr	500	yr
cPeak	1	index
threshType	2	index
threshMethod	3	index
threshValues	0.950	variable
	0.990	
	0.999	
	0.990	
minCountP	0.05	probability
peakFrequ	1000	yr
$C_{background}$ sensitivity	0	index
saveFigures	0	index
saveData	1	index
allFigures	0	index

Lake Seven

Stage	Variable	Parameters
Pretreatment	zoneDiv	-55
		1161
		8269
		12083
	yrInterpolate	0
	transform	0
Smoothing	method	2
	yr	500
Peak Analysis	cPeak	1
	threshType	2
	threshMethod	3
	threshValues	0.950
		0.990
		0.999
		0.990
	minCountP	0.05
Peak Analysis Results	peakFrequ	1000
	$C_{background}$ sensitivity	0
	saveFigures	0
	saveData	1
	allFigures	0

Comstock Lake

Stage	Variable	Parameters
Pretreatment	zoneDiv	-59
		1433
		8695
		13202
	yrInterpolate	0
	transform	0
Smoothing	method	2
	yr	500
Peak Analysis	cPeak	1
	threshType	2
	threshMethod	3
	threshValues	0.950
		0.990
		0.999
		0.990
	minCountP	0.05
Peak Analysis Results	peakFrequ	1000
	$C_{background}$ sensitivity	0
	saveFigures	0
	saveData	1
	allFigures	0

Lake George

Stage	Variable	Parameters
Pretreatment	zoneDiv	-59
		1039
		9581
		13014
	yrInterpolate	0
	transform	0
Smoothing	method	2
	yr	500
Peak Analysis	cPeak	1
	threshType	2
	threshMethod	3
	threshValues	0.950
		0.990
		0.999
		0.990
	minCountP	0.05
Peak Analysis Results	peakFrequ	1000
	$C_{background}$ sensitivity	0
	saveFigures	0
	saveData	1
	allFigures	0

Appendix F - Butler Lake Raw Charcoal Data

Depth	>250	>125	Dark	Cell	Por	Spon	Fib.	Bran	Latt	Bord
0.00	0	9	6	0	0	2	1	0	0	0
0.01	2	13	9	4	0	1	1	0	0	0
0.02	1	15	12	1	0	1	1	0	0	0
0.03	0	19	10	2	2	4	1	0	0	0
0.04	0	8	6	0	0	1	1	0	0	0
0.05	0	7	5	0	0	0	2	0	0	0
0.06	0	10	6	0	0	2	1	1	0	0
0.07	0	10	5	1	1	2	1	0	0	0
0.08	1	15	8	2	0	1	3	2	0	0
0.09	0	11	7	1	0	2	1	0	0	0
0.10	1	9	5	0	1	3	0	1	0	0
0.11	0	7	6	0	2	0	0	0	0	0
0.12	0	9	7	0	0	0	2	0	0	0
0.13	1	14	5	2	0	0	7	1	0	0
0.14	0	4	1	0	0	0	2	1	0	0
0.15	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0
0.18	0	1	0	0	0	0	1	0	0	0
0.19	0	1	0	0	1	0	0	0	0	0
0.20	0	5	4	0	0	1	0	0	0	0
0.21	1	2	1	1	0	0	0	1	0	0
0.22	1	7	1	1	5	0	1	0	0	0
0.23	0	6	3	0	0	0	3	0	0	0
0.24	0	7	6	0	0	0	1	0	0	0
0.25	0	4	4	0	0	0	0	0	0	0
0.26	0	8	3	2	0	0	2	1	0	0

0.27	0	8	5	1	1	0	1	0	0	0
0.28	0	10	7	2	0	1	0	0	0	0
0.29	0	11	7	1	1	2	0	0	0	0
0.30	0	6	4	0	0	0	2	0	0	0
0.31	2	16	9	3	0	4	2	1	0	0
0.32	0	13	7	2	1	1	2	1	0	0
0.33	1	14	8	2	0	1	4	0	0	0
0.34	0	22	10	0	2	0	10	0	0	0
0.35	0	6	3	0	0	1	2	0	0	0
0.36	0	7	2	1	0	1	3	0	0	0
0.37	0	13	7	0	0	2	2	2	0	0
0.38	1	14	4	4	3	1	3	0	0	0
0.39	3	11	9	1	1	0	1	2	0	0
0.40	5	13	7	3	0	2	4	2	0	0
0.41	1	10	5	1	0	1	4	0	0	0
0.42	0	6	2	1	0	1	2	0	0	0
0.43	0	3	1	0	1	1	0	0	0	0
0.44	1	6	5	0	0	1	1	0	0	0
0.45	0	18	11	1	0	1	4	1	0	0
0.46	0	21	13	0	0	2	7	0	0	0
0.47	0	24	13	1	1	0	9	0	0	0
0.48	0	24	13	1	1	2	6	1	0	0
0.49	2	34	8	7	1	6	12	2	0	0
0.50	3	43	4	5	2	10	11	4	0	0
0.51	1	56	24	1	2	6	20	0	2	0
0.52	1	59	25	2	1	3	26	3	0	0
0.53	2	49	21	2	2	6	18	2	0	0
0.54	0	22	10	0	0	1	11	0	0	0
0.55	0	39	17	2	0	2	18	0	0	0
0.56	2	46	11	5	2	4	26	0	0	0
0.57	7	25	15	0	1	3	13	0	0	0

0.58	8	29	14	2	3	3	15	0	0	0
0.59	10	34	19	4	7	3	11	0	0	0
0.60	0	47	19	0	4	5	19	0	0	0
0.61	1	54	32	1	4	2	12	4	0	0
0.62	1	26	11	0	1	5	10	0	0	0
0.63	1	36	23	1	0	1	10	2	0	0
0.64	2	33	19	1	3	1	9	2	0	0
0.65	1	46	27	0	1	3	16	0	0	0
0.66	1	52	30	2	4	1	16	0	0	0
0.67	0	41	24	1	1	1	10	4	0	0
0.68	1	62	39	0	3	4	14	3	0	0
0.69	5	43	21	2	2	4	19	0	0	0
0.70	2	38	22	0	1	4	13	0	0	0
0.71	2	31	21	1	1	2	8	0	0	0
0.72	1	26	15	0	1	3	8	0	0	0
0.73	1	31	14	2	3	3	7	3	0	0
0.74	2	31	18	2	5	0	6	2	0	0
0.75	2	40	20	0	4	1	14	3	0	0
0.76	4	37	20	2	1	0	8	0	0	0
0.77	3	34	22	0	1	2	10	2	0	0
0.78	3	43	37	0	3	0	6	0	0	0
0.79	1	39	31	0	0	0	9	0	0	0
0.80	1	52	41	0	1	0	11	0	0	0
0.81	3	54	48	0	1	1	7	0	0	0
0.82	4	77	64	0	1	0	16	0	0	0
0.83	9	91	69	0	4	1	23	3	0	0
0.84	1	37	27	0	1	0	10	0	0	0
0.85	9	55	46	0	0	2	16	0	0	0
0.86	7	55	51	0	0	2	6	3	0	0
0.87	2	39	32	0	2	0	7	0	0	0
0.88	5	72	45	1	3	3	19	6	0	0

0.89	3	50	26	1	2	3	18	3	0	0
0.90	4	42	25	1	4	1	10	5	0	0
0.91	3	54	25	1	1	4	16	10	0	0
0.92	8	94	48	3	1	1	34	5	0	0
0.93	4	71	52	2	2	0	15	4	0	0
0.94	6	53	33	2	2	7	15	0	0	0
0.95	12	74	59	0	2	4	18	3	0	0
0.96	0	26	16	0	2	5	6	0	0	0
0.97	8	53	41	0	2	4	12	2	0	0
0.98	2	21	12	0	1	2	8	0	0	0
0.99	1	52	31	1	3	1	17	0	0	0
1.00	1	48	32	0	3	2	12	0	0	0
1.01	5	50	34	0	2	0	17	3	0	0
1.02	11	55	39	2	4	2	19	0	0	0
1.03	3	92	63	1	5	1	20	5	0	0
1.04	3	36	29	1	2	1	6	0	0	0
1.05	6	45	42	0	3	0	6	0	0	0
1.06	0	36	22	0	0	0	14	0	0	0
1.07	0	41	33	0	0	1	7	0	0	0
1.08	4	49	33	1	3	1	15	0	0	0
1.09	1	49	39	0	1	0	13	0	0	0
1.10	2	22	16	0	3	1	4	0	0	0
1.11	1	59	47	0	1	0	12	0	0	0
1.12	1	51	39	1	2	0	10	0	0	0
1.13	11	42	43	0	1	0	9	0	0	0
1.14	6	91	76	1	2	3	10	5	0	0
1.15	4	79	50	0	8	2	23	0	0	0
1.16	0	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	0	0	0	0	0
1.18	0	70	42	0	1	2	25	0	0	0
1.19	4	36	32	0	4	0	4	0	0	0

1.20	1	52	39	0	1	1	12	0	0	0
1.21	4	54	44	1	1	0	12	0	0	0
1.22	5	57	43	1	2	1	15	0	0	0
1.23	4	50	40	0	1	0	13	0	0	0
1.24	11	71	55	1	4	0	15	6	0	0
1.25	1	37	24	0	5	0	9	0	0	0
1.26	2	52	39	1	5	0	9	0	0	0
1.27	4	42	34	0	1	0	11	0	0	0
1.28	0	35	19	0	3	0	13	0	0	0
1.29	0	19	15	0	2	0	2	0	0	0
1.30	0	57	40	1	4	1	10	0	0	0
1.31	1	49	34	0	2	0	13	0	0	0
1.32	4	52	39	0	1	0	16	0	0	0
1.33	1	54	35	0	7	0	10	3	0	0
1.34	0	33	21	1	7	0	4	0	0	0
1.35	4	50	34	0	3	4	9	0	0	0
1.36	1	47	35	0	1	1	11	0	0	0
1.37	3	70	35	0	8	3	27	0	0	0
1.38	3	35	25	0	3	1	9	0	0	0
1.39	1	36	21	0	6	2	7	1	0	0
1.40	3	55	42	0	6	2	8	0	0	0
1.41	4	77	61	0	1	1	18	0	0	0
1.42	8	58	55	0	3	0	8	0	0	0
1.43	6	51	45	0	2	0	8	2	0	0
1.44	5	39	36	0	1	1	6	0	0	0
1.45	4	44	40	0	0	1	7	0	0	0
1.46	12	65	58	0	2	1	16	0	0	0
1.47	1	23	21	0	0	0	3	0	0	0
1.48	0	47	32	0	2	0	13	0	0	0
1.49	1	75	50	0	3	0	23	0	0	0
1.50	4	46	34	0	2	1	13	0	0	0

1.51	1	30	21	0	1	1	8	0	0	0
1.52	2	36	21	0	2	0	12	0	0	0
1.53	3	55	33	0	1	0	21	0	0	0
1.54	1	80	51	0	9	2	19	0	0	0
1.55	4	55	39	0	4	1	10	5	0	0
1.56	3	33	26	0	0	1	9	0	0	0
1.57	4	36	27	0	0	0	13	0	0	0
1.58	4	37	33	0	2	1	5	0	0	0
1.59	0	25	21	0	2	0	2	0	0	0
1.60	1	25	17	0	1	0	5	2	0	0
1.61	0	30	22	1	1	0	4	2	0	0
1.62	7	75	58	0	0	0	24	0	0	0
1.63	4	40	31	0	3	0	10	0	0	0
1.64	3	55	37	0	1	0	20	0	0	0
1.65	4	37	21	0	0	0	20	0	0	0
1.66	10	131	104	0	0	0	36	0	0	0
1.67	8	124	82	0	0	0	50	0	0	0
1.68	2	62	48	0	0	0	15	0	0	0
1.69	3	29	29	0	0	0	3	0	0	0
1.70	2	32	30	0	0	0	4	0	0	0
1.71	0	17	13	0	0	0	4	0	0	0
1.72	2	31	29	0	0	0	4	0	0	0
1.73	2	49	45	0	2	0	4	0	0	0
1.74	4	31	32	0	0	0	3	0	0	0
1.75	1	35	32	0	0	0	4	0	0	0
1.76	1	13	11	0	0	0	3	0	0	0
1.77	0	16	12	0	1	0	3	0	0	0
1.78	0	21	20	0	0	0	1	0	0	0
1.79	0	15	13	0	0	0	2	0	0	0
1.80	1	41	39	0	0	0	3	0	0	0
1.81	0	58	52	0	1	0	5	0	0	0

1.82	0	8	7	0	0	0	1	0	0	0
1.83	0	14	12	0	0	0	2	0	0	0
1.84	0	11	9	0	0	0	2	0	0	0
1.85	2	33	27	0	0	0	4	4	0	0
1.86	1	28	24	0	0	1	3	0	0	0
1.87	1	16	14	0	0	0	3	0	0	0
1.88	0	17	16	0	1	0	0	0	0	0
1.89	0	23	19	0	0	0	4	0	0	0
1.90	0	25	21	0	0	0	4	0	0	0
1.91	1	13	3	0	0	0	11	0	0	0
1.92	0	27	23	0	0	0	4	0	0	0
1.93	1	34	33	0	0	0	2	0	0	0
1.94	1	25	22	0	0	0	4	0	0	0
1.95	0	17	13	0	0	0	4	0	0	0
1.96	0	26	23	0	0	0	3	0	0	0
1.97	0	14	14	0	0	0	0	0	0	0
1.98	1	23	17	0	0	0	7	0	0	0
1.99	0	19	16	0	1	0	2	0	0	0
2.00	2	15	15	0	1	0	1	0	0	0
2.01	0	22	18	0	0	0	4	0	0	0
2.02	2	26	25	0	2	0	1	0	0	0
2.03	0	14	14	0	0	0	0	0	0	0
2.04	0	9	9	0	0	0	0	0	0	0
2.05	0	14	11	0	1	0	2	0	0	0
2.06	0	12	10	0	0	0	2	0	0	0
2.07	0	17	16	0	0	0	1	0	0	0
2.08	5	24	26	0	0	0	3	0	0	0
2.09	0	11	9	0	2	0	2	0	0	0
2.10	0	21	18	0	0	0	1	0	0	0
2.11	2	29	28	0	0	0	3	0	0	0
2.12	2	30	27	0	0	0	5	0	0	0

2.13	1	10	9	0	0	0	2	0	0	0
2.14	1	23	21	0	0	0	3	0	0	0
2.15	1	26	25	0	0	0	2	0	0	0
2.16	2	29	24	0	0	0	7	0	0	0
2.17	1	33	22	0	0	0	12	0	0	0
2.18	3	41	35	2	0	2	3	2	0	0
2.19	1	58	38	4	4	2	7	4	0	0
2.20	5	79	77	3	0	0	3	1	0	0
2.21	1	47	40	2	1	1	3	1	0	0
2.22	5	40	36	4	3	1	0	0	1	0
2.23	1	16	13	1	1	2	0	0	0	0
2.24	2	28	21	0	2	1	4	2	0	0
2.25	3	81	58	6	5	1	13	1	0	0
2.26	3	47	41	2	1	0	4	2	0	0
2.27	4	92	76	5	5	2	6	1	1	0
2.28	1	18	12	3	0	0	2	2	0	0
2.29	9	23	26	0	0	2	0	4	0	0
2.30	0	16	11	1	0	1	1	2	0	0
2.31	9	100	87	4	6	1	8	2	1	0
2.32	3	70	59	2	5	0	5	2	0	0
2.33	2	65	58	2	2	1	4	0	0	0
2.34	4	47	41	0	3	2	4	0	1	0
2.35	7	52	46	4	1	1	3	3	1	0
2.36	7	97	89	6	1	1	3	4	0	0
2.37	2	177	141	11	11	2	11	3	0	0
2.38	4	31	13	12	3	4	2	0	0	1
2.39	5	23	14	7	2	3	2	0	0	0
2.40	1	24	20	1	1	2	1	0	0	0
2.41	4	52	42	3	2	0	6	1	2	0
2.42	0	55	48	1	2	0	4	0	0	0
2.43	4	48	42	2	5	0	3	0	0	0

2.44	2	26	22	0	3	0	2	1	0	0
2.45	7	61	61	0	3	0	2	2	0	0
2.46	2	33	27	0	2	1	1	4	0	0
2.47	0	33	28	0	1	0	3	1	0	0
2.48	2	18	17	0	0	0	3	0	0	0
2.49	6	62	62	2	0	0	3	0	1	0
2.50	2	41	34	3	2	0	4	0	0	0
2.51	0	68	54	2	4	1	7	0	0	0
2.52	1	70	64	1	2	0	2	2	0	0
2.53	2	49	41	2	4	0	3	1	0	0
2.54	2	68	58	1	1	1	5	4	0	0
2.55	2	63	55	1	3	1	3	1	1	0
2.56	2	42	35	3	2	0	3	1	0	0
2.57	1	45	39	1	0	0	4	2	0	0
2.58	4	95	72	7	3	1	7	7	2	0
2.59	0	33	28	0	3	2	0	0	0	0
2.60	2	74	64	3	4	1	4	0	0	0
2.61	2	59	49	1	4	2	3	2	0	0
2.62	4	87	75	3	5	1	5	2	0	0
2.63	1	116	92	5	6	2	6	5	0	0
2.64	0	67	61	3	2	0	1	0	0	0
2.65	6	121	113	2	3	2	3	2	2	0
2.66	0	55	48	2	3	0	0	2	0	0
2.67	2	38	30	3	3	2	2	0	0	0
2.68	3	82	69	4	4	0	4	2	1	0
2.69	2	97	81	4	2	2	6	3	1	0
2.70	1	53	21	3	2	2	25	1	0	0
2.71	6	35	15	4	1	3	18	0	0	0
2.72	4	29	15	2	0	1	15	0	0	0
2.73	3	45	29	2	1	3	13	0	0	0
2.74	4	17	16	0	0	0	5	0	0	0

2.75	1	35	28	0	0	0	8	0	0	0
2.76	2	41	28	2	1	1	10	1	0	0
2.77	3	63	38	1	1	0	26	0	0	0
2.78	4	63	40	3	1	2	21	0	0	0
2.79	0	35	23	0	0	0	12	0	0	0
2.80	4	45	35	1	2	1	10	0	0	0
2.81	3	42	33	1	1	0	10	0	0	0
2.82	0	41	25	0	1	0	15	0	0	0
2.83	22	126	100	0	1	0	46	0	0	0
2.84	12	130	95	0	0	1	44	0	0	0
2.85	4	85	49	1	2	1	36	0	0	0
2.86	8	66	38	2	3	2	29	0	0	0
2.87	2	52	30	2	1	1	20	0	0	0
2.88	1	46	30	1	1	0	15	0	0	0
2.89	0	25	13	1	0	1	10	0	0	0
2.90	3	50	28	1	2	0	22	0	0	0
2.91	4	69	40	2	1	1	29	0	0	0
2.92	0	38	21	1	1	1	13	0	0	0
2.93	1	37	27	0	0	0	11	0	0	0
2.94	5	72	42	1	1	1	32	0	0	0
2.95	1	47	16	2	2	1	24	3	0	0
2.96	1	36	26	1	1	1	8	0	0	0
2.97	6	46	35	0	0	1	17	0	0	0
2.98	3	79	43	1	1	0	35	0	0	0
2.99	4	103	55	1	0	0	51	0	0	0
3.00	13	149	155	0	6	0	1	0	0	0
3.01	12	162	159	0	0	2	1	1	0	0
3.02	9	90	91	0	0	0	8	0	0	0
3.03	4	120	105	0	0	0	18	0	0	0
3.04	1	84	71	0	0	0	14	0	0	0
3.05	4	66	64	0	0	0	6	0	0	0

3.06	3	65	54	0	1	1	12	0	0	0
3.07	3	54	49	0	0	0	8	0	0	0
3.08	2	40	35	0	0	0	7	0	0	0
3.09	1	66	54	0	0	0	13	0	0	0
3.10	1	17	9	0	2	0	7	0	0	0
3.11	1	67	41	6	16	1	4	0	0	0
3.12	3	47	32	5	5	2	5	0	1	0
3.13	3	57	27	20	5	3	4	0	1	0
3.14	6	66	46	13	7	3	3	1	0	0
3.15	5	57	28	13	12	4	2	1	0	0
3.16	4	78	36	22	13	5	6	0	0	0
3.17	5	38	25	11	4	1	2	0	0	0
3.18	1	53	30	2	2	3	13	2	2	0
3.19	1	47	30	3	0	1	14	0	0	0
3.20	2	85	59	11	2	2	12	0	1	0
3.21	1	42	32	1	0	0	10	0	0	0
3.22	5	62	58	5	0	1	3	0	0	0
3.23	1	31	29	0	0	1	2	0	0	0
3.24	8	125	96	8	2	1	24	1	0	0
3.25	5	73	58	3	1	0	15	1	0	0
3.26	4	57	57	0	2	0	0	2	0	0
3.27	9	99	100	0	5	0	1	2	0	0
3.28	4	127	105	3	1	5	9	6	1	0
3.29	2	53	31	2	1	2	9	10	0	0
3.30	2	37	29	2	1	2	2	3	0	0
3.31	0	44	37	0	3	1	2	1	0	0
3.32	1	70	59	3	2	1	5	1	0	0
3.33	5	74	70	0	0	0	2	5	0	1
3.34	3	52	49	1	0	4	0	1	0	0
3.35	4	61	53	0	4	1	1	6	0	0
3.36	1	16	14	0	0	0	1	2	0	0

3.37	5	12	17	0	0	0	0	0	0	0
3.38	2	67	59	1	2	0	6	0	0	1
3.39	5	226	209	1	2	3	14	2	0	0
3.40	3	45	47	0	0	0	0	1	0	0
3.41	1	75	58	3	4	1	3	1	6	0
3.42	1	96	84	0	1	0	11	1	0	0
3.43	0	27	18	0	0	0	9	0	0	0
3.44	0	55	50	1	0	0	4	0	0	0
3.45	2	30	27	0	0	0	5	0	0	0
3.46	2	74	68	0	0	0	8	0	0	0
3.47	11	108	95	0	2	0	20	2	0	0
3.48	5	46	37	1	0	2	7	4	0	0
3.49	3	50	44	0	2	1	3	3	0	0
3.50	2	41	30	0	3	1	5	3	1	0
3.51	2	16	14	0	2	0	1	1	0	0
3.52	0	10	9	0	0	0	0	1	0	0
3.53	1	24	19	0	0	0	6	0	0	0
3.54	0	22	20	0	0	0	2	0	0	0
3.55	2	28	26	0	1	1	2	0	0	0
3.56	0	29	21	0	2	0	6	0	0	0
3.57	0	26	23	0	0	1	2	0	0	0
3.58	1	58	43	1	1	1	13	0	0	0
3.59	9	92	60	1	3	3	34	0	0	0
3.60	8	86	56	5	2	8	23	0	0	0
3.61	0	61	44	1	3	0	13	0	0	0
3.62	4	63	46	2	3	2	11	3	0	0
3.63	3	73	62	1	1	1	10	1	0	0
3.64	3	52	39	1	0	0	13	2	0	0
3.65	6	114	86	2	3	0	26	3	0	0
3.66	6	97	71	3	3	3	21	2	0	0
3.67	7	104	82	2	3	2	21	1	0	0

3.68	3	79	70	0	5	0	7	0	0	0
3.69	3	109	102	0	2	0	8	0	0	0
3.70	4	91	88	0	4	0	3	0	0	0
3.71	1	103	92	0	5	0	7	0	0	0
3.72	10	134	127	0	2	1	13	1	0	0
3.73	7	243	231	0	7	0	11	1	0	0
3.74	6	131	127	0	3	0	6	1	0	0
3.75	9	219	210	0	9	0	9	0	0	0
3.76	1	111	102	0	2	2	6	0	0	0
3.77	5	186	170	0	6	0	15	0	0	0
3.78	7	205	146	39	16	7	3	1	0	0
3.79	7	188	117	29	33	7	7	2	0	0
3.8	10	122	91	25	7	2	5	1	0	0
3.81	8	128	99	22	12	1	2	0	0	0
3.82	6	190	135	43	9	4	3	2	0	0
3.83	4	97	73	17	8	2	1	0	0	0
3.84	7	105	69	33	9	1	0	0	0	0
3.85	8	159	123	26	10	3	2	1	0	0
3.86	8	119	96	3	5	4	4	3	0	0
3.87	4	87	70	2	1	1	7	0	0	0
3.88	3	87	78	4	3	2	3	0	0	0
3.89	2	68	63	2	1	1	2	0	0	0
3.9	7	30	29	0	0	0	8	0	0	0
3.91	7	58	50	10	1	0	4	0	0	0
3.92	1	38	35	3	0	0	1	0	0	0
3.93	9	71	73	2	1	0	3	0	0	0
3.94	7	54	52	2	2	1	4	0	0	0
3.95	6	52	49	3	2	1	3	0	0	0
3.96	5	79	69	9	0	2	4	0	0	0
3.97	2	53	49	0	1	0	4	0	0	0
3.98	6	82	60	3	7	2	16	0	0	0

3.99	3	113	64	6	6	0	40	0	0	0
4	5	98	72	6	5	2	21	0	0	0
4.01	11	114	81	3	8	3	30	0	0	0
4.02	13	145	106	6	5	8	33	0	0	0
4.03	13	117	95	4	5	11	14	0	0	0
4.04	2	99	63	3	3	2	29	0	0	0
4.05	9	122	81	4	3	7	36	0	0	0
4.06	6	118	70	6	1	3	33	0	0	0
4.07	9	129	96	17	1	2	22	6	0	0
4.08	6	91	72	10	0	0	12	2	0	0
4.09	21	179	153	22	0	0	24	4	0	0
4.1	11	122	95	20	3	0	4	2	0	0
4.11	4	137	89	37	3	1	6	5	0	0
4.12	1	88	50	9	0	0	28	0	0	0
4.13	3	43	25	11	3	1	6	1	0	0
4.14	7	89	48	20	2	6	16	4	0	0
4.15	2	114	67	8	2	11	37	1	0	0
4.16	1	130	99	12	7	1	7	5	0	0
4.17	9	99	69	6	1	3	30	1	0	0
4.18	10	122	87	19	3	2	21	5	0	0
4.19	13	106	97	5	3	0	14	0	0	0
4.2	5	67	63	2	1	0	5	0	0	0
4.21	14	74	52	3	4	3	26	1	0	0
4.22	12	57	55	3	1	1	6	3	0	0
4.23	2	18	15	1	0	1	2	0	0	0
4.24	11	37	42	0	0	1	4	0	0	0
4.25	12	54	61	2	0	0	3	0	0	0
4.26	19	96	70	5	1	1	32	6	0	0
4.27	11	39	31	3	2	0	13	1	0	0
4.28	1	30	19	3	0	0	8	1	0	0
4.29	4	49	46	1	0	0	4	2	0	0

4.3	8	67	67	1	1	0	4	2	0	0
4.31	5	113	93	4	1	2	17	1	0	0
4.32	2	99	47	1	0	0	52	1	0	0
4.33	3	79	41	16	2	1	22	0	0	0
4.34	4	52	47	1	0	0	6	0	0	0
4.35	6	118	104	3	0	14	3	0	0	0
4.36	1	66	54	3	1	1	6	1	0	0
4.37	3	51	41	0	0	0	13	0	0	0
4.38	6	126	118	3	1	0	9	1	0	0
4.39	19	139	138	5	4	3	4	1	0	0
4.4	16	132	128	5	2	2	10	1	0	0
4.41	2	41	39	0	1	1	2	0	0	0
4.42	2	45	43	0	0	0	3	0	0	0
4.43	10	76	79	1	0	0	6	0	0	0
4.44	9	70	2	0	0	0	5	0	0	0
4.45	11	110	111	4	1	1	4	0	0	0
4.46	3	56	51	2	2	1	3	0	0	0
4.47	3	58	55	3	1	0	2	0	0	0
4.48	5	71	66	2	1	3	2	2	0	0
4.49	0	37	35	0	0	1	1	0	0	0
4.5	16	60	67	2	2	1	3	1	0	0
4.51	5	55	53	2	1	0	3	1	0	0
4.52	7	59	61	1	2	0	2	0	0	0
4.53	7	63	63	2	1	0	4	0	0	0
4.54	6	65	64	3	2	1	1	0	0	0
4.55	12	60	62	1	2	1	5	1	0	0
4.56	7	61	56	2	0	1	6	0	0	0
4.57	39	115	141	1	2	1	5	0	0	0
4.58	11	77	79	1	0	2	3	0	0	0
4.59	17	122	122	1	6	1	7	1	0	0
4.6	12	98	100	1	1	1	4	1	0	0

4.61	14	75	73	3	1	2	2	8	0	0
4.62	4	44	47	0	0	0	1	0	0	0
4.63	12	73	71	1	3	3	4	1	0	0
4.64	9	100	100	2	1	0	6	0	0	0
4.65	16	168	163	4	5	2	10	0	0	0
4.66	13	108	115	0	1	1	4	0	0	0
4.67	11	134	128	4	3	5	5	0	0	0
4.68	8	90	86	2	5	1	4	0	0	0
4.69	9	89	83	2	2	4	4	2	0	0
4.7	5	62	62	2	2	0	0	1	0	0
4.71	12	69	74	2	1	0	4	1	0	0
4.72	15	94	98	2	1	1	5	2	0	0
4.73	22	91	98	3	3	2	7	0	0	0
4.74	19	141	140	4	1	2	10	3	0	0
4.75	10	81	82	2	1	1	4	1	0	0
4.76	9	125	121	4	1	1	8	0	0	0
4.77	7	38	40	2	0	0	2	1	0	0
4.78	2	69	64	1	1	0	3	2	0	0
4.79	7	38	42	1	1	0	1	0	0	0
4.8	1	63	56	1	2	1	4	0	0	0
4.81	11	97	97	3	1	1	4	0	0	0
4.82	11	59	60	3	1	1	5	0	0	0
4.83	12	70	74	1	1	2	3	1	0	0
4.84	8	58	61	0	1	1	2	0	0	0
4.85	2	43	40	2	1	0	1	0	0	0
4.86	5	99	97	2	2	1	2	0	0	0
4.87	1	44	42	3	0	0	1	0	0	0
4.88	3	75	71	2	1	0	4	0	0	0
4.89	4	72	62	0	1	1	4	2	0	0
4.9	2	91	84	2	0	0	2	3	0	0
4.91	2	44	41	2	0	0	3	0	0	0

4.92	1	54	50	2	0	1	2	0	0	0
4.93	7	62	63	0	1	1	4	0	0	0
4.94	6	169	167	2	1	1	4	0	0	0
4.95	4	59	57	1	0	2	3	0	0	0
4.96	6	64	59	2	3	2	4	0	0	0
4.97	1	79	76	1	1	0	2	0	0	0
4.98	1	52	50	1	1	0	1	0	0	0
4.99	4	54	52	1	0	0	4	1	0	0
5	11	64	67	1	3	0	2	2	0	0
5.01	1	22	19	1	1	0	0	2	0	0
5.02	2	40	39	1	1	0	0	1	0	0
5.03	10	76	76	1	2	1	6	0	0	0
5.04	2	60	54	3	1	0	2	0	0	0
5.05	7	91	82	3	1	1	4	0	0	0
5.06	11	197	183	4	1	1	8	0	0	0
5.07	5	83	83	1	0	0	4	0	0	0
5.08	0	25	21	0	1	2	0	1	0	0
5.09	3	39	34	0	0	4	2	2	0	0
5.10	7	47	47	0	1	5	0	0	0	1
5.11	3	33	33	0	0	1	2	0	0	0
5.12	4	55	52	1	1	2	2	1	0	0
5.13	1	24	22	0	0	1	2	0	0	0
5.14	1	37	30	0	0	1	2	2	0	0
5.15	2	21	18	0	0	4	0	1	0	0
5.16	1	41	35	0	1	2	4	0	0	0
5.17	3	58	47	2	0	3	4	0	0	0
5.18	13	14	8	4	3	1	8	3	0	0
5.19	4	18	10	4	2	0	5	0	0	0
5.20	8	20	8	7	2	4	7	0	0	0
5.21	5	13	4	3	1	0	10	0	0	0
5.22	12	30	39	0	2	0	0	0	0	0

5.23	6	40	37	3	6	0	0	0	0	0
5.24	2	36	33	0	4	1	0	0	0	0
5.25	2	37	6	6	6	1	20	0	0	0
5.26	1	43	7	9	8	2	18	0	0	0
5.27	5	19	8	6	2	0	8	0	0	0
5.28	1	16	15	0	2	0	0	0	0	0
5.29	2	20	6	1	2	2	11	0	0	0
5.30	4	23	6	5	2	2	11	1	0	0
5.31	4	19	1	0	4	0	18	0	0	0
5.32	0	17	9	0	0	0	8	0	0	0
5.33	2	27	9	3	0	6	10	0	3	0
5.34	1	15	6	3	0	2	4	1	0	0
5.35	3	14	10	1	0	1	5	0	0	0
5.36	7	30	7	2	0	1	21	3	1	2
5.37	2	23	23	0	1	0	0	1	0	0
5.38	2	16	15	0	3	0	0	0	0	0
5.39	1	14	13	0	0	0	1	1	0	0
5.40	2	27	6	1	1	6	14	1	0	0
5.41	3	40	16	2	0	9	16	0	0	0
5.42	4	36	7	2	14	9	8	0	0	0
5.43	2	17	7	0	1	3	7	0	0	0
5.44	0	8	2	0	0	1	5	0	0	0
5.45	0	13	3	0	0	2	8	0	0	0
5.46	0	13	7	0	1	0	5	0	0	0
5.47	0	10	3	3	1	0	3	0	0	0
5.48	1	10	3	1	1	0	3	1	0	1
5.49	1	7	2	0	2	0	4	0	0	0
5.50	1	12	7	1	2	0	3	0	0	0
5.51	2	12	6	2	0	1	0	0	0	0
5.52	1	9	7	2	0	1	0	0	0	0
5.53	0	9	1	1	1	3	3	0	0	0

5.54	2	12	3	3	1	0	7	0	0	0
5.55	0	10	6	1	0	0	2	1	0	0
5.56	4	16	8	3	0	2	6	0	0	1
5.57	1	12	2	3	0	1	7	0	0	0
5.58	0	6	2	1	0	2	1	0	0	0
5.59	0	7	1	1	0	2	3	0	0	0
5.60	1	3	3	0	0	0	0	0	0	0
5.61	3	9	8	0	2	0	2	0	0	0
5.62	3	17	10	2	0	0	3	0	0	0
5.63	0	11	9	0	0	0	1	1	0	0
5.64	1	10	6	0	0	0	4	0	0	1
5.65	3	10	5	1	2	2	3	0	0	0
5.66	4	13	8	2	3	1	3	0	0	0
5.67	3	7	5	0	1	1	3	0	0	0
5.68	1	8	4	1	1	1	2	0	0	0
5.69	0	10	4	0	1	1	3	1	0	0
5.70	1	9	4	0	1	2	3	0	0	0
5.71	0	8	3	1	0	1	1	2	0	0
5.72	0	4	0	1	0	1	2	0	0	0
5.73	1	4	4	0	0	0	1	0	0	0
5.74	0	3	3	0	0	0	0	0	0	0
5.75	0	2	2	0	0	0	0	0	0	0
5.76	1	5	1	0	2	0	2	1	0	0
5.77	1	7	6	0	0	0	2	0	0	0
5.78	0	2	0	0	0	0	2	0	0	0
5.79	1	7	4	0	0	0	4	0	0	0
5.80	0	3	2	0	0	0	1	0	0	0
5.81	4	7	5	0	0	0	5	0	0	1
5.82	1	4	4	0	0	0	1	0	0	0
5.83	1	3	3	1	0	0	0	0	0	0
5.84	0	4	2	1	0	0	1	0	0	0

5.85	1	2	1	1	0	0	1	0	0	0
5.86	2	4	4	1	0	1	0	0	0	0
5.87	1	8	5	0	2	0	2	0	0	0
5.88	0	3	2	0	0	1	0	0	0	0
5.89	3	7	3	0	0	4	2	1	0	0
5.90	3	8	6	0	0	2	2	1	0	0
5.91	2	11	7	1	1	2	2	0	0	0
5.92	1	4	1	0	0	3	1	0	0	0
5.93	1	3	0	1	0	1	2	0	0	0
5.94	1	3	3	1	0	0	0	0	0	0
5.95	3	8	5	1	1	4	0	0	0	0
5.96	0	3	2	0	0	1	0	0	0	0
5.97	1	3	3	0	0	0	1	1	0	0
5.98	3	9	6	0	0	5	1	1	0	0
5.99	1	5	2	1	0	1	2	2	0	0
6.00	0	3	0	0	0	0	1	1	0	0
6.01	0	2	2	0	0	0	0	0	0	0
6.02	1	1	2	0	0	0	0	0	0	0
6.03	2	8	3	0	2	3	2	2	0	0
6.04	4	15	14	0	0	3	2	2	0	0
6.05	3	6	4	0	2	1	2	2	0	0
6.06	3	16	10	2	1	1	5	5	0	0
6.07	2	39	28	2	0	3	7	7	0	0
6.08	13	45	38	1	1	2	14	14	0	0
6.09	2	31	25	3	0	0	5	5	0	0
6.10	7	54	48	1	1	3	8	8	0	0
6.11	9	51	38	3	0	4	15	15	0	0
6.12	11	73	63	3	3	4	10	10	0	0
6.13	6	56	53	1	0	1	4	4	0	0
6.14	5	18	19	1	1	0	1	1	0	0
6.15	14	22	33	1	0	0	2	2	0	0

6.16	11	27	24	4	1	2	7	7	0	0
6.17	7	17	15	1	0	0	8	8	0	0
6.18	7	18	19	0	0	0	5	5	0	0
6.19	1	47	42	0	1	0	5	0	0	0
6.20	1	7	16	0	0	1	0	0	0	0
6.21	4	90	87	0	1	1	4	1	0	0
6.22	3	92	79	0	1	1	14	0	0	0
6.23	5	60	43	2	2	4	12	0	1	0
6.24	1	84	67	0	2	1	15	0	0	0
6.25	3	51	51	0	1	0	5	0	0	1
6.26	2	50	45	1	2	1	3	0	0	0
6.27	4	48	45	0	0	1	6	0	0	0
6.28	3	55	52	0	3	2	1	0	0	0
6.29	9	104	100	3	3	0	6	0	2	0
6.30	6	68	73	0	0	0	2	1	0	0
6.31	6	56	61	1	0	0	2	1	0	0
6.32	7	71	70	1	0	0	0	0	0	0
6.33	7	62	48	6	2	4	1	0	0	0
6.34	11	56	58	1	6	4	5	0	0	0
6.35	4	40	42	0	7	0	1	0	0	0
6.36	8	97	94	0	0	0	2	0	0	0
6.37	6	112	89	4	3	0	6	2	0	0
6.38	10	142	127	2	11	4	10	0	0	0
6.39	8	155	123	11	7	8	5	1	1	0
6.40	14	134	114	5	3	8	10	2	2	0
6.41	10	127	101	8	7	0	12	0	0	0
6.42	10	115	90	5	5	5	8	0	0	0
6.43	1	33	32	0	8	4	18	0	0	0
6.44	3	65	58	1		1	0	1	0	0
6.45	2	53	49	0	5	1	3	0	0	0
6.46	6	127	109	8	3	0	2	1	0	0

6.47	8	133	112	2	4	3	9	0	0	0
6.48	13	144	127	9	8	3	16	0	0	0
6.49	16	132	124	4	3	4	14	0	0	0
6.50	8	107	100	1	5	2	19	0	0	0
6.51	10	119	103	7	2	0	17	0	0	0
6.52	6	124	108	10	4	1	7	4	0	0
6.53	14	124	111	16	1	1	9	0	0	0
6.54	18	129	125	6	6	3	7	0	0	0
6.55	11	159	146	11	3	1	9	0	0	0
6.56	13	97	82	6	2	2	18	0	0	0
6.57	4	94	74	15	0	0	9	0	0	0
6.58	10	107	96	6	1	2	11	1	0	0
6.59	5	124	102	4	5	0	13	0	0	0
6.60	1	126	113	3	5	0	6	0	0	0
6.61	12	146	120	8	6	2	21	0	1	0
6.62	12	122	105	4	7	2	16	2	0	0
6.63	12	130	113	6	7	1	14	1	0	0
6.64	25	192	158	19	6	6	27	0	1	0
6.65	25	197	188	6	6	5	14	1	1	0
6.66	19	221	218	7	0	5	10	0	0	0
6.67	27	237	238	4	1	6	12	1	1	1
6.68	9	152	114	14	11	5	17	0	0	0
6.69	4	113	86	12	8	3	8	0	0	0
6.70	1	72	60	1	5	2	4	0	0	0
6.71	10	122	109	6	5	1	11	0	0	0
6.72	3	87	74	3	4	3	5	1	0	0
6.73	7	79	57	12	8	6	3	0	0	0
6.74	4	116	99	6	6	5	4	0	0	0
6.75	2	87	79	5	0	1	3	1	0	0
6.76	5	48	42	6	2	0	3	0	0	0
6.77	7	67	54	3	3	9	3	3	0	0

6.78	10	65	65	3	0	1	6	0	0	0
6.79	0	64	55	0	0	2	6	0	0	0
6.80	6	101	91	4	1	4	4	0	0	2
6.81	7	111	98	7	3	5	4	1	0	0
6.82	6	113	100	5	2	6	6	0	0	0
6.83	11	109	90	8	2	10	9	0	1	0
6.84	7	88	81	3	3	2	5	1	0	0
6.85	5	67	47	6	4	5	7	0	0	3
6.86	9	125	125	0	3	2	4	0	0	0
6.87	9	117	116	0	0	2	7	1	0	0
6.88	4	110	92	7	1	4	9	0	0	1
6.89	6	101	88	6	3	4	4	1	0	1
6.90	10	149	127	10	4	2	11	5	0	0
6.91	16	121	120	4	0	3	8	3	0	0
6.92	23	164	159	14	1	5	7	1	0	0
6.93	16	107	103	3	2	7	4		0	0
6.94	8	146	124	8	8	7	6	1	0	0
6.95	8	156	138	3	1	10	6	4	0	0
6.96	8	107	105	0	0	7	2	1	0	0
6.97	13	221	209	4	3	4	13	1	0	0
6.98	8	179	157	10	2	6	11	1	0	0
6.99	11	198	188	7	1	5	8		0	0
7.00	14	207	207	4	2	2	5	1	0	0
7.01	10	171	162	0	0	12	5	2	0	0
7.02	10	165	171	1	0	1	1	0	0	0
7.03	12	206	202	3	0	7	6	0	0	0
7.04	10	167	165	4	0	1	0	2	0	0
7.05	6	210	194	6	2	4	10	1	0	0
7.06	19	187	171	12	4	3	14	0	0	0
7.07	16	185	167	2	4	8	18	2	0	0
7.08	8	228	203	12	1	10	9	1	0	0

7.09	14	222	208	5	3	8	12	2	0	0
7.10	18	203	203	3	2	7	6	1	0	0
7.11	11	179	169	6	1	6	9	0	0	0
7.12	10	136	130	1	2	2	11	0	0	0
7.13	12	147	140	2	4	4	9	0	0	0
7.14	15	187	184	2	2	3	10	1	0	0
7.15	7	186	176	10	0	6	17	1	0	0
7.16	8	107	102	0	3	2	4	0	0	0
7.17	35	304	305	10	0	6	17	1	0	0
7.18	3	46	35	7	2	3	2	0	0	0
7.19	9	73	61	6	3	2	6	0	0	0
7.20	10	87	70	7	7	2	10	0	0	0
7.21	9	94	83	7	7	2	5	0	0	0
7.22	6	87	66	13	5	6	2	0	0	0
7.23	10	87	65	10	6	7	9	0	0	0
7.24	8	90	73	7	6	4	8	0	0	0
7.25	10	94	76	9	1	3	13	2	0	0
7.26	9	89	80	2	3	1	10	1	0	0
7.27	10	167	153	5	5	3	8	3	0	0
7.28	16	180	173	5	3	4	7	4	0	0
7.29	11	116	108	6	2	4	4	0	0	0
7.30	9	87	78	9	4	2	3	0	0	0
7.31	4	73	59	5	2	5	6	0	0	0
7.32	1	34	31	2	0	1	0	0	0	0
7.33	4	36	36	0	2	1	1	0	0	0
7.34	5	41	35	2	3	2	3	0	0	0
7.35	7	53	52	2	1	1	4	1	0	0
7.36	8	97	97	3	2	2	1	0	0	0
7.37	12	98	106	1	0	1	2	0	0	0
7.38	26	184	197	2	2	5	6	0	0	0
7.39	26	218	223	6	2	4	9	2	0	0

7.40	19	184	185	3	3	1	11	0	0	0
7.41	14	191	194	5	2	2	2	0	0	0
7.42	8	110	92	5	6	6	9	0	0	0
7.43	7	65	62	4	1	4	1	0	0	0
7.44	4	54	54	1	1	1	1	0	0	0
7.45	2	77	75	0	1	2	1	0	0	0
7.46	1	64	57	2	1	3	2	0	0	0
7.47	3	65	71	0	0	0	0	0	0	0
7.48	4	93	38	21	24	8	2	0	0	0
7.49	12	104	92	9	4	4	7	4	0	0
7.50	10	53	50	4	1	4	4	0	0	0
7.51	14	60	57	7	0	7	2	1	0	0
7.52	3	69	68	2	0	1	1	0	0	0
7.53	10	80	71	5	2	9	3	0	0	0
7.54	7	103	87	12	0	7	4	0	0	0
7.55	35	151	149	7	14	13	2	0	0	0
7.56	26	102	99	1	11	5	9	2	0	0
7.57	9	171	157	7	6	5	3	1	0	0
7.58	4	86	55	21	5	3	6	0	0	0
7.59	3	91	55	22	12	2	3	0	0	0
7.60	1	58	30	20	6	1	2	0	0	0
7.61	9	74	47	16	14	3	3	0	0	0
7.62	7	101	70	21	11	5	2	2	0	0
7.63	18	102	76	21	10	8	5	0	0	0
7.64	10	116	77	19	11	12	6	0	0	0
7.65	10	97	69	22	10	3	3	0	0	0
7.66	8	88	63	20	6	4	2	1	0	0
7.67	20	152	115	35	10	5	4	3	0	0
7.68	30	150	153	4	4	14	5	0	0	0
7.69	13	69	73	0	0	6	2	0	0	0
7.70	27	196	192	4	9	11	3	0	0	0

7.71	18	120	124	2	4	5	3	0	0	0
7.72	14	160	154	2	10	4	3	0	0	0
7.73	10	66	71	0	2	3	0	0	0	0
7.74	14	126	108	14	4	1	9	4	0	0
7.75	16	186	179	10	8	2	2	1	0	0
7.76	16	121	121	0	3	7	7	0	0	0
7.77	15	78	87	0	2	3	1	0	0	0
7.78	20	97	105	1	3	2	5	0	0	0
7.79	15	82	93	0	2	1	1	0	0	0
7.80	10	29	39	0	0	0	0	0	0	0
7.81	17	59	71	0	1	2	1	0	0	0
7.82	16	107	107	2	4	4	5	0	0	0
7.83	8	54	58	0	0	4	0	0	0	0
7.84	15	103	99	3	8	7	1	0	0	0
7.85	7	77	72	0	4	6	2	0	0	0
7.86	13	47	53	1	0	3	0	2	0	0
7.87	13	37	44	1	1	1	2	0	0	0
7.88	12	74	80	2	2	1	1	0	0	0
7.89	13	54	63	1	1	1	1	0	0	0
7.90	13	44	51	2	2	1	1	0	0	0
7.91	9	41	45	2	1	1	1	0	0	0
7.92	6	30	33	1	2	0	0	0	0	0
7.93	8	60	67	0	0	0	1	0	0	0
7.94	6	40	45	0	1	0	0	0	0	0
7.95	7	29	35	0	0	0	1	0	0	0
7.96	0	13	13	0	0	0	0	0	0	0
7.97	2	18	19	1	0	0	0	0	0	0
7.98	4	19	22	0	0	0	1	0	0	0
7.99	0	21	21	0	0	0	0	0	0	0
8.00	2	13	14	0	1	0	0	0	0	0
8.01	1	17	14	1	1	1	1	0	0	0

8.02	3	22	23	1	0	0	1	0	0	0
8.03	4	27	30	1	0	0	0	0	0	0
8.04	4	14	17	1	0	0	0	0	0	0
8.05	2	16	15	1	1	0	1	0	0	0
8.06	8	20	28	0	0	0	0	0	0	0
8.07	12	57	66	1	0	0	2	0	0	0
8.08	3	37	38	2	0	0	0	0	0	0
8.09	2	26	28	0	0	0	0	0	0	0
8.10	5	33	38	0	0	0	0	0	0	0
8.11	3	38	41	0	0	0	0	0	0	0
8.12	6	26	32	0	0	0	0	0	0	0
8.13	4	20	24	0	0	0	0	0	0	0
8.14	6	20	24	1	0	0	1	0	0	0
8.15	3	19	21	1	0	0	0	0	0	0
8.16	4	26	28	2	0	0	0	0	0	0
8.17	4	21	24	0	0	1	0	0	0	0
8.18	4	5	8	0	0	1	0	0	0	0
8.19	3	5	7	0	0	1	0	0	0	0
8.20	7	16	22	0	0	0	1	0	0	0
8.21	6	18	23	0	0	0	0	0	0	0
8.22	1	2	3	0	0	0	0	0	0	0
8.23	0	2	1	0	0	0	1	0	0	0
8.24	0	2	1	0	0	1	0	0	0	0
8.25	0	6	5	0	0	1	0	0	0	0
8.26	6	12	17	0	1	0	0	0	0	0
8.27	1	8	8	0	0	0	1	0	0	0
8.28	0	5	4	0	0	0	1	0	0	0
8.29	0	1	1	0	0	0	0	0	0	0
8.30	0	1	1	0	0	0	0	0	0	0
8.31	0	0	0	0	0	0	0	0	0	0
8.32	0	3	3	0	0	0	0	0	0	0

8.33	0	3	3	0	0	0	0	0	0	0
8.34	0	1	1	0	0	0	0	0	0	0
8.35	0	12	12	0	0	0	0	0	0	0
8.36	7	6	13	0	0	0	0	0	0	0
8.37	11	16	2	0	0	0	0	0	0	0
8.38	10	23	31	0	0	0	2	0	0	0
8.39	5	22	26	0	0	0	1	0	0	0
8.40	2	11	13	0	0	0	0	0	0	0
8.41	8	34	34	1	1	4	2	0	0	0
8.42	11	21	32	0	0	0	0	0	0	0
8.43	12	42	54	0	0	0	0	0	0	0
8.44	9	36	44	0	0	0	1	0	0	0
8.45	14	40	54	0	0	0	0	0	0	0
8.46	5	13	16	0	0	0	1	0	0	0
8.47	14	24	36	0	0	0	2	0	0	0

Appendix G - Lake Seven Raw Charcoal Data

Depth:	>250	>125	Dark	Cell	Por	Spon	Fib	Bran	Latt	Bord
0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.06	5	54	48	2	3	1	4	1	0	0
0.07	1	46	39	1	0	2	4	1	0	0
0.08	7	74	71	0	1	2	4	3	0	0
0.09	7	59	59	1	0	2	3	1	0	0
0.10	0	58	52	0	1	0	5	0	0	0
0.11	2	76	72	1	0	1	5	0	0	0
0.12	2	61	54	2	2	2	3	0	0	0
0.13	13	68	68	2	2	2	2	5	0	0
0.14	1	53	48	0	1	2	3	0	0	0
0.15	3	48	44	1	0	1	3	2	0	0
0.16	4	26	29	0	0	0	1	0	0	0
0.17	1	26	27	0	0	0	0	0	0	0
0.18	6	30	36	0	0	0	0	0	0	0
0.19	6	26	32	0	0	0	0	0	0	0
0.20	7	23	30	0	0	0	0	0	0	0
0.21	3	23	26	0	0	0	0	0	0	0
0.22	4	21	24	1	0	0	0	0	0	0
0.23	3	24	27	0	0	0	0	0	0	0
0.24	5	21	24	1	0	0	1	0	0	0
0.25	4	17	21	0	0	0	0	0	0	0
0.26	4	13	16	0	0	0	1	0	0	0
0.27	3	25	25	1	0	2	0	0	0	0

0.28	4	30	34	0	0	0	0	0	0	0
0.29	2	35	33	0	0	0	2	0	0	0
0.30	1	47	45	0	0	1	1	1	0	0
0.31	0	54	52	0	1	0	1	0	0	0
0.32	0	53	48	2	0	0	2	1	0	0
0.33	0	66	63	1	1	0	1	0	0	0
0.34	4	34	36	0	1	0	1	0	0	0
0.35	0	40	36	0	1	0	1	2	0	0
0.36	6	38	43	0	0	1	0	0	0	0
0.37	8	81	85	0	1	1	2	0	0	0
0.38	1	62	62	0	0	0	1	0	0	0
0.39	2	67	65	0	1	1	2	0	0	0
0.40	1	77	72	2	1	1	1	0	0	0
0.41	10	75	77	1	2	2	3	0	0	0
0.42	5	70	71	1	0	1	2	0	0	0
0.43	13	92	104	1	0	0	0	0	0	0
0.44	5	104	104	2	1	2	0	0	0	0
0.45	9	67	72	1	1	0	2	0	0	0
0.46	9	46	51	0	1	2	1	0	0	0
0.47	0	66	63	1	1	2	1	0	0	0
0.48	10	71	77	1	1	0	2	0	0	0
0.49	6	90	73	4	7	4	7	1	0	0
0.50	6	90	81	0	5	0	8	2	0	0
0.51	2	88	82	2	1	1	2	2	0	0
0.52	3	43	41	1	0	0	4	0	0	0
0.53	8	54	55	0	3	1	3	0	0	0
0.54	7	88	83	1	2	1	6	2	0	0
0.55	11	123	117	5	4	4	2	2	0	0
0.56	17	145	140	1	10	3	6	2	0	0
0.57	24	260	233	14	23	3	9	2	0	0
0.58	25	337	277	11	13	7	12	42	0	0

0.59	7	292	249	16	8	7	14	5	0	0
0.60	7	222	198	6	6	3	9	7	0	0
0.61	12	220	197	9	13	3	4	5	1	0
0.62	17	267	248	6	8	5	11	6	0	0
0.63	10	134	114	7	6	4	9	3	1	0
0.64	34	212	187	28	12	9	7	3	0	0
0.65	8	81	78	2	2	1	4	1	1	0
0.66	3	87	59	23	4	2	2	0	0	0
0.67	3	54	47	4	3	2	0	1	0	0
0.68	12	44	48	2	3	1	2	0	0	0
0.69	1	47	41	1	1	1	3	1	0	0
0.70	8	87	81	3	6	0	4	1	0	0
0.71	9	74	76	3	1	1	1	1	0	0
0.72	5	98	88	3	3	2	5	2	0	0
0.73	9	156	135	15	8	2	4	1	0	0
0.74	10	152	131	12	9	2	6	2	0	0
0.75	5	62	53	4	2	4	2	2	0	0
0.76	4	56	50	1	4	1	2	1	1	0
0.77	6	100	96	3	3	1	2	1	0	0
0.78	13	97	94	1	7	3	4	1	0	0
0.79	10	88	74	10	4	5	2	3	0	0
0.80	7	166	156	6	3	3	2	3	0	0
0.81	20	200	176	15	12	4	2	11	0	0
0.82	15	215	198	12	8	3	4	5	0	0
0.83	8	110	109	3	4	0	0	2	0	0
0.84	11	108	111	1	2	2	1	2	0	0
0.85	5	78	74	4	3	0	2	0	0	0
0.86	8	67	67	0	5	1	2	0	0	0
0.87	8	86	77	4	5	2	3	3	0	0
0.88	31	142	149	5	6	3	7	2	1	0
0.89	14	157	154	4	3	3	4	2	0	0

0.90	14	84	88	3	2	1	1	3	0	0
0.91	3	132	125	2	1	2	2	3	0	0
0.92	10	126	119	2	5	1	5	4	0	0
0.93	8	90	83	5	6	1	0	2	1	0
0.94	4	90	85	1	2	1	3	2	0	0
0.95	3	123	96	11	1	6	4	3	0	1
0.96	1	76	57	1	1	9	4	1	0	4
0.97	2	42	41	0	0	1	1	1	0	0
0.98	7	35	37	0	0	2	1	2	0	0
0.99	1	27	26	0	0	1	3	2	0	0
1.00	13	97	98	3	5	1	2	1	0	0
1.01	15	107	116	1	0	0	3	2	0	0
1.02	15	110	116	3	3	1	2	0	0	0
1.03	7	91	87	2	6	2	1	0	0	0
1.04	3	61	61	1	2	0	0	0	0	0
1.05	3	39	38	1	1	0	2	0	0	0
1.06	16	140	111	23	4	1	17	0	0	0
1.07	11	129	119	14	7	0	0	0	0	0
1.08	12	91	81	18	4	0	0	0	0	0
1.09	15	145	125	31	4	0	0	0	0	0
1.10	14	181	169	6	3	3	9	5	0	0
1.11	12	194	184	5	5	3	3	6	0	0
1.12	3	141	125	7	2	2	4	4	0	0
1.13	12	108	106	3	4	2	2	3	0	0
1.14	11	53	53	4	2	4	0	1	0	1
1.15	12	61	60	1	2	5	1	3	0	0
1.16	15	88	92	0	3	2	3	2	1	0
1.17	1	73	65	0	1	3	3	2	0	0
1.18	13	69	64	13	0	1	2	2	0	0
1.19	5	46	47	0	0	3	0	1	0	0
1.20	0	11	0	0	0	0	0	0	0	0

1.21	4	15	15	0	0	3	0	0	0	0
1.22	1	18	19	0	0	0	0	0	0	0
1.23	1	9	0	0	0	0	0	0	0	0
1.24	1	10	0	0	0	0	0	0	0	0
1.25	0	7	7	0	0	0	0	0	0	0
1.26	0	21	20	0	0	0	1	0	0	0
1.27	2	13	13	0	0	1	1	1	0	0
1.28	0	7	0	0	0	0	0	0	0	0
1.29	0	13	12	0	0	1	1	1	0	0
1.30	3	14	16	0	0	0	0	1	0	0
1.31	0	7	7	0	0	0	0	0	0	0
1.32	0	5	5	0	0	0	0	0	0	0
1.33	3	4	2	0	0	5	5	0	0	0
1.34	2	40	39	0	1	1	1	1	0	0
1.35	3	51	49	1	0	3	0	1	0	0
1.36	4	61	62	0	0	1	2	0	0	0
1.37	3	47	49	0	0	1	0	0	0	0
1.38	6	37	42	0	0	1	0	0	0	0
1.39	6	27	31	0	0	2	0	0	0	0
1.40	0	39	28	10	0	0	1	0	0	0
1.41	0	36	21	11	1	1	1	1	0	0
1.42	2	41	27	13	13	2	1	0	0	0
1.43	0	61	40	19	2	0	0	0	0	0
1.44	5	51	47	7	2	0	0	0	0	0
1.45	2	32	26	6	0	0	0	2	0	0
1.46	11	101	67	38	6	0	0	1	0	0
1.47	5	83	67	16	2	0	0	2	0	0
1.48	4	71	43	25	0	0	0	1	0	0
1.49	2	93	68	22	4	1	0	0	0	0
1.50	7	110	87	18	11	1	0	0	0	0
1.51	10	86	68	20	5	2	1	0	0	0

1.52	3	38	32	3	6	0	0	0	0	0
1.53	7	75	66	3	7	4	2	0	0	0
1.54	11	158	127	23	11	4	3	1	0	0
1.55	7	134	116	22	0	2	1	0	0	0
1.56	11	150	124	25	7	3	0	2	0	0
1.57	18	144	125	27	4	4	0	2	0	0
1.58	23	180	124	56	18	1	0	4	0	0
1.59	27	103	98	23	8	0	0	1	0	0
1.60	9	113	83	29	8	1	0	1	0	0
1.61	6	118	96	20	3	4	0	1	0	0
1.62	15	119	95	28	6	4	0	1	0	0
1.63	15	115	101	25	2	0	0	2	0	0
1.64	19	130	115	25	6	1	0	2	0	0
1.65	16	102	91	17	10	0	0	0	0	0
1.66	13	93	89	14	1	1	0	1	0	0
1.67	32	119	115	28	5	3	0	0	0	0
1.68	6	79	71	10	2	2	0	0	0	0
1.69	3	85	74	12	1	1	0	0	0	0
1.70	10	127	105	26	5	1	0	0	0	0
1.71	7	114	99	19	1	1	0	1	0	0
1.72	7	82	74	11	2	0	0	2	0	0
1.73	22	107	105	20	3	0	0	0	0	0
1.74	7	106	91	1	4	8	4	4	0	1
1.75	10	97	96	0	5	2	2	2	0	0
1.76	8	116	113	0	1	4	1	2	0	3
1.77	17	146	147	3	2	3	4	2	0	0
1.78	7	82	78	2	2	2	3	1	0	2
1.79	7	67	61	0	1	6	0	2	0	4
1.80	5	60	47	15	2	1	0	0	0	0
1.81	7	38	19	3	3	2	3	15	0	0
1.82	3	53	51	5	0	0	0	0	0	0

1.83	3	43	36	9	0	0	0	1	0	0
1.84	3	54	32	18	4	0	3	0	0	0
1.85	2	43	29	13	0	2	0	1	0	0
1.86	6	57	53	8	2	0	0	0	0	0
1.87	3	63	51	12	2	1	0	0	0	0
1.88	5	45	42	5	1	1	1	0	0	0
1.89	9	90	87	11	1	0	0	0	0	0
1.90	5	48	46	3	4	0	0	0	0	0
1.91	5	67	63	7	1	0	0	0	0	0
1.92	5	93	79	15	4	1	0	0	0	0
1.93	17	76	75	13	3	1	0	1	0	0
1.94	6	94	81	15	4	0	0	0	0	0
1.95	11	195	178	21	6	1	0	0	0	0
1.96	3	127	107	16	5	2	0	0	0	0
1.97	35	145	150	29	1	0	0	0	0	0
1.98	13	271	235	42	8	0	0	0	0	0
1.99	21	146	135	29	3	0	0	0	0	0
2.00	12	83	80	13	2	0	0	0	0	0
2.01	9	99	89	15	4	0	0	0	0	0
2.02	3	113	93	18	2	3	0	0	0	0
2.03	N\A	N\A	N\A	N\A	N\A	N\A	N\A	N\A	N\A	N\A
2.04	12	147	134	22	2	1	0	0	0	0
2.05	9	109	105	9	1	2	0	0	0	0
2.06	4	36	36	4	0	0	0	0	0	0
2.07	10	60	55	8	0	2	0	0	0	0
2.08	6	84	72	15	2	0	0	0	0	0
2.09	5	60	55	8	0	2	0	0	0	0
2.10	8	121	110	17	1	1	0	0	0	0
2.11	6	137	120	20	1	2	0	0	0	0
2.12	6	137	120	20	1	2	0	0	0	0
2.13	10	205	180	28	5	1	0	1	0	0

2.14	31	200	196	30	5	1	0	0	0	0
2.15	28	249	220	52	5	0	0	0	0	0
2.16	33	302	238	39	9	0	0	0	0	0
2.17	24	328	283	63	5	1	0	0	0	0
2.18	28	332	301	49	5	5	0	0	0	0
2.19	16	285	249	45	6	1	0	0	0	0
2.20	7	353	302	49	8	1	0	0	0	0
2.21	25	253	226	48	2	0	0	2	0	0
2.22	13	150	140	19	1	3	0	0	0	0
2.23	9	213	200	21	0	1	0	0	0	0
2.24	17	133	129	0	4	0	0	0	0	0
2.25	22	108	95	0	13	0	0	3	0	0
2.26	9	161	159	11	0	0	0	0	0	0
2.27	11	93	97	0	6	0	0	0	0	0
2.28	29	160	166	19	2	0	0	0	0	0
2.29	17	155	150	20	1	0	0	0	0	0
2.30	10	161	171	0	7	0	0	0	0	0
2.31	48	132	161	5	9	0	0	0	0	0
2.32	10	98	85	8	12	0	0	3	0	0
2.33	21	116	91	4	17	0	0	4	0	0
2.34	15	130	103	2	20	0	0	5	0	0
2.35	9	89	83	0	14	0	0	1	0	0
2.36	12	112	96	7	9	0	0	0	0	0
2.37	4	71	68	6	0	0	0	1	0	0
2.38	7	101	57	9	1	0	0	0	0	0
2.39	3	58	46	8	1	0	0	0	0	0
2.40	11	81	83	9	1	0	0	0	0	0
2.41	3	52	46	8	1	0	0	0	0	0
2.42	14	71	75	8	2	0	0	0	0	0
2.43	10	70	69	9	0	0	0	0	0	0
2.44	11	74	77	5	2	1	0	0	0	0

2.45	9	85	80	11	3	0	0	0	0	0
2.46	7	116	111	12	0	0	0	0	0	0
2.47	9	98	72	17	0	0	0	0	0	0
2.48	5	86	9	0	1	0	0	0	0	0
2.49	4	151	136	4	3	1	11	0	0	0
2.50	4	169	163	2	2	2	4	0	0	0
2.51	9	190	187	1	1	0	10	0	0	0
2.52	15	187	191	2	2	3	4	0	0	0
2.53	11	171	174	1	3	0	4	0	0	0
2.54	8	147	148	1	1	1	3	0	0	0
2.55	13	107	115	1	1	0	3	0	0	0
2.56	4	116	112	2	3	0	3	0	0	0
2.57	9	126	128	1	1	1	4	0	0	0
2.58	7	139	140	1	0	0	5	0	0	0
2.59	11	161	164	2	2	1	3	0	0	0
2.60	14	204	210	2	1	0	3	0	0	0
2.61	14	225	234	1	1	1	2	0	0	0
2.62	29	304	311	4	2	5	8	0	0	0
2.63	36	282	304	3	3	2	6	0	0	0
2.64	24	292	296	3	4	3	10	0	0	0
2.65	12	292	292	1	2	3	6	0	0	0
2.66	18	308	309	5	4	2	8	0	0	0
2.67	30	274	291	3	1	4	5	0	0	0
2.68	19	234	244	1	1	3	4	0	0	0
2.69	38	351	378	1	4	1	5	0	0	0
2.70	25	231	239	3	4	0	10	0	0	0
2.71	28	270	290	3	1	2	2	0	0	0
2.72	26	207	226	1	1	3	2	0	0	0
2.73	13	189	192	2	1	3	4	0	0	0
2.74	10	154	156	3	0	2	3	0	0	0
2.75	23	198	206	5	1	4	5	0	0	0

2.76	22	188	190	4	4	4	8	0	0	0
2.77	17	160	167	2	2	2	4	0	0	0
2.78	13	102	102	2	2	1	6	0	0	0
2.79	26	193	207	3	2	3	4	0	0	0
2.80	17	171	179	2	1	1	5	0	0	0
2.81	32	194	222	1	0	0	3	0	0	0
2.82	22	141	157	1	1	1	3	0	0	0
2.83	27	137	160	1	0	1	3	0	0	0
2.84	32	151	178	1	0	2	4	0	0	0
2.85	20	182	191	3	2	2	4	0	0	0
2.86	34	261	285	3	0	3	4	0	0	0
2.87	25	162	153	1	3	2	3	0	0	0
2.88	10	117	122	0	1	2	2	0	0	0
2.89	7	204	200	3	1	3	4	0	0	0
2.90	7	278	267	5	4	2	7	0	0	0
2.91	13	189	146	2	1	1	2	0	0	0
2.92	10	208	211	0	2	3	2	0	0	0
2.93	9	200	201	1	3	2	2	0	0	0
2.94	11	171	178	1	2	1	0	0	0	0
2.95	14	178	171	1	1	4	1	0	0	0
2.96	6	114	110	2	2	2	4	0	0	0
2.97	13	203	207	3	4	2	0	0	0	0
2.98	9	139	144	1	2	0	1	0	0	0
2.99	15	126	137	0	2	2	0	0	0	0
3.00	6	105	106	1	1	3	0	0	0	0
3.01	7	144	146	0	2	2	1	0	0	0
3.02	8	71	72	1	2	3	1	0	0	0
3.03	3	40	41	0	1	1	0	0	0	0
3.04	4	38	39	1	0	0	2	0	0	0
3.05	3	63	60	2	1	1	1	1	0	0
3.06	2	93	88	2	2	2	1	0	0	0

3.07	3	84	82	1	1	1	2	0	0	0
3.08	6	80	85	0	0	1	0	0	0	0
3.09	5	52	46	2	0	0	3	4	0	2
3.10	17	75	76	4	5	3	0	4	0	0
3.11	15	93	62	22	2	6	6	6	0	4
3.12	13	138	137	3	4	6	1	0	0	0
3.13	8	135	139	1	0	1	2	0	0	0
3.14	11	106	111	1	1	2	2	0	0	0
3.15	21	51	64	4	1	3	0	0	0	0
3.16	4	60	52	3	2	2	1	0	0	0
3.17	4	54	50	3	1	2	2	0	0	0
3.18	18	138	141	2	4	3	3	3	0	0
3.19	6	102	101	2	2	1	2	0	0	0
3.20	8	87	83	1	2	3	4	2	0	0
3.21	11	89	90	4	2	0	2	2	0	0
3.22	7	131	121	4	3	5	3	2	0	0
3.23	17	171	171	3	4	3	5	2	0	0
3.24	21	182	167	5	4	2	3	1	0	0
3.25	36	164	180	3	8	4	2	3	0	0
3.26	15	100	106	2	1	3	2	1	0	0
3.27	12	92	97	2	1	2	2	0	0	0
3.28	18	151	155	4	3	4	3	0	0	0
3.29	10	172	172	3	2	0	5	0	0	0
3.30	17	157	163	3	1	2	3	0	0	0
3.31	15	207	207	6	3	4	2	0	0	0
3.32	4	80	18	9	30	0	22	1	0	0
3.33	14	91	26	8	42	0	26	3	0	0
3.34	3	39	7	12	15	2	6	0	0	0
3.35	4	90	13	12	42	3	19	8	0	0
3.36	17	196	43	35	87	0	33	0	0	0
3.37	7	122	26	14	52	9	20	0	0	0

3.38	9	97	79	2	13	1	1	0	0	0
3.39	9	149	131	1	17	0	0	0	0	0
3.40	22	156	135	0	21	0	0	0	0	0
3.41	11	104	87	0	17	0	0	0	0	0
3.42	16	114	105	0	12	0	1	0	0	0
3.43	16	80	78	2	0	0	0	0	0	0
3.44	3	81	75	0	6	0	0	0	0	0
3.45	8	97	84	0	13	0	0	2	0	0
3.46	3	77	79	0	1	0	0	0	0	0
3.47	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3.48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3.49	3	13	13	0	0	0	1	2	0	0
3.50	4	29	29	1	1	1	1	0	0	0
3.51	6	10	15	0	0	0	1	0	0	0
3.52	4	15	15	2	0	1	1	0	0	0
3.53	2	12	14	0	0	0	0	0	0	0
3.54	3	21	23	0	0	0	1	0	0	0
3.55	4	18	21	0	0	0	1	0	0	0
3.56	5	19	23	1	0	0	0	0	0	0
3.57	3	23	24	0	0	0	1	1	0	0
3.58	4	23	19	0	0	1	1	1	0	0
3.59	1	12	8	2	0	1	1	0	0	0
3.60	3	10	10	0	1	0	2	0	0	0
3.61	4	17	17	1	0	1	1	1	0	0
3.62	5	15	19	0	0	0	1	0	0	0
3.63	3	12	15	0	0	0	0	0	0	0
3.64	1	8	9	0	0	0	0	0	0	0
3.65	4	5	9	0	0	0	0	0	0	0
3.66	4	10	13	1	0	0	0	0	0	0
3.67	3	10	12	0	1	0	0	0	0	0
3.68	4	21	23	0	2	0	0	0	0	0

3.69	3	17	17	0	0	0	3	0	0	0
3.70	3	14	17	0	0	0	0	0	0	0
3.71	2	19	17	0	0	1	2	1	0	0
3.72	1	12	11	0	1	0	0	1	0	0
3.73	3	11	12	0	0	0	1	1	0	0
3.74	4	14	16	0	0	0	2	0	0	0
3.75	4	22	23	0	0	0	2	1	0	0
3.76	9	30	38	0	0	0	1	0	0	0
3.77	9	28	32	1	0	0	2	3	0	0
3.78	8	36	37	0	0	0	5	2	0	0
3.79	2	22	19	0	0	0	4	0	0	0
3.80	7	25	30	0	0	0	2	0	0	0
3.81	4	22	23	0	0	0	2	1	0	0
3.82	2	22	24	0	0	0	0	0	0	0
3.83	3	14	15	0	1	0	1	0	0	0
3.84	2	8	9	0	0	0	0	1	0	0
3.85	1	12	13	0	0	0	0	0	0	0
3.86	6	28	27	1	0	1	5	0	0	0
3.87	0	39	30	1	2	2	4	0	0	0
3.88	3	38	30	2	1	2	5	1	0	0
3.89	4	27	26	0	0	1	2	2	0	0
3.90	0	10	8	0	0	0	2	0	0	0
3.91	0	11	8	0	1	0	1	1	0	0
3.92	0	9	3	0	2	1	3	0	0	0
3.93	0	6	5	1	0	0	0	0	0	0
3.94	1	12	6	0	3	1	3	0	0	0
3.95	1	13	11	0	1	1	1	0	0	0
3.96	1	11	7	0	4	1	0	0	0	0
3.97	1	13	8	1	4	0	0	1	0	0
3.98	1	12	6	0	2	2	3	0	0	0
3.99	0	10	5	1	1	1	2	0	0	0

4.00	1	14	9	0	0	0	4	2	0	0
4.01	2	12	5	1	0	1	7	0	0	0
4.02	0	9	3	1	0	1	3	1	0	0
4.03	2	28	19	0	2	1	8	0	0	0
4.04	3	35	25	2	1	2	6	2	0	0
4.05	5	33	31	0	1	1	4	1	0	0
4.06	4	13	10	1	2	1	2	1	0	0
4.07	6	26	24	1	1	5	2	0	0	0
4.08	6	25	23	1	1	1	5	0	0	0
4.09	2	28	16	1	2	1	8	2	0	0
4.10	2	21	16	2	1	0	3	1	0	0
4.11	3	18	15	0	0	1	3	3	0	0
4.12	1	18	14	0	0	2	3	0	0	0
4.13	1	15	12	0	0	0	2	2	0	0
4.14	1	23	15	0	0	2	5	2	0	0
4.15	1	17	8	0	2	2	6	0	0	0
4.16	1	26	24	1	0	1	1	0	0	0
4.17	2	22	17	1	1	1	2	2	0	0
4.18	4	36	35	0	0	0	5	0	0	0
4.19	2	22	23	0	0	0	1	0	0	0
4.20	1	15	12	1	1	0	2	0	0	0
4.21	1	27	23	0	3	0	2	0	0	0
4.22	4	28	29	0	1	1	1	0	0	0
4.23	2	29	26	0	0	0	4	0	0	0
4.24	3	20	16	0	0	2	3	2	0	0
4.25	1	34	28	1	1	1	4	0	0	0
4.26	3	19	19	0	0	1	2	0	0	0
4.27	5	37	39	0	0	1	2	0	0	0
4.28	1	23	18	1	1	3	1	0	0	0
4.29	1	16	11	4	0	0	2	0	0	0
4.30	1	29	19	4	0	2	3	2	0	0

4.31	1	32	29	1	0	0	2	1	0	0
4.32	4	28	27	0	1	0	3	0	0	0
4.33	3	53	48	2	0	3	3	0	0	0
4.34	5	34	30	2	0	3	1	3	0	0
4.35	3	25	26	1	0	1	0	0	0	0
4.36	7	42	44	0	0	1	4	0	0	0
4.37	3	37	34	0	0	1	5	0	0	0
4.38	4	40	37	1	0	2	4	0	0	0
4.39	4	43	44	1	0	0	2	0	0	0
4.40	4	21	20	0	0	0	3	2	0	0
4.41	1	33	32	0	0	1	1	0	0	0
4.42	3	25	28	0	0	0	0	0	0	0
4.43	1	17	16	0	0	1	1	0	0	0
4.44	2	28	30	0	0	0	1	0	0	0
4.45	6	40	37	2	0	3	5	0	0	0
4.46	7	42	44	0	2	0	2	0	0	0
4.47	3	39	39	0	0	0	3	0	0	0
4.48	6	24	27	0	0	0	3	0	0	0
4.49	6	61	42	3	2		3	10	0	0
4.50	4	19	16	1	1	3	1	1	0	0
4.51	2	40	30	4	1	3	3	1	0	0
4.52	3	14	12	0	1	2	2	0	0	0
4.53	2	33	25	3	0	0	5	2	0	0
4.54	2	17	16	1	0	0	2	0	0	0
4.55	6	28	28	0	2	2	2	0	0	0
4.56	5	20	20	1	0	2	1	1	0	0
4.57	0	3	3	0	0	0	0	0	0	0
4.58	0	1	1	0	0	0	0	0	0	0
4.59	1	5	4	1	0	1	0	0	0	0
4.60	2	12	11	0	0	3	0	0	0	0
4.61	1	13	12	0	2	0	0	0	0	0

4.62	2	10	9	0	0	3	0	0	0	0
4.63	1	11	11	0	0	1	0	0	0	0
4.64	0	6	2	0	0	4	0	0	0	0
4.65	1	3	3	0	0	1	0	0	0	0
4.66	0	12	10	0	0	2	0	0	0	0
4.67	5	12	15	1	0	0	1	0	0	0
4.68	1	18	16	1	0	1	1	0	0	0
4.69	4	35	32	1	0	1	3	2	0	0
4.70	4	31	31	1	1	1	1	0	0	0
4.71	4	34	32	0	1	1	3	1	0	0
4.72	6	26	28	1	1	0	2	0	0	0
4.73	3	11	14	0	0	0	0	0	0	0
4.74	2	21	19	1	1	0	2	0	0	0
4.75	4	14	16	0	0	0	2	0	0	0
4.76	4	47	47	2	1	0	1	0	0	0
4.77	5	52	49	3	1	1	3	0	0	0
4.78	0	12	9	2	0	0	1	0	0	0
4.79	2	31	18	0	0	0	5	0	0	0
4.80	5	50	49	0	1	4	0	1	0	0
4.81	1	13	12	0	0	2	0	0	0	0
4.82	3	34	31	3	1	1	1	0	0	0
4.83	10	21	26	0	2	3	0	0	0	0
4.84	0	8	7	0	0	1	0	0	0	0
4.85	3	15	12	3	0	3	0	0	0	0
4.86	4	21	21	1	0	0	0	0	0	0
4.87	1	22	18	0	1	3	0	0	0	0
4.88	3	29	29	1	0	2	0	0	0	0
4.89	0	19	16	0	0	3	0	0	0	0
4.90	1	35	30	2	1	3	0	0	0	0
4.91	3	21	20	0	0	4	0	0	0	0
4.92	0	31	26	0	0	5	0	0	0	0

4.93	1	26	25	0	0	2	0	0	0	0
4.94	5	19	21	0	0	3	0	0	0	0
4.95	3	36	32	2	0	5	0	0	0	0
4.96	1	16	17	0	0	0	0	0	0	0
4.97	2	16	16	0	0	2	0	0	0	0
4.98	2	31	26	1	2	1	2	1	0	0
4.99	1	14	13	0	0	1	1	0	0	0
5.00	1	18	17	0	0	0	2	0	0	0
5.01	0	17	15	0	0	1	1	0	0	0
5.02	0	23	17	1	0	1	3	1	0	0
5.03	8	54	48	0	2	1	1	0	0	0
5.04	6	45	3	1	1	1	0	0	0	0
5.05	3	43	40	0	1	2	3	0	0	0
5.06	1	22	21	0	0	0	1	1	0	0
5.07	4	22	22	1	0	1	2	0	0	0
5.08	7	35	1	1	1	2	1	1	0	0
5.09	5	43	42	1	1	2	2	0	0	0
5.10	2	35	28	0	1	3	2	3	0	0
5.11	2	36	33	1	1	1	2	0	0	0
5.12	1	36	35	0	2	0	0	0	0	0
5.13	0	14	11	0	1	0	2	0	0	0
5.14	0	36	34	0	0	0	2	0	0	0
5.15	4	21	19	2	1	0	2	1	0	0
5.16	1	55	50	2	0	4	0	0	0	0
5.17	5	23	25	1	0	1	0	1	0	0
5.18	3	14	15	1	0	1	0	0	0	0
5.19	1	23	21	0	0	0	2	1	0	0
5.20	4	39	37	0	1	2	2	1	0	0
5.21	2	18	18	0	0	1	1	0	0	0
5.22	2	66	60	1	0	4	3	0	0	0
5.23	4	32	34	1	0	1	0	0	0	0

5.24	3	49	49	0	0	3	0	0	0	0
5.25	2	29	29	1	0	1	0	0	0	0
5.26	2	16	17	0	0	1	0	0	0	0
5.27	2	28	28	0	0	2	0	0	0	0
5.28	5	11	14	1	0	1	0	0	0	0
5.29	0	16	16	0	0	0	0	0	0	0
5.30	0	5	4	1	0	0	0	0	0	0
5.31	0	18	15	1	1	0	0	1	0	0
5.32	0	14	14	0	0	0	0	0	0	0
5.33	3	18	21	0	0	0	0	0	0	0
5.34	4	23	24	1	0	2	0	0	0	0
5.35	0	6	6	0	0	0	0	0	0	0
5.36	0	14	11	1	0	1	0	1	0	0
5.37	0	11	10	0	0	1	0	0	0	0
5.38	0	18	16	0	0	2	0	0	0	0
5.39	2	15	17	0	0	0	0	0	0	0
5.40	5	23	22	1	1	1	1	2	0	0
5.41	1	9	7	2	0	1	0	0	0	0
5.42	4	38	36	1	1	1	1	2	0	0
5.43	12	51	59	1	0	0	2	1	0	0
5.44	5	35	37	0	0	3	0	0	0	0
5.45	2	25	21	2	0	1	3	0	0	0
5.46	11	33	33	2	2	2	3	2	0	0
5.47	1	32	26	0	0	1	5	1	0	0
5.48	n/a	na	na	na	na	na	na	na	na	na
5.49	4	29	26	0	0	3	0	0	0	4
5.50	0	12	7	1	0	1	2	1	0	0
5.51	0	24	13	2	2	6	0	0	0	0
5.52	1	19	15	0	1	2	0	1	1	0
5.53	0	9	7	0	0	1	0	0	0	0
5.54	0	5	5	0	0	0	0	0	0	0

5.55	3	25	21	0	2	4	1	0	1	0
5.56	6	25	25	1	0	4	0	0	0	0
5.57	0	14	12	0	2	0	0	0	0	0
5.58	3	32	31	0	0	1	0	0	1	1
5.59	3	51	45	0	1	3	0	3	0	1
5.60	3	23	24	1	0	0	1	0	0	0
5.61	1	23	17	0	0	3	2	1	1	0
5.62	2	31	28	1	0	0	0	2	0	0
5.63	1	35	29	0	2	5	1	0	0	0
5.64	2	29	28	0	0	1	0	1	0	0
5.65	6	34	33	0	0	3	1	2	1	0
5.66	4	41	33	0	2	0	2	1	0	0
5.67	4	22	23	1	0	0	0	0	0	0
5.68	2	11	12	0	0	0	2	0	0	0
5.69	3	24	21	1	0	2	0	0	0	0
5.70	1	14	14	0	0	1	0	0	0	0
5.71	1	39	36	0	0	1	0	2	0	0
5.72	7	50	48	0	1	7	3	1	0	0
5.73	12	51	55	0	1	2	0	0	0	1
5.74	2	17	16	0	0	2	1	1	0	0
5.75	1	24	20	0	1	2	1	0	0	1
5.76	2	16	14	1	1	0	0	1	0	0
5.77	5	32	33	1	1	0	0	0	0	0
5.78	10	56	59	0	0	2	0	3	0	0
5.79	4	27	26	0	0	2	2	3	0	0
5.80	2	24	24	0	0	0	0	0	0	0
5.81	2	11	12	0	0	1	0	0	0	0
5.82	1	48	43	0	0	1	0	0	0	0
5.83	2	17	18	0	0	1	0	0	0	0
5.84	2	12	10	0	1	1	0	1	0	1
5.85	1	17	16	0	0	1	0	0	1	0

5.86	0	34	32	0	0	2	0	0	0	0
5.87	2	18	19	0	0	0	0	0	0	0
5.88	2	9	11	0	0	0	0	0	0	0
5.89	2	9	10	1	1	0	0	0	0	0
5.90	2	35	30	1	1	4	1	0	0	1
5.91	1	19	18	0	0	0	0	0	0	2
5.92	3	32	27	2	2	2	1	0	1	2
5.93	2	14	13	2	2	1	0	0	0	1
5.94	2	19	17	1	1	2	0	0	0	0
5.95	1	31	23	0	0	5	1	2	0	1
5.96	4	22	19	0	0	3	1	0	0	2
5.97	2	25	24	0	0	1	0	0	0	2
5.98	2	17	18	0	0	1	0	0	0	0
5.99	3	16	16	0	0	1	2	0	0	0
6.00	1	17	15	1	1	1	0	0	0	0
6.01	2	16	16	0	0	0	1	1	0	0
6.02	1	21	16	1	0	1	2	1	0	1
6.03	2	16	17	0	0	1	0	0	0	1
6.04	1	30	26	1	0	0	1	1	0	2
6.05	1	22	20	0	1	0	0	1	0	1
6.06	3	22	21	2	0	0	0	0	0	2
6.07	10	43	51	0	0	1	0	0	0	1
6.08	0	17	17	0	0	0	0	0	0	0
6.09	0	45	39	0	0	0	2	1	0	2
6.10	3	45	45	0	0	2	0	0	0	1
6.11	4	23	23	0	1	1	1	0	0	1
6.12	1	11	10	0	2	0	0	0	0	0
6.13	22	61	74	0	0	3	3	3	0	0
6.14	1	17	16	0	0	1	1	0	0	0
6.15	0	8	8	0	0	0	0	0	0	0
6.16	2	14	12	0	2	2	0	0	0	0

6.17	2	10	11	1	0	0	0	0	0	0
6.18	0	16	13	0	0	0	2	1	0	0
6.19	0	21	20	0	0	1	0	0	0	0
6.20	4	7	8	1	0	1	1	0	0	0
6.21	1	10	9	2	0	0	0	0	0	0
6.22	4	14	16	0	0	0	2	0	0	0
6.23	8	41	45	0	0	3	0	0	0	1
6.24	3	17	18	0	0	0	0	1	0	0
6.25	2	9	8	0	0	2	0	1	0	0
6.26	3	15	16	0	0	2	0	0	0	0
6.27	4	24	24	0	0	2	0	0	0	0
6.28	0	15	15	0	0	0	0	0	0	0
6.29	2	35	29	0	2	5	0	1	0	0
6.30	4	31	28	0	2	2	1	0	0	2
6.31	1	22	21	0	0	1	1	0	0	0
6.32	5	31	32	1	0	2	0	1	0	0
6.33	3	15	17	0	0	1	0	0	0	0
6.34	0	15	9	0	1	4	1	0	0	0
6.35	3	11	13	0	0	1	0	0	0	0
6.36	0	38	32	0	1	3	0	0	0	2
6.37	1	34	31	1	0	2	1	0	0	0
6.38	4	14	14	1	1	2	0	0	0	0
6.39	1	35	32	0	1	1	2	0	0	0
6.40	0	11	10	0	0	1	0	0	0	0
6.41	1	15	14	0	0	1	0	0	0	0
6.42	3	37	38	0	0	2	0	0	0	0
6.43	0	13	12	0	0	1	0	0	0	0
6.44	0	20	19	0	0	1	0	0	0	0
6.45	0	6	5	0	0	1	0	0	0	0
6.46	0	18	15	0	0	1	0	0	0	1
6.47	0	14	13	0	0	1	0	0	0	0

6.48	5	19	21	0	0	1	0	0	0	2
6.49	16	30	35	2	1	2	6	0	0	0
6.50	15	32	38	1	2	0	0	0	0	0
6.51	11	22	30	0	1	0	2	0	0	0
6.52	21	55	64	0	3	1	7	0	0	0
6.53	12	84	85	1	3	0	0	0	0	0
6.54	15	78	79	0	2	1	9	0	0	0
6.55	7	42	43	1	1	0	2	2	0	0
6.56	17	44	58	0	0	0	4	0	0	0
6.57	22	56	64	2	2	0	6	0	0	0
6.58	6	36	35	0	2	1	1	2	0	0
6.59	4	45	41	0	1	1	3	2	0	0
6.60	5	34	30	0	1	1	4	1	0	0
6.61	3	34	26	1	3	1	4	2	0	0
6.62	5	37	36	0	1	1	1	2	0	0
6.63	3	48	41	0	1	3	3	2	0	1
6.64	6	64	51	0	3	1	3	1	0	0
6.65	4	41	38	1	1	0	3	1	0	0
6.66	2	24	20	0	2	2	1	1	0	0
6.67	3	43	38	0	0	1	2	1	0	3
6.68	3	31	29	0	0	1	2	0	1	0

Appendix H - Comstock Lake Raw Charcoal Data

Depth	>250	>125	Dark	Cell	Por	Spon	Fib	Bran	Latt	Bord
0	1	34	21	1	0	1	12	0	0	0
1	1	21	18	0	0	0	4	0	0	0
2	2	30	17	2	3	1	9	0	0	0
3	2	18	15	0	0	0	5	0	0	0
4	2	18	13	1	0	0	6	0	0	0
5	2	44	26	4	1	1	14	0	0	0
6	2	38	18	3	0	0	17	2	0	0
7	2	42	27	1	1	1	14	0	0	0
8	5	61	32	5	1	3	22	4	0	0
9	2	19	14	1	0	0	6	0	0	0
10	0	26	9	2	1	1	11	2	0	0
11	2	21	6	1	1	2	10	3	0	0
12	2	27	16	4	0	1	8	0	0	0
13	1	46	20	1	0	2	20	4	0	0
14	1	30	10	1	0	4	13	2	0	0
15	1	34	14	3	1	2	14	1	0	0
16	2	36	14	1	1	1	17	4	0	0
17	1	18	6	0	0	2	11	0	0	0
18	1	24	13	1	0	2	7	2	0	0
19	1	16	10	2	1	0	4	0	0	0
20	4	20	8	1	0	0	10	5	0	0
21	1	49	23	5	2	0	15	5	0	0
22	3	43	22	2	2	0	20	0	0	0
23	0	15	11	0	0	0	4	0	0	0
24	0	25	17	1	0	2	6	0	0	0
25	0	19	8	1	0	0	10	0	0	0
26	0	15	8	0	0	0	7	0	0	0

27	4	6	5	0	1	0	4	0	0	0
28	3	37	18	2	3	0	16	1	0	0
29	4	13	8	1	1	0	5	0	0	0
30	4	28	13	3	1	0	13	3	0	0
31	0	45	25	2	0	1	15	2	0	0
32	1	22	8	1	1	1	12	0	0	0
33	4	46	23	2	2	2	19	2	0	0
34	4	45	13	3	1	0	27	5	0	0
35	8	47	17	1	3	1	27	6	0	0
36	4	42	14	3	1	0	23	5	0	0
37	3	49	25	1	3	0	23	0	0	0
38	5	33	10	1	0	0	25	2	0	0
39	2	31	20	1	0	0	12	0	0	0
40	0	71	25	8	4	0	34	0	0	0
41	5	72	24	2	3	2	43	3	0	0
42	6	100	34	8	6	4	49	5	0	0
43	9	84	32	3	6	0	41	11	0	0
44	6	127	38	8	9	4	64	12	0	0
45	11	75	33	4	4	3	35	7	0	0
46	5	89	25	5	3	4	52	5	0	0
47	6	88	27	9	5	1	48	5	0	0
48	7	73	16	5	3	3	45	8	0	0
49	2	79	38	3	1	1	38	1	0	0
50	5	111	39	4	4	4	59	6	0	0
51	5	144	48	3	2	1	90	4	0	0
52	9	113	32	3	6	5	69	7	0	0
53	11	111	33	3	4	0	77	5	0	0
54	5	62	14	2	3	1	42	5	0	0
55	9	98	31	3	4	5	53	2	0	0
56	11	94	28	7	4	2	55	9	0	0
57	12	90	18	6	4	2	52	8	0	0

58	5	49	16	2	1	0	33	2	0	0
59	5	55	21	2	3	1	28	5	0	0
60	3	38	21	2	1	1	10	3	1	0
61	2	27	9	1	0	0	13	2	2	0
62	3	42	14	2	1	1	24	1	2	0
63	4	59	21	1	3	3	34	1	1	0
64	7	56	15	7	4	3	39	4	1	0
65	17	74	10	1	2	1	62	2	3	0
66	5	47	32	1	3	0	14	2	0	0
67	11	49	31	0	0	0	16	2	1	0
68	3	39	26	0	0	1	11	3	1	0
69	7	50	32	2	1	1	18	3	0	0
70	11	61	38	1	4	0	23	4	2	0
71	7	58	25	2	1	2	32	2	1	0
72	12	88	72	0	1	0	19	2	1	0
73	17	105	74	1	4	0	39	4	0	0
74	12	126	82	0	2	0	40	3	0	0
75	19	94	84	3	1	1	21	3	0	0
76	17	96	87	1	0	0	23	2	0	0
77	18	80	60	2	1	0	26	4	0	0
78	13	89	78	0	1	0	23	0	0	0
79	26	67	71	0	0	0	11	1	0	0
80	40	51	71	0	0	0	18	2	0	0
81	55	91	123	0	0	0	20	3	0	0
82	69	48	97	1	0	0	19	0	0	0
83	56	48	87	0	0	0	16	1	0	0
84	58	42	88	0	0	0	10	2	0	0
85	60	44	89	0	0	0	14	1	0	0
86	27	40	57	0	0	0	9	1	0	0
87	48	30	70	0	0	0	6	2	0	0
88	11	31	32	0	0	0	7	3	0	0

89	7	25	22	0	2	0	7	1	0	0
90	5	20	21	0	0	1	3	0	0	0
91	3	29	25	0	0	1	5	1	0	0
92	7	37	32	1	0	0	7	4	0	0
93	7	34	27	2	0	0	12	0	0	0
94	2	28	23	0	0	0	4	3	0	0
95	6	29	27	0	0	0	7	1	0	0
96	4	14	11	1	2	0	4	0	0	0
97	9	27	34	0	0	1	1	0	0	0
98	4	32	29	0	0	1	2	4	0	0
99	3	15	17	0	0	1	0	0	0	0
100	11	29	33	0	0	2	0	5	0	0
101	10	34	35	1	0	0	7	1	0	0
102	13	42	40	0	0	0	8	6	1	0
103	10	34	30	1	2	0	9	1	0	0
104	4	20	14	0	0	1	7	2	0	0
105	2	10	6	1	0	0	5	0	0	0
106	5	32	21	0	3	1	10	3	0	0
107	4	14	11	0	0	1	4	2	0	0
108	19	93	84	3	1	2	14	8	0	0
109	9	34	38	0	0	0	4	1	0	0
110	13	46	47	0	0	1	8	3	0	0
111	15	62	48	0	3	0	14	4	1	0
112	9	36	40	0	0	1	3	1	0	0
113	11	51	54	0	0	0	5	2	0	0
114	24	63	82	0	0	0	5	0	0	0
115	18	84	96	0	1	2	2	1	0	0
116	19	64	70	0	1	3	7	2	0	0
117	17	71	80	0	3	2	1	1	1	0
118	19	83	81	0	0	0	20	1	0	0
119	17	18	26	0	0	1	7	1	0	0

120	16	42	31	2	4	5	15	1	0	0
121	7	68	47	3	4	4	17	1	0	0
122	4	52	35	0	0	1	18	2	0	0
123	8	64	39	2	1	4	22	4	0	0
124	11	99	82	0	0	5	19	4	0	0
125	9	42	38	0	0	1	11	1	0	0
126	10	42	34	0	1	4	12	1	0	0
127	16	61	66	0	1	3	4	3	0	0
128	16	46	54	0	2	1	2	3	0	0
129	14	52	55	0	1	5	3	2	0	0
130	26	62	76	2	1	1	4	4	0	0
131	13	45	42	0	0	4	4	2	0	0
132	16	43	52	0	2	2	3	0	0	0
133	12	60	60	2	1	1	6	3	0	0
134	14	55	61	0	1	2	3	2	0	0
135	15	52	50	0	1	2	13	1	0	0
136	13	45	28	1	1	1	12	15	0	0
137	13	92	87	1	0	0	14	3	0	0
138	26	75	66	0	2	2	29	2	0	0
139	19	86	90	0	0	0	13	2	0	0
140	20	76	70	2	0	1	22	1	0	0
141	17	60	61	1	0	2	10	2	1	0
142	15	90	95	2	1	1	10	1	0	0
143	25	40	40	1	2	3	7	2	0	0
144	8	18	23	0	0	2	0	1	0	0
145	5	20	23	0	1	0	1	0	1	0
146	4	11	14	1	0	0	0	0	0	0
147	16	49	56	0	1	2	5	1	0	0
148	12	39	47	0	1	0	3	0	0	0
149	22	77	88	0	1	0	7	3	0	0
150	17	58	67	1	0	3	4	0	0	0

151	20	55	66	0	0	1	5	4	0	0
152	16	62	68	0	0	1	7	2	0	0
153	9	70	56	0	1	6	14	2	0	0
154	13	87	79	0	1	3	14	3	0	0
155	17	81	82	2	0	1	12	2	0	0
156	12	52	52	1	0	3	7	1	0	0
157	5	57	55	1	0	2	4	0	0	0
158	11	46	48	0	0	0	9	0	0	0
159	8	38	35	1	1	1	5	3	0	0
160	12	61	55	2	0	2	12	2	0	0
161	3	76	66	0	1	1	10	1	0	0
162	5	52	42	0	0	2	11	2	0	0
163	8	41	36	0	1	3	9	0	0	0
164	5	39	31	1	0	2	8	2	0	0
165	17	42	40	1	1	2	12	3	0	0
166	9	63	56	3	1	0	9	3	0	0
167	7	64	48	1	0	2	18	2	0	0
168	8	44	39	0	1	1	11	0	0	0
169	7	47	42	1	0	0	8	3	0	0
170	16	66	64	1	0	2	14	1	0	0
171	25	76	89	1	1	2	7	1	0	0
172	10	49	53	0	1	0	5	0	0	0
173	16	71	73	1	1	2	10	0	0	0
174	18	55	62	0	3	2	7	0	0	0
175	11	71	70	1	2	2	5	2	0	0
176	22	61	63	1	2	2	8	1	0	0
177	28	74	85	0	0	1	11	5	0	0
178	16	85	85	3	0	0	12	1	0	0
179	2	66	52	1	1	1	12	1	0	0
180	15	66	65	0	1	2	10	3	0	0
181	10	37	41	0	0	0	5	1	0	0

182	22	21	33	1	1	2	5	1	0	0
183	17	46	52	0	2	3	6	0	0	0
184	17	44	54	0	0	2	4	1	0	0
185	6	38	36	0	1	1	5	1	0	0
186	17	44	52	0	0	1	7	1	0	0
187	28	61	74	0	0	1	10	4	0	0
188	21	83	85	0	1	2	11	5	0	0
189	18	64	73	0	1	0	5	2	0	0
190	12	60	51	0	1	2	11	6	1	0
191	4	36	32	0	2	2	3	1	0	0
192	3	53	46	2	1	0	6	1	0	0
193	7	52	49	0	2	1	3	4	0	0
194	5	48	44	1	0	0	6	2	0	0
195	8	46	44	0	1	0	6	3	0	0
196	14	55	60	0	2	2	5	0	0	0
197	8	55	49	0	0	3	9	2	0	0
198	7	43	42	0	0	0	6	2	0	0
199	14	81	78	0	1	1	15	0	0	0
200	12	37	43	0	1	1	3	1	0	0
201	14	66	66	0	0	2	10	2	0	0
202	3	32	27	0	1	2	5	0	0	0
203	3	45	37	0	1	2	6	2	0	0
204	7	48	42	1	1	2	6	3	0	0
205	9	42	41	2	1	2	4	1	0	0
206	6	47	40	1	1	1	9	1	0	0
207	11	53	49	1	0	1	11	2	0	0
208	7	58	52	2	1	3	7	0	0	0
209	8	37	39	0	0	1	5	0	0	0
210	4	65	61	0	0	1	7	0	0	0
211	14	72	67	0	2	3	10	3	0	0
212	13	53	55	1	1	2	5	2	0	0

213	7	76	72	1	1	2	4	3	0	0
214	9	47	43	0	1	1	9	2	0	0
215	31	51	61	0	0	2	16	3	0	0
216	4	38	32	2	0	1	7	0	0	0
217	11	53	49	0	1	1	13	0	0	0
218	2	53	45	0	0	3	5	2	0	0
219	16	72	72	0	3	2	11	0	0	0
220	8	62	60	0	1	1	8	0	0	0
221	16	56	57	2	3	1	7	2	0	0
222	30	71	87	2	0	3	9	0	0	0
223	18	74	76	0	3	2	10	1	0	0
224	14	69	74	0	0	2	5	2	0	0
225	13	53	49	1	0	5	6	5	0	0
226	8	40	42	0	0	3	1	2	0	0
227	5	42	40	0	1	2	3	1	0	0
228	3	41	35	0	1	1	6	1	0	0
229	12	33	38	0	1	2	4	0	0	0
230	9	27	30	0	0	0	5	1	0	0
231	23	42	51	1	2	2	8	1	0	0
232	19	91	100	0	0	3	6	1	0	0
233	19	63	65	0	2	6	7	1	1	0
234	16	36	43	0	0	3	5	1	0	0
235	11	58	55	0	1	3	8	2	0	0
236	11	83	76	2	2	2	8	4	0	0
237	8	65	57	0	0	3	8	2	2	1
238	22	104	110	0	3	3	8	2	0	0
239	3	82	72	1	2	3	7	1	0	0
240	5	88	76	2	2	4	7	2	0	0
241	6	79	66	1	2	3	11	1	1	0
242	8	100	82	1	2	4	14	4	1	0
243	9	59	51	1	1	4	7	4	0	0

244	17	72	69	0	2	5	11	2	0	0
245	10	74	66	0	1	3	11	3	0	0
246	10	52	50	2	1	3	4	2	0	0
247	5	47	41	0	1	1	6	3	0	0
248	12	49	48	3	0	3	3	4	0	0
249	14	52	57	0	1	2	4	2	0	0
250	5	106	94	2	2	3	7	3	0	0
251	21	62	56	3	3	2	14	4	0	0
252	1	43	38	0	0	1	4	1	0	0
253	9	19	22	0	0	2	2	2	0	0
254	9	32	37	0	0	0	4	0	0	0
255	5	19	22	0	0	0	2	1	0	0
256	8	45	47	0	0	1	3	2	0	0
257	9	34	32	0	1	2	7	1	0	0
258	10	93	89	0	0	4	8	2	0	0
259	6	44	44	0	0	0	4	2	0	0
260	6	47	41	0	0	6	6	0	0	0
261	5	68	64	0	0	3	6	0	0	0
262	11	73	71	0	1	3	8	1	0	0
263	7	51	50	0	0	2	4	2	0	0
264	1	41	38	0	0	1	2	1	0	0
265	12	41	41	2	1	2	7	0	0	0
266	21	52	56	1	2	4	10	0	0	0
267	21	89	88	0	3	4	9	3	3	0
268	14	63	60	0	3	3	11	0	0	0
269	12	35	37	1	1	1	7	0	0	0
270	7	35	30	0	2	3	6	1	0	0
271	9	32	31	0	3	2	4	1	0	0
272	3	24	23	0	0	0	3	1	0	0
273	13	44	46	1	1	2	4	3	0	0
274	9	32	33	1	1	1	3	1	1	0

275	10	38	38	1	0	2	3	3	1	0
276	10	27	31	0	0	2	2	0	2	0
277	14	60	60	1	1	1	10	1	0	0
278	13	48	48	3	3	2	3	2	0	0
279	19	55	64	1	1	1	5	2	0	0
280	9	53	44	0	3	5	9	1	1	0
281	20	50	61	0	1	2	4	1	1	0
282	12	21	23	0	0	2	7	1	0	0
283	7	38	31	0	1	3	7	2	1	0
284	11	31	35	0	0	3	3	1	0	0
285	12	53	53	2	0	1	8	1	0	0
286	11	49	52	0	1	1	4	2	1	0
287	5	41	36	1	1	1	3	4	0	0
288	13	66	66	0	0	1	7	5	0	0
289	11	98	75	5	5	7	4	3	1	0
290	14	60	60	1	2	2	6	2	1	0
291	6	60	55	2	0	2	4	3	0	0
292	5	48	44	2	0	1	4	2	0	0
293	13	63	58	0	1	5	10	2	0	0
294	9	75	59	2	2	3	12	5	1	0
295	8	65	61	0	1	2	7	2	0	0
296	7	84	67	2	1	6	13	2	0	0
297	10	96	86	2	2	3	9	4	0	0
298	11	71	68	0	0	2	6	6	0	0
299	18	41	52	0	0	0	6	2	0	0
300	6	70	65	1	1	0	6	3	0	0
301	14	100	95	1	2	1	11	4	0	0
302	13	60	68	0	1	1	4	4	0	0
303	7	69	67	0	0	1	7	1	0	0
304	4	49	51	0	0	0	1	1	0	0
305	12	45	45	0	0	2	8	1	0	0

306	6	57	53	0	0	4	6	0	0	0
307	4	39	34	2	1	2	3	1	0	0
308	11	58	51	0	1	3	9	5	0	0
309	15	53	55	1	1	1	5	4	1	0
310	11	50	52	1	1	1	5	1	0	0
311	3	28	23	1	1	1	3	2	0	0
312	12	54	52	1	3	0	8	2	0	0
313	14	63	66	1	2	3	2	2	1	0
314	16	28	38	0	2	0	2	2	0	0
315	14	48	52	0	1	0	4	4	1	0
316	12	43	44	0	3	2	2	2	2	0
317	3	66	79	0	2	6	7	2	0	0
318	12	43	46	1	1	0	3	4	0	0
319	10	46	46	0	1	0	8	1	0	0
320	1	29	27	0	0	1	1	1	0	0
321	9	114	110	2	2	2	6	1	0	0
322	5	58	55	0	0	2	3	3	0	0
323	5	36	39	0	0	0	1	1	0	0
324	6	32	33	0	1	1	1	1	1	0
325	1	24	20	1	1	1	1	1	0	0
326	12	123	116	0	1	3	8	6	1	0
327	11	47	50	0	0	3	4	1	0	0
328	3	36	33	0	1	0	4	1	0	0
329	8	19	22	1	1	0	2	1	0	0
330	5	41	34	0	2	4	5	1	0	0
331	10	70	59	1	3	4	11	1	1	0
332	26	109	124	1	0	3	6	1	0	0
333	6	78	78	0	0	1	3	2	0	0
334	7	54	53	0	0	1	5	1	1	0
335	6	38	38	0	0	4	2	0	0	0
336	22	66	82	0	1	1	4	0	0	0

337	16	58	67	0	2	1	3	1	0	0
338	11	47	48	0	1	1	4	3	1	0
339	22	57	65	0	3	2	6	2	0	0
340	7	48	46	0	1	1	5	2	0	0
341	10	69	71	0	0	1	3	2	2	0
342	11	60	66	0	0	0	3	2	0	0
343	5	29	28	0	0	1	3	2	0	0
344	3	39	35	1	1	0	5	0	0	0
345	6	26	28	0	3	0	1	0	0	0
346	13	29	32	1	2	2	3	2	0	0
347	5	53	44	2	2	4	4	2	0	0
348	12	34	39	0	1	1	5	0	0	0
349	23	81	80	0	3	1	14	4	2	0
350	9	34	35	0	2	1	3	1	1	0
351	16	46	48	0	4	1	7	2	0	0
352	10	39	39	0	4	2	4	0	0	0
353	6	33	31	0	1	0	3	2	2	0
354	20	28	41	0	2	1	3	1	0	0
355	3	43	37	0	0	2	6	1	0	0
356	6	45	42	0	1	1	5	1	1	0
357	5	34	32	0	2	3	1	1	0	0
358	6	40	32	1	0	3	4	6	0	0
359	9	32	29	0	3	3	5	0	1	0
360	5	26	23	0	0	2	4	2	0	0
361	6	44	37	0	1	2	8	2	0	0
362	7	44	37	2	0	1	7	2	2	0
363	19	72	65	1	3	4	11	5	2	0
364	8	50	40	1	3	4	6	4	0	0
365	6	54	48	0	2	2	5	3	0	0
366	9	44	44	0	0	2	5	2	0	0
367	7	54	53	0	1	1	3	2	1	0

368	22	88	92	1	3	4	7	3	0	0
369	6	79	78	0	0	2	3	2	0	0
370	13	76	71	0	2	3	9	3	1	0
371	15	75	81	0	1	2	6	0	0	0
372	23	66	75	0	2	3	6	2	1	0
373	5	55	51	0	0	3	5	1	0	0
374	12	88	77	1	3	5	9	4	1	0
375	13	128	119	2	3	3	10	3	1	0
376	12	86	81	2	1	3	6	5	0	0
377	15	86	80	0	0	2	11	7	1	0
378	19	86	86	1	3	3	3	8	1	0
379	10	52	48	1	3	1	5	4	0	0
380	12	93	92	1	2	2	6	2	0	0
381	12	60	59	1	0	2	7	2	1	0
382	14	74	73	1	1	3	6	4	0	0
383	17	137	128	0	3	6	12	4	1	0
384	10	55	53	1	2	1	4	4	0	0
385	17	105	101	3	3	4	9	0	2	0
386	8	80	74	0	1	2	7	1	3	0
387	22	65	80	0	1	1	3	2	0	0
388	6	35	37	0	1	1	2	0	0	0
389	8	24	26	0	1	2	0	3	0	0
390	6	26	29	0	0	1	2	0	0	0
391	9	33	32	0	3	1	5	1	0	0
392	14	20	28	0	2	1	3	0	0	0
393	20	20	33	0	1	1	2	1	0	0
394	6	25	23	1	2	0	3	0	2	0
395	15	28	35	0	2	1	4	0	1	0
396	14	54	62	0	3	2	1	0	0	0
397	14	42	43	3	6	2	2	0	0	0
398	9	39	38	0	2	2	2	2	2	0

399	17	36	42	0	1	2	3	4	0	0
400	25	29	41	1	6	2	4	0	0	0
401	5	46	37	0	2	5	5	2	0	0
402	10	57	55	1	1	3	5	1	1	0
403	8	65	60	0	1	2	7	3	0	0
404	37	262	240	4	5	12	26	9	3	0
405	16	98	100	0	0	2	6	6	0	0
406	19	103	102	1	2	3	7	3	1	0
407	14	52	55	0	2	2	4	3	0	0
408	11	63	66	0	0	4	3	1	0	0
409	16	65	69	0	1	2	6	2	1	0
410	7	31	35	0	0	1	1	1	0	0
411	13	30	36	1	1	2	2	1	0	0
412	20	62	63	0	2	4	6	6	1	0
413	4	33	27	1	0	2	3	4	0	0
414	6	23	22	0	1	2	1	3	0	0
415	6	24	25	0	0	2	2	1	0	0
416	4	21	17	0	2	1	4	1	0	0
417	8	49	41	1	1	3	8	2	1	0
418	8	65	58	0	2	4	8	1	0	0
419	13	68	56	0	3	7	12	3	0	0
420	11	47	36	2	2	4	7	6	1	0
421	4	22	15	1	0	2	8	0	0	0
422	5	36	30	0	1	2	6	2	0	0
423	9	71	64	1	1	4	7	2	1	0
424	8	37	37	1	1	2	3	1	0	0
425	9	76	68	0	1	0	12	3	1	0
426	21	67	75	0	0	1	10	1	1	0
427	8	43	38	0	1	1	7	3	1	0
428	7	23	22	0	1	3	3	1	0	0
429	13	45	43	1	2	3	7	1	1	0

430	9	55	53	0	2	2	7	0	0	0
431	12	63	60	0	0	2	9	3	1	0
432	15	68	59	2	0	4	14	3	1	0
433	14	74	68	0	0	6	9	5	0	0
434	10	49	51	0	1	2	3	2	0	0
435	15	68	67	1	2	2	7	3	1	0
436	8	26	31	0	0	0	2	1	0	0
437	11	31	35	0	3	0	4	0	0	0
438	25	58	62	1	6	3	9	0	2	0
439	9	27	34	0	0	1	1	0	0	0
440	15	49	56	0	2	4	1	1	0	0
441	25	77	88	0	3	3	6	1	1	0
442	6	35	40	0	1	0	5	0	0	0
443	16	133	122	0	2	5	13	5	2	0
444	20	82	90	0	1	1	7	3	0	0
445	53	87	119	1	1	3	11	4	1	0
446	56	225	252	1	3	7	12	4	2	0
447	38	105	125	0	0	6	7	4	1	0
448	76	256	297	1	2	8	15	7	2	0
449	46	261	289	0	3	3	7	4	1	0
450	40	153	177	0	1	4	7	3	1	0
451	33	74	93	0	2	4	5	3	0	0
452	48	193	220	0	0	3	11	7	0	0
453	41	137	168	0	1	2	4	1	2	0
454	12	45	47	0	1	3	4	2	0	0
455	30	91	108	0	1	3	6	2	1	0
456	12	64	66	0	2	3	5	4	0	0
457	48	182	203	11	0	3	10	2	0	0
458	34	159	158	9	1	6	13	3	1	0
459	13	51	58	3	1	0	0	0	2	0
460	12	41	50	0	0	0	2	1	0	0

461	16	99	102	0	3	2	6	2	0	0
462	30	89	99	0	3	4	10	3	0	0
463	15	68	73	0	1	3	4	2	0	0
464	25	76	88	1	1	1	6	4	0	0
465	26	74	85	1	3	5	5	1	0	0
466	15	115	113	1	3	3	5	5	0	0
467	18	121	126	1	2	2	5	2	1	0
468	24	168	166	1	4	4	14	3	0	0
469	20	75	78	0	2	4	7	4	0	0
470	8	49	49	0	2	3	2	1	0	0
471	2	38	34	0	1	3	1	0	0	0
472	7	52	48	1	2	4	3	1	0	0
473	26	59	77	0	0	3	4	1	0	0
474	34	82	100	0	3	4	7	2	0	0
475	10	95	94	0	1	4	3	3	0	0
476	27	105	116	0	1	5	6	4	0	0
477	13	73	71	0	2	6	4	3	0	0
478	30	86	90	0	4	6	9	7	0	0
479	23	51	63	1	1	1	4	4	0	0
480	16	99	97	0	2	5	5	6	0	0
481	55	242	266	2	3	6	12	7	1	0
482	19	65	6	5	2	1	2	6	7	1
483	14	75	76	0	1	3	4	5	0	0
484	18	85	92	1	1	2	5	2	0	0
485	26	91	105	1	1	2	4	3	1	0
486	8	34	37	0	1	3	0	1	0	0
487	7	53	50	0	1	4	4	0	1	0
488	35	85	110	0	2	3	3	2	0	0
489	14	63	71	0	1	2	2	1	0	0
490	19	66	77	0	1	2	3	2	0	0
491	18	70	78	0	1	3	3	2	1	0

492	15	85	89	1	1	2	4	1	0	0
493	38	87	112	0	0	2	6	5	0	0
494	29	88	107	0	1	2	5	2	0	0
495	22	55	72	0	0	2	1	2	0	0
496	16	50	61	0	1	1	2	1	0	0
497	15	59	68	0	0	2	2	1	1	0
498	18	52	67	0	0	1	1	1	0	0
499	17	62	73	0	0	2	2	2	0	0
500	11	52	59	0	1	1	1	1	0	0
501	14	51	57	0	0	2	2	3	1	0
502	5	53	55	0	0	2	1	0	0	0
503	10	43	49	0	1	1	2	0	0	0
504	14	46	57	0	0	1	1	1	0	0
505	24	71	91	0	0	2	1	1	0	0
506	12	59	68	1	0	1	1	0	0	0
507	10	51	58	0	1	0	0	1	1	0
508	16	45	60	0	0	0	1	0	0	0
509	17	43	54	0	0	1	2	3	0	0
510	22	85	102	0	1	2	1	1	0	0
511	20	55	71	0	0	2	1	1	0	0
512	16	52	64	0	0	1	1	2	0	0
513	12	74	81	0	0	1	2	2	0	0
514	19	78	91	0	1	0	2	3	0	0
515	22	56	76	0	0	1	0	1	0	0
516	20	38	56	0	0	0	1	1	0	0
517	18	80	94	0	0	2	1	1	0	0
518	17	72	84	0	1	0	1	3	0	0
519	24	83	98	0	1	2	3	3	0	0
520	31	88	109	1	2	1	1	4	1	0
521	28	93	111	0	2	1	3	4	0	0
522	36	98	124	1	0	2	3	4	0	0

523	20	55	67	0	1	1	1	5	0	0
524	21	101	108	0	3	2	4	5	0	0
525	57	66	111	0	2	3	4	3	0	0
526	19	58	72	0	0	2	1	2	0	0
527	13	45	56	0	0	0	2	0	0	0
528	36	94	123	0	1	3	1	2	0	0
529	27	76	95	0	1	2	0	5	0	0
530	12	72	77	1	0	0	4	2	0	0
531	12	73	79	0	0	0	3	2	1	0
532	55	79	120	0	0	3	2	9	0	0
533	26	59	77	0	1	2	2	3	0	0
534	20	60	73	1	1	1	0	4	0	0
535	22	58	73	0	0	1	1	5	0	0
536	6	31	34	0	0	3	0	0	0	0
537	10	43	47	0	1	1	2	2	0	0
538	23	41	57	0	1	3	1	2	0	0
539	21	63	80	0	0	1	2	1	0	0
540	7	78	81	0	1	1	1	1	0	0
541	40	76	110	1	0	2	1	2	0	0
542	13	71	75	0	0	1	1	7	0	0
543	15	47	46	3	5	4	3	1	0	0
544	44	48	64	3	4	2	13	5	1	0
545	27	60	66	1	3	2	12	2	1	0
546	43	74	102	2	3	0	8	2	0	0
547	55	160	154	8	6	1	39	2	0	0
548	23	71	80	2	1	0	8	3	0	0
549	7	42	41	2	0	2	3	1	0	0
550	6	67	61	1	3	0	6	2	0	0
551	26	58	64	2	7	1	6	3	1	0
552	35	55	72	1	4	2	10	0	1	0
553	23	51	61	3	1	2	5	2	0	0

554	35	64	77	3	3	2	13	1	0	0
555	32	104	108	7	2	3	16	0	0	0
556	17	125	100	20	3	2	17	0	0	0
557	21	77	69	4	8	2	15	0	0	0
558	24	62	52	5	5	2	20	1	1	0
559	15	40	30	5	3	2	13	2	0	0
560	14	52	45	4	4	2	10	1	0	0
561	30	69	70	9	5	1	13	1	0	0
562	47	133	121	8	10	5	34	2	0	0
563	29	50	52	3	6	3	14	1	0	0
564	25	91	74	12	7	7	17	1	0	0
565	26	54	47	9	2	0	20	2	0	0
566	21	87	62	10	6	4	26	0	0	0
567	21	46	43	7	3	4	9	1	0	0
568	28	47	38	5	3	2	20	2	0	0
569	22	50	41	6	5	3	17	0	0	0
570	32	74	70	7	6	3	18	2	0	0
571	17	70	48	7	6	1	23	3	0	0
572	54	137	115	21	10	5	36	3	3	0
573	42	138	113	12	11	1	38	3	0	0
574	71	96	96	12	7	0	33	9	0	0
575	16	55	44	11	4	0	10	2	0	0
576	26	56	56	11	3	0	12	1	0	0
577	20	133	107	14	6	1	22	3	0	0
578	32	89	82	18	5	2	22	2	0	0
579	44	89	84	16	7	3	20	3	0	0
580	33	88	72	11	5	4	23	6	0	0
581	44	181	125	25	14	10	47	4	0	0
582	34	115	99	10	5	2	18	5	0	0
583	32	132	107	12	10	3	31	1	0	0
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585	7	33	28	2	3	1	6	0	0	0
586	10	40	30	5	2	2	10	1	0	0
587	22	80	56	14	5	4	18	5	0	0
588	20	70	70	8	2	0	10	0	0	0
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591	12	35	30	10	0	0	7	0	0	0
592	20	55	50	10	2	0	12	1	0	0
593	20	60	52	12	0	0	6	0	0	0
594	15	60	50	10	2	2	10	1	0	0
595	6	20	12	8	1	0	5	0	0	0
596	8	30	20	4	1	1	11	1	0	0
597	2	22	11	5	0	0	8	0	0	0
598	4	20	10	6	1	1	6	0	0	0
599	7	29	23	4	1	0	6	2	0	0
600	6	25	20	4	2	0	5	0	0	0
601	10	27	19	5	3	0	9	1	0	0
602	8	26	22	6	0	0	6	0	0	0
603	24	40	40	8	1	0	15	0	0	0
604	20	30	24	10	2	1	12	1	0	0
605	17	31	32	4	2	1	8	1	0	0
606	10	30	25	6	1	0	8	0	0	0
607	11	30	25	7	0	1	7	1	0	0
608	9	48	36	11	1	2	6	1	0	0
609	26	49	50	6	3	3	14	1	0	0
610	9	25	21	3	3	2	0	1	0	0
611	34	44	45	10	3	4	13	3	0	0
612	9	38	27	12	7	0	0	1	0	0
613	23	41	43	7	0	2	9	3	0	0
614	3	14	11	4	0	0	0	0	0	0
615	23	47	50	6	1	2	10	1	0	0

616	2	7	4	2	0	0	1	0	0	0
617	10	34	29	5	1	2	7	0	0	0
618	3	6	7	1	0	0	1	0	0	0
619	13	28	27	4	0	1	8	1	0	0
620	4	25	14	7	1	1	5	1	0	0
621	17	35	35	7	2	2	6	0	0	0
622	8	12	7	9	2	1	1	0	0	0
623	4	28	18	6	0	1	7	0	0	0
624	1	10	5	3	1	1	1	0	0	0
625	3	28	15	4	1	2	8	1	0	0
626	5	15	8	4	1	2	4	0	0	0
627	10	39	28	6	1	3	10	1	0	0
628	20	46	40	15	2	3	5	1	0	0
629	29	61	52	11	1	4	18	3	1	0
630	14	24	25	8	1	1	3	0	0	0
631	9	36	32	4	0	0	6	3	0	0
632	7	20	15	7	1	1	1	1	0	0
633	14	60	52	6	2	3	9	2	0	0
634	19	47	44	12	2	2	5	1	0	0
635	42	75	72	8	7	1	29	0	0	0
636	14	33	35	7	1	0	4	0	0	0
637	5	11	11	0	2	0	3	0	0	0
638	5	10	10	2	1	0	1	1	0	0
639	2	13	12	1	0	0	2	0	0	0
640	8	15	17	3	0	0	4	1	0	0
641	28	81	70	9	5	1	21	2	1	0
642	19	88	66	16	5	8	10	1	0	0
643	15	116	100	6	1	2	18	4	0	0
644	15	50	3	10	4	3	3	0	0	0
645	8	53	48	3	0	1	9	0	0	0
646	9	30	8	6	3	2	3	0	0	0

647	7	28	18	2	1	2	10	2	0	0
648	8	46	32	10	3	2	7		0	0
649	5	27	22	3	0	1	6	0	0	0
650	10	25	20	6	2	1	6	0	0	0
651	11	27	14	8	1	4	9	2	0	0
652	26	28	31	16	1	1	4	0	1	0
653	9	26	20	3	1	1	8	2	0	0
654	19	23	22	7	1	2	10	0	0	0
655	5	33	13	3	0	2	18	2	0	0
656	20	30	33	9	0	0	7	0	0	0
657	13	38	30	5	2	0	12	2	0	0
658	13	35	22	8	2	2	14	0	0	0
659	15	22	19	2	1	1	13	1	0	0
660	14	20	18	5	1	2	7	0	1	0
661	1	15	8	2	0	2	3	1	0	0
662	2	15	6	1	1	2	3	0	0	0
663	4	28	20	2	0	1	9	0	0	0
664	6	20	10	7	1	1	6	0	0	0
665	8	30	22	3	1	3	8	1	0	0
666	12	24	18	8	2	3	4	1	0	0
667	1	44	28	1	1	3	8	4	0	0
668	28	47	44	10	3	4	14	1	0	0
669	13	40	29	2	2	4	14	2	0	0
670	4	40	25	7	2	2	8	0	0	0
671	6	28	16	2	2	2	12	0	0	0
672	3	25	14	8	1	1	5	0	0	0
673	5	27	18	1	1	2	9	1	0	0
674	5	40	22	6	2	2	12	1	0	0
675	4	31	15	4	2	1	10	3	0	0
676	10	40	27	8	1	1	12	0	0	0
677	31	66	66	7	7	3	13	1	0	0

678	2	10	8	3	0	0	1	0	0	0
679	2	5	5	2	0	0	0	0	0	0
680	3	14	7	4	1	2	3	0	0	0
681	8	15	11	1	4	1	6	0	0	0
682	6	18	14	5	0	2	3	0	0	0
683	4	11	10	1	1	0	3	0	0	0
684	4	18	10	6	0	0	5	0	0	0
685	4	19	11	3	2	0	5	2	0	0
686	12	20	17	9	0	2	3	1	0	0
687	5	29	20	3	6	1	4	0	0	0
688	5	24	16	6	1	2	4	0	0	0
689	15	45	30	6	9	3	12	0	0	0
690	6	25	17	5	1	1	6	0	0	0
691	7	37	21	2	2	4	13	2	0	0
692	5	23	15	5	1	2	5	0	0	0
693	10	34	24	4	5	2	7	2	0	0
694	5	24	13	5	1	2	8	0	0	0
695	10	30	19	3	3	4	8	3	0	0
696	2	10	6	2	1	1	2	0	0	0
697	5	17	10	2	2	1	5	2	0	0
698	6	15	10	4	2	1	4	0	0	0
699	12	29	22	3	2	2	9	3	0	0
700	8	19	20	4	1	1	1	0	0	0
701	9	20	17	3	2	4	2	1	0	0
702	12	15	15	3	2	1	5	0	0	0
703	7	53	23	8	7	6	16	0	0	0
704	10	26	18	5	1	3	9	0	0	0
705	5	43	30	6	2	2	8	0	0	0
706	7	32	25	5	1	3	5	0	0	0
707	6	27	12	4	4	3	9	1	0	0
708	7	22	17	6	1	1	4	0	0	0

709	4	11	8	1	2	2	1	1	0	0
710	3	10	6	2	1	2	2	0	0	0
711	3	22	10	5	2	2	5	1	0	0
712	7	15	14	5	1	1	1	0	0	0
713	8	34	15	8	4	4	11	0	0	0
714	5	11	12	2	0	0	2	0	0	0
715	4	7	6	1	1	0	3	0	0	0
716	1	16	11	4	0	0	2	0	0	0
717	6	24	17	3	2	1	7	0	0	0
718	8	25	21	8	1	0	3	0	0	0
719	4	13	11	3	0	1	2	0	0	0
720	6	10	10	4	1	1	0	0	0	0
721	1	15	6	5	2	1	2	0	0	0
722	4	20	12	8	0	4	0	0	0	0
723	10	27	20	3	7	2	4	0	1	0
724	5	20	10	6	2	3	4	0	0	0
725	3	21	16	2	1	3	2	0	0	0
726	8	28	20	6	3	3	4	0	0	0
727	4	20	17	2	2	0	3	0	0	0
728	8	39	36	6	1	1	3	0	0	0
729	14	59	42	8	9	4	10	0	0	0
730	4	6	12	2	1	0	3	0	0	0
731	1	16	14	1	2	0	0	0	0	0
732	4	16	9	4	2	2	3	0	0	0
733	3	13	12	3	0	0	1	0	0	0
734	4	10	8	3	2		1	0	0	0
735	10	28	22	7	6	1	2	0	0	0
736	8	28	17	5	4	4	5	0	0	0
737	6	27	20	4	2	0	7	0	0	0
738	8	25	20	5	5	5	9	0	0	0
739	5	21	15	3	1	2	5	0	0	0

740	10	34	24	6	2	4	8	0	0	0
741	4	21	12	1	3	1	8	0	0	0
742	5	18	12	4	1	3	3	0	0	0
743	7	36	21	4	4	3	9	2	0	0
744	7	19	13	4	2	4	3	0	0	0
745	1	9	3	1	1	1	4	0	0	0
746	5	23	18	5	0	1	4	0	0	0
747	5	29	16	4	4	1	8	1	0	0
748	8	30	23	5	2	2	6	0	0	0
749	3	27	12	2	1	0	15	0	0	0
750	10	55	38	7	5	4	10	0	0	0
751	16	67	39	8	10	4	21	1	0	0
752	15	62	37	12	4	9	13	0	0	0
753	52	75	74	11	15	3	20	4	0	0
754	16	67	50	10	0	5	17	2	0	0
755	11	48	42	1	5	1	10	0	0	0
756	12	25	21	4	2	4	6	0	0	0
757	29	47	47	4	7	2	14	2	0	0
758	17	71	57	13	1	8	6	1	0	0
759	11	37	27	4	5	1	10	1	0	0
760	25	66	61	16	1	7	6	1	0	0
761	16	41	41	4	4	0	8	0	0	0
762	29	103	82	20	1	14	11	4	0	0
763	9	54	43	2	6	1	11	0	0	0
764	20	87	65	16	4	6	15	1	0	0
765	23	66	58	7	5	1	17	1	0	0
766	40	121	96	23	1	20	25	6	0	0
767	40	115	82	23	3	15	22	10	0	0
768	14	64	52	7	6	0	13	0	0	0
769	16	84	65	9	7	2	14	3	0	0

Appendix I - Lake George Raw Charcoal Data

Depth	>250	>125	Dark	Cell	Por	Spon	Fib	Bran	Latt	Bord
1	0	20	13	1	0	2	4	0	0	0
2	5	41	24	2	1	3	16	0	0	0
3	0	11	8	0	1	2	0	0	0	0
4	1	14	7	1	1	2	4	0	0	0
5	0	36	9	0	1	9	17	0	0	0
6	0	46	23	2	1	4	15	1	0	0
7	0	49	19	0	0	7	23	0	0	0
8	0	41	19	3	0	10	9	0	0	0
9	3	41	28	5	0	5	9	0	0	0
10	2	36	20	1	0	3	11	1	0	0
11	4	58	26	1	1	6	24	0	0	0
12	2	51	24	2	0	9	11	6	1	0
13	3	50	30	1	0	7	11	4	0	0
14	2	59	38	0	2	9	8	2	0	0
15	2	50	24	0	2	5	10	9	1	0
16	6	48	31	0	3	3	13	3	0	0
17	5	53	41	0	2	4	4	7	0	0
18	6	73	45	0	1	11	15	7	0	0
19	6	67	39	0	2	15	12	5	0	0
20	1	39	21	1	1	8	4	5	0	0
21	1	66	50	0	0	8	7	1	0	0
22	7	50	29	1	2	9	9	7	0	0
23	6	52	37	3	2	8	5	3	0	0
24	3	49	31	4	2	4	6	5	0	0
25	3	39	16	4	1	8	7	6	0	0
26	3	41	20	7	1	6	8	1	0	0
27	1	37	23	1	1	6	6	1	0	0
28	0	42	24	0	0	9	6	3	0	0

29	4	41	24	3	1	5	7	5	0	0
30	3	61	33	1	3	6	12	7	0	0
31	3	72	51	3	0	9	8	4	0	0
32	6	90	74	1	1	8	8	4	0	0
33	9	91	71	3	4	10	8	4	0	0
34	10	134	111	1	8	13	6	5	0	0
35	3	106	82	1	2	11	10	3	0	0
36	9	93	76	4	7	5	8	1	1	0
37	9	133	112	4	5	12	8	1	0	0
38	6	150	128	1	1	13	7	6	0	0
39	5	115	103	0	3	6	4	4	0	0
40	6	105	87	0	5	9	7	2	1	0
41	10	115	111	1	2	3	4	3	1	0
42	6	112	101	1	2	6	6	2	0	0
43	10	112	100	5	6	4	5	2	0	0
44	9	85	73	4	3	4	5	5	4	1
45	10	127	87	6	1	116	14	6	0	1
46	5	90	71	2	3	10	8	1	0	0
47	4	82	57	0	5	11	7	6	0	0
48	4	99	80	1	3	9	10	0	0	0
49	3	71	59	0	3	1	8	1	0	0
50	9	65	56	0	2	6	9	1	0	0
51	3	84	68	2	3	3	9	1	1	0
52	4	121	89	4	3	8	19	2	0	0
53	3	93	73	1	3	8	9	2	0	0
54	3	110	89	2	3	5	13	1	0	0
55	8	65	54	0	3	6	7	3	0	0
56	3	88	82	1	2	2	2	2	0	0
57	4	74	54	3	2	6	13	0	0	0
58	6	71	55	3	4	3	11	1	0	0
59	13	56	43	2	3	3	17	1	0	0

60	4	71	48	4	2	4	16	1	0	0
61	1	59	32	2	4	3	17	2	0	0
62	5	62	45	1	1	4	14	2	0	0
63	2	32	22	0	3	1	8	0	0	0
64	5	75	53	0	1	2	24	0	0	0
65	7	66	49	1	2	1	20	0	0	0
66	14	56	29	2	5	3	29	2	0	0
67	15	58	44	1	3	2	22	1	0	0
68	7	59	41	0	2	0	22	1	0	0
69	14	57	43	0	5	3	17	3	0	0
70	3	37	26	0	1	2	11	0	0	0
71	9	43	26	3	3	3	16	1	0	0
72	12	53	49	1	3	1	8	3	0	0
73	3	47	34	0	1	1	12	2	0	0
74	15	83	62	0	4	2	25	5	0	0
75	1	47	38	0	2	1	7	0	0	0
76	3	34	20	1	3	2	10	0	1	0
77	5	55	33	0	3	2	21	1	0	0
78	4	59	44	1	2	2	13	1	0	0
79	2	50	28	1	3	2	17	1	0	0
80	3	57	36	3	4	1	36	4	0	0
81	4	59	32	3	5	0	21	1	0	0
82	9	75	36	3	4	1	36	4	0	0
83	37	124	97	2	3	1	43	15	0	0
84	17	90	55	2	0	0	38	12	0	0
85	9	67	41	4	2	3	20	4	0	1
86	20	84	57	2	10	2	31	2	0	0
87	5	92	57	3	2	5	24	6	0	0
88	12	57	51	1	2	0	13	2	0	0
89	12	70	46	0	1	2	27	6	0	0
90	12	66	33	1	2	3	32	5	0	0

91	9	55	15	2	4	1	31	6	4	0
92	6	48	12	2	2	1	31	6	4	0
93	6	64	28	0	2	2	34	4	0	0
94	17	131	65	0	8	0	69	6	0	0
95	11	38	11	0	3	3	29	3	0	0
96	4	35	7	1	3	0	26	2	0	0
97	7	29	9	2	4	0	20	0	1	0
98	15	72	11	1	6	0	57	3	0	1
99	8	44	12	0	3	0	35	2	0	0
100	26	118	41	3	8	3	81	8	0	0
101	30	119	41	1	6	1	81	16	0	2
102	27	111	54	3	5	2	59	14	1	0
103	25	73	46	1	6	1	37	7	0	0
104	27	111	42	2	8	1	77	4	1	1
105	9	80	20	0	4	0	61	2	0	0
106	13	93	26	1	9	0	63	7	0	0
107	17	133	38	1	8	4	92	6	0	0
108	13	95	18	0	4	4	73	9	0	0
109	22	71	25	0	3	1	56	6	1	0
110	9	62	23	0	3	3	36	5	0	0
111	12	121	27	1	3	2	89	11	0	0
112	7	73	14	0	1	2	55	6	0	0
113	9	72	5	0	2	0	72	2	0	0
114	16	92	14	0	1	0	84	9	0	0
115	9	90	14	1	7	3	69	4	0	0
116	16	123	29	0	7	1	91	10	0	0
117	20	152	52	0	13	0	90	14	0	0
118	15	84	33	0	8	2	43	13	0	0
119	13	108	26	1	21	2	51	19	0	0
120	14	175	40	1	10	2	116	10	0	0
121	18	107	31	0	12	2	68	12	0	0

122	27	126	43	2	8	0	89	11	0	0
123	23	188	62	1	20	1	114	13	0	0
124	21	135	53	1	5	1	85	11	0	0
125	16	238	72	7	21	1	141	12	0	0
126	16	112	48	0	12	0	63	5	0	0
127	24	116	53	0	6	2	68	10	0	0
128	22	145	58	1	8	5	84	11	0	0
129	15	110	50	0	9	1	57	8	0	0
130	54	238	122	12	22	4	105	27	0	0
131	44	185	95	5	20	1	95	13	0	0
132	48	275	186	3	21	2	102	11	0	0
133	53	193	93	6	30	2	99	16	0	0
134	23	177	105	2	12	0	69	12	0	0
135	37	267	140	4	38	4	108	10	0	0
136	26	127	77	0	7	2	62	5	0	0
137	23	130	68	0	10	1	68	6	0	0
138	20	86	36	0	7	5	56	1	0	0
139	42	141	52	1	8	3	104	13	0	0
140	34	226	120	4	11	2	109	11	0	0
141	19	174	73	4	14	4	85	12	0	0
142	38	259	112	5	19	2	148	11	0	0
143	42	283	160	3	15	2	135	10	0	0
144	72	258	180	4	19	5	105	16	1	0
145	51	218	141	1	16	3	100	8	0	0
146	28	154	1103	1	9	4	53	11	0	1
147	55	352	269	10	20	8	91	12	0	0
148	28	217	128	1	23	4	64	22	0	0
149	34	208	141	0	14	3	65	18	0	0
150	59	278	150	2	18	6	130	31	0	0
151	39	264	148	2	22	6	105	20	0	0
152	31	165	96	5	12	6	68	9	0	0

153	26	147	78	5	3	10	70	6	0	0
154	16	142	88	0	0	4	58	8	0	0
155	24	173	91	9	3	4	76	11	0	0
156	44	186	127	6	2	3	83	9	0	0
157	27	217	136	8	7	1	88	4	0	0
158	21	287	148	8	4	0	138	10	0	0
159	16	101	53	7	1	0	56	0	0	0
160	16	143	64	7	0	2	79	7	0	0
161	17	108	48	5	0	1	59	10	1	0
162	14	137	56	3	5	3	72	12	0	0
163	26	167	100	8	3	0	80	2	0	0
164	34	126	86	3	0	2	63	6	0	0
165	19	101	61	4	0	1	49	5	0	0
166	42	129	57	4	2	0	92	15	0	0
167	19	158	77	5	3	0	87	4	0	0
168	4	80	44	1	0	0	37	2	0	0
169	10	113	40	2	3	0	74	3	0	0
170	27	129	62	1	2	1	83	6	0	0
171	20	143	95	5	0	0	60	2	0	0
172	12	173	108	3	0	0	72	8	0	0
173	17	107	78	3	3	1	35	1	0	0
174	18	74	54	2	0	0	33	3	0	0
175	14	91	40	0	2	0	56	6	0	0
176	14	98	44	2	2	0	62	2	0	0
177	26	75	43	9	4	1	43	3	0	0
178	22	116	59	2	1	3	62	11	0	0
179	32	129	75	5	4	1	67	8	0	0
180	8	117	65	4	3	0	49	3	0	0
181	24	104	81	1	1	0	42	2	0	0
182	19	139	84	6	1	0	63	4	0	0
182	47	196	103	9	5	2	112	11	0	0

184	32	218	153	4	3	2	82	6	0	0
185	24	185	112	7	5	1	79	5	0	0
186	14	94	47	1	3	1	49	6	1	0
187	5	69	35	1	1	0	37	0	0	0
188	11	93	59	3	1	1	38	2	0	0
189	20	97	75	1	2	1	36	1	0	0
190	26	130	75	3	7	0	66	4	0	0
191	12	98	67	0	5	1	30	5	0	0
192	29	203	117	9	8	0	89	8	1	0
193	33	242	178	3	3	1	86	4	0	0
194	20	101	58	1	0	0	50	12	0	0
195	23	70	42	0	0	1	46	4	0	0
196	13	96	60	4	1	0	42	2	0	0
197	24	90	57	3	4	0	48	2	0	0
198	9	85	53	0	0	1	37	2	1	0
199	19	93	66	2	2	0	41	0	0	0
200	16	84	59	1	1	1	35	3	0	0
201	17	117	69	1	2	2	56	3	1	0
202	18	49	33	0	2	2	29	0	0	0
203	18	66	45	2	0	0	33	2	0	0
204	21	114	78	2	1	0	51	3	0	0
205	22	140	110	1	0	1	50	0	0	0
206	19	101	64	0	0	0	51	5	0	0
207	11	101	54	0	0	0	51	5	0	0
208	9	93	39	0	1	0	60	2	0	0
209	19	83	39	2	1	0	56	4	0	0
210	26	228	230	0	0	0	23	1	0	0
211	42	450	478	0	0	0	14	0	0	0
212	36	236	259	0	2	0	10	1	0	0
213	37	295	313	0	6	1	11	2	0	0
214	13	222	235	0	3	1	6	2	0	0

215	12	119	110	0	4	1	13	3	0	0
216	23	163	169	1	6	0	8	2	0	0
217	13	236	219	3	7	3	14	3	0	0
218	18	149	145	3	0	2	13	4	0	0
219	13	100	101	1	1	3	7	0	0	0
220	27	141	144	3	3	2	13	3	0	0
221	18	93	97	0	4	4	3	3	0	0
222	34	202	199	7	6	3	17	2	1	0
223	14	138	135	1	3	2	11	3	0	0
224	25	189	198	2	1	4	4	5	0	0
225	25	166	169	7	1	3	10	1	0	0
226	15	73	78	1	0	1	4	2	0	0
227	11	126	120	1	4	4	6	2	0	0
228	14	176	171	2	1	4	7	4	0	0
229	17	182	171	1	3	9	7	8	0	0
230	11	211	195	2	2	6	9	4	0	0
231	17	186	182	1	3	3	11	3	0	0
232	36	179	185	0	8	10	8	4	0	0
233	28	198	188	1	7	16	12	3	0	0
234	20	306	288	2	7	9	13	6	1	0
235	30	235	227	7	2	12	11	5	1	0
236	27	107	116	1	4	2	9	1	1	0
237	6	104	89	1	2	7	7	3	1	0
238	18	140	136	2	4	4	7	4	1	0
239	15	183	171	3	1	20	8	3	1	0
240	12	131	115	5	4	5	13	1	0	0
241	9	152	115	4	6	25	8	3	0	0
242	5	91	72	2	1	10	10	1	0	0
243	17	150	124	3	4	12	24	0	0	0
244	7	49	65	0	2	11	6	2	0	0
245	22	88	78	2	2	5	12	2	0	0

246	12	104	92	4	1	12	7	0	0	0
247	14	98	85	2	6	9	8	2	0	0
248	10	98	91	2	2	3	9	3	0	0
249	35	169	173	6	6	7	9	3	0	0
250	12	166	141	3	8	11	12	3	0	0
251	15	225	199	9	7	7	15	4	1	0
252	37	287	265	9	7	22	16	5	0	0
253	25	227	211	4	3	16	28	3	0	0
254	27	212	198	5	7	19	9	1	0	0
255	69	355	321	22	7	40	29	5	0	0
256	38	234	227	12	2	16	10	5	0	0
257	32	242	221	8	6	25	11	3	0	0
258	30	211	205	8	7	14	7	3	0	0
259	14	179	156	1	5	12	16	3	0	0
260	8	140	125	4	2	9	9	0	0	0
261	15	132	119	2	1	11	11	2	0	0
262	17	177	149	0	6	24	10	5	0	0
263	11	183	146	9	3	26	9	1	0	0
264	20	173	164	2	1	19	10	6	0	0
265	29	133	132	4	2	12	12	0	0	0
266	45	386	340	17	4	32	33	5	0	0
267	31	273	261	7	4	10	19	3	0	0
268	25	310	258	9	6	35	22	5	0	0
269	15	170	153	4	3	9	14	2	0	0
270	24	269	195	24	8	36	27	2	1	0
271	20	165	145	6	5	11	16	2	0	0
272	20	108	99	4	0	16	6	3	0	0
273	11	146	130	3	2	9	9	4	0	0
274	14	127	112	1	1	14	10	3	0	0
275	28	144	130	8	4	15	14	1	0	0
276	39	313	307	6	3	17	35	3	0	0

277	55	380	361	14	3	28	32	7	2	0
278	19	384	335	4	4	29	31	0	0	0
279	20	117	93	0	3	15	23	3	0	0
280	27	88	98	1	1	5	8	2	0	0
281	34	212	177	4	6	28	25	5	1	0
282	10	131	121	1	2	27	18	2	0	0
283	57	254	259	6	3	14	27	2	0	0
284	37	175	179	0	1	8	22	2	0	0
285	42	165	175	2	3	11	15	1	0	0
286	12	176	167	1	1	10	8	1	0	0
287	15	107	102	2	3	8	7	0	0	0
288	22	132	130	0	1	11	11	1	0	0
289	33	252	229	3	3	22	18	10	0	0
290	21	124	109	2	2	16	12	4	0	0
291	29	130	128	0	1	18	12	0	0	0
292	17	149	131	2	1	20	10	2	0	0
293	15	169	152	3	0	14	13	2	0	0
294	29	90	93	1	4	8	11	2	0	0
295	13	94	90	1	1	7	7	1	0	0
296	28	106	102	2	2	10	16	1	1	0
297	50	229	204	1	2	13	18	5	0	0
298	34	237	220	6	6	21	14	4	0	0
299	28	197	172	4	3	25	16	4	1	0
300	19	126	113	1	1	14	12	4	0	0
301	23	153	154	1	0	9	8	4	0	0
302	5	38	36	0	0	2	5	0	0	0
303	7	57	51	1	0	3	6	3	0	0
304	11	76	40	3	0	4	8	2	0	0
305	24	133	121	5	3	8	12	3	0	0
306	28	156	149	3	3	17	10	2	0	0
307	34	237	223	5	5	23	13	2	0	0

308	27	109	117	0	0	9	8	2	0	0
309	22	118	111	1	1	18	8	1	0	0
310	19	56	61	1	1	6	5	1	0	0
311	16	80	69	1	2	11	8	5	0	0
312	27	49	60	0	1	5	8	2	0	0
313	17	90	84	2	0	10	8	3	0	0
314	41	64	85	1	1	9	9	0	0	0
315	12	115	106	1	0	9	4	7	0	0
316	10	72	65	7	0	8	2	0	0	0
317	24	38	48	2	2	5	5	0	0	0
318	9	73	67	1	3	7	4	0	0	0
319	14	31	35	0	0	7	1	2	0	0
320	6	33	37	0	1	1	0	0	0	0
321	15	60	68	0	0	4	3	0	0	0
322	12	56	56	1	0	5	5	1	0	0
323	15	70	65	1	2	12	4	1	0	0
324	10	71	60	2	4	4	9	2	0	0
325	33	95	98	1	0	5	21	3	0	0
326	34	111	108	0	3	4	28	2	0	0
327	22	128	116	1	3	2	27	1	0	0
328	28	92	93	0	1	2	14	10	0	0
329	16	57	54	3	0	0	16	0	0	0
330	10	47	49	1	1	0	6	1	0	0
331	14	82	81	1	1	6	4	3	0	0
332	27	56	50	0	1	16	11	4	1	0
333	29	37	48	2	1	8	3	4	0	0
334	31	101	109	5	2	10	5	1	0	0
335	32	42	64	1	0	8	2	1	1	0
336	31	58	72	1	1	10	4	0	0	0
337	21	66	69	6	1	3	4	4	0	0
338	25	81	75	4	1	10	13	3	0	0

339	17	102	103	1	2	5	3	5	0	0
340	4	36	33	0	0	3	4	0	0	0
341	5	36	30	1	0	5	1	1	0	0
342	26	34	44	2	1	4	6	2	0	0
343	15	72	65	4	3	6	7	2	0	0
344	13	66	58	2	1	6	6	5	0	0
345	33	67	81	3	0	4	8	4	0	0
346	25	117	124	2	3	7	5	1	0	0
347	31	233	218	6	3	12	18	16	0	0
348	39	112	125	5	1	5	12	3	0	0
349	29	78	81	10	1	7	8	0	0	0
350	18	34	45	1	0	0	4	2	0	0
351	10	51	49	2	0	2	4	4	0	0
352	16	66	55	2	0	12	10	1	0	0
353	15	79	81	2	0	3	7	1	0	0
354	34	122	130	5	2	6	12	1	0	0
355	26	44	61	1	2	4	1	0	0	0
356	64	72	124	1	0	2	7	2	0	0
357	26	108	112	3	0	7	11	1	0	0
358	16	87	80	2	2	7	9	3	0	0
359	29	73	85	1	1	6	6	3	0	0
360	30	54	65	2	1	5	9	0	0	0
361	13	61	55	0	1	6	7	5	0	0
362	15	45	44	1	0	8	6	0	1	0
363	19	58	60	1	0	3	11	2	0	0
364	8	33	28	0	0	7	4	2	0	0
365	9	38	36	0	1	7	2	1	0	0
366	17	73	64	1	0	11	11	3	0	0
367	18	70	64	2	1	8	12	1	0	0
368	13	39	42	0	0	1	6	3	0	0
369	8	49	48	0	1	3	5	0	0	0

370	5	51	43	2	2	6	3	0	0	0
371	20	42	43	2	1	5	10	1	0	0
372	6	71	60	1	1	8	6	0	1	0
373	19	52	45	0	1	13	9	3	0	0
374	23	42	50	1	0	1	13	0	0	0
375	34	148	146	0	1	2	32	1	0	0
376	37	165	165	1	0	3	30	3	0	0
377	27	114	120	0	0	2	19	0	0	0
378	24	163	144	5	1	7	23	7	0	0
379	16	123	112	1	0	4	20	2	0	0
380	22	183	174	1	0	5	21	4	0	0
381	32	221	206	3	0	3	38	3	0	0
382	9	247	223	1	2	5	20	5	0	0
383	31	223	213	4	1	2	30	4	0	0
384	22	256	232	6	1	5	24	10	0	0
385	31	270	247	2	0	2	41	9	0	0
386	21	237	204	4	0	4	37	9	0	0
387	30	188	173	3	2	2	35	3	0	0
388	34	212	192	6	1	4	41	2	0	0
389	16	130	120	1	1	2	19	3	0	0
390	16	91	103	0	0	1	2	1	0	0
391	11	85	89	0	0	2	4	1	0	0
392	10	141	143	0	0	0	7	1	0	0
393	35	151	164	3	0	5	10	4	0	0
394	16	159	167	0	0	1	6	1	0	0
395	19	192	194	0	0	3	11	3	0	0
396	15	235	225	0	3	4	16	2	0	0
397	25	201	196	3	0	4	12	11	0	0
398	35	288	297	4	6	3	10	3	0	0
399	30	329	330	1	2	3	16	7	0	0
400	30	197	196	4	1	3	14	9	0	0

401	43	244	259	5	3	1	11	8	0	0
402	32	167	178	3	2	2	8	6	0	0
403	52	245	272	4	0	0	15	6	0	0
404	38	181	199	0	0	3	12	5	0	0
405	10	182	196	1	1	3	12	9	0	0
406	42	168	174	1	1	1	24	9	0	0
407	33	164	166	1	0	7	13	10	0	0
408	17	85	88	0	0	5	4	5	0	0
409	28	60	80	0	2	4	2	0	0	0
410	18	87	96	0	1	5	2	1	0	0
411	5	23	25	0	0	2	0	1	0	0
412	5	61	63	1	0	0	2	0	0	0
413	27	72	91	0	0	4	1	3	0	0
414	16	127	125	0	4	3	8	3	0	0
415	17	47	56	0	0	2	4	2	0	0
416	21	26	41	0	0	3	2	0	1	0
417	8	124	110	2	3	5	10	3	0	0
418	7	45	47	0	0	2	1	2	0	0
419	12	37	47	0	0	1	1	0	0	0
420	5	10	14	0	0	1	0	0	0	0
421	4	27	29	0	0	1	0	1	0	0
422	17	63	70	1	2	3	4	0	0	0
423	6	81	75	1	0	7	4	0	0	0
424	24	103	110	0	0	2	12	3	1	0
425	26	97	112	1	2	3	3	2	0	0
426	15	156	90	1	0	1	88	0	0	0
427	20	115	63	0	0	0	56	3	0	0
428	8	63	49	0	0	0	22	0	0	0
429	26	65	37	0	0	0	51	0	0	0
430	23	64	39	0	0	1	47	0	0	0
431	15	51	31	0	1	3	30	1	0	0

432	17	67	40	0	3	0	41	0	0	0
433	7	48	27	0	0	0	26	2	0	0
434	28	76	70	0	0	0	33	1	0	0
435	22	145	119	0	3	0	41	4	0	0
436	21	41	45	0	0	0	17	0	0	0
437	30	82	88	0	0	0	23	1	0	0
438	5	35	34	0	2	0	4	0	0	0
439	5	45	37	0	0	1	8	0	0	0
440	13	60	56	0	0	0	17	1	0	0
441	8	118	105	0	3	0	17	1	0	0
442	25	86	96	0	0	0	15	0	0	0
443	34	111	112	1	0	3	24	5	0	0
444	27	126	108	0	4	5	33	3	0	0
445	33	132	133	2	6	1	21	2	0	0
446	11	81	79	2	1	2	6	2	0	0
447	11	43	43	2	3	1	5	0	0	0
448	9	89	78	1	1	2	15	1	0	0
449	11	102	80	4	3	3	19	3	0	0
450	30	146	133	3	6	9	18	5	0	0
451	45	262	223	2	9	7	59	5	0	0
452	9	69	56	8	3	0	11	0	0	0
453	11	177	133	5	6	1	40	3	0	0
454	19	84	72	4	3	4	63	1	0	0
455	11	80	72	2	3	2	11	1	0	0
456	55	63	96	2	6	3	11	0	0	0
457	11	66	59	2	5	3	6	2	0	0
458	14	33	35	0	1	1	9	1	0	0
459	49	199	204	5	1	1	36	1	0	0
460	45	65	92	3	0	0	12	3	0	0
461	19	69	70	0	2	1	14	0	0	0
462	25	124	113	3	5	4	23	1	0	0

463	38	116	121	1	3	0	24	5	0	0
464	59	215	221	11	4	5	26	6	0	0
465	15	73	68	7	0	1	11	1	0	0
466	12	59	66	0	0	0	4	1	0	0
467	19	67	76	2	2	4	1	1	0	0
468	26	135	131	6	3	2	17	0	0	0
469	6	99	91	1	1	3	8	1	1	0
470	9	141	126	0	1	2	17	3	0	0
471	13	129	109	4	2	4	22	1	1	0
472	13	161	108	11	3	7	41	3	1	0
473	72	426	351	11	4	7	112	11	2	0
474	76	436	379	19	11	16	85	11	0	0
475	38	282	258	8	4	9	37	4	0	0
476	50	434	403	9	7	12	47	4	0	0
477	47	275	266	6	4	5	37	4	0	0
478	37	264	253	3	3	9	28	5	1	0
479	26	197	177	2	6	8	25	5	0	0
480	10	145	123	2	0	7	20	3	0	0
481	4	60	47	2	1	1	12	0	1	0
482	16	89	62	2	2	6	30	2	0	0
483	53	217	189	3	4	35	32	4	0	0
484	46	165	159	10	4	10	25	2	0	0
485	38	357	298	20	8	15	46	8	1	0
486	48	241	208	1	6	4	67	3	1	0
487	58	402	292	10	9	13	131	5	1	0
488	41	260	195	6	6	8	77	7	0	0
489	36	218	148	5	11	47	30	3	0	0
490	30	335	262	11	7	6	77	2	0	0
491	43	265	209	9	7	11	71	1	0	0
492	36	228	207	3	10	9	34	1	0	0
493	11	74	63	4	3	5	8	2	0	0

494	11	47	50	0	2	1	4	1	0	0
495	13	79	75	2	1	2	12	0	0	0
496	19	124	108	3	4	7	11	0	0	0
497	12	82	77	2	2	1	11	1	1	0
498	6	98	84	1	3	1	14	0	0	0
499	36	165	146	1	5	11	17	21	0	0
500	23	89	101	1	1	0	6	3	0	0
501	38	130	133	2	4	3	20	6	0	0
502	16	113	106	2	1	3	15	2	0	0
503	27	97	109	1	0	3	10	1	0	0
504	18	137	116	2	11	1	24	1	0	0
505	47	229	222	5	7	13	29	0	1	0
506	22	200	170	4	3	6	36	2	0	0
507	22	187	144	7	5	4	46	3	0	0
508	26	248	205	4	4	4	57	0	1	0
509	31	277	255	2	1	3	44	3	0	0
510	16	182	155	5	8	3	25	2	0	0
511	17	239	205	2	4	7	34	4	0	0
512	62	315	292	9	11	5	57	3	1	0
513	45	287	280	5	8	7	26	5	0	0
514	54	313	305	3	4	6	45	4	0	0
515	62	189	183	3	6	7	46	6	0	0
516	26	146	131	1	4	5	28	3	0	0
517	16	94	82	0	4	3	19	2	0	0
518	17	121	95	2	2	5	34	0	0	0
519	32	85	92	0	4	1	14	6	0	0
520	31	49	62	1	3	3	10	1	0	0
521	13	139	106	1	2	6	33	3	0	0
522	23	108	105	0	1	3	20	2	0	0
523	7	70	60	0	1	1	14	1	0	0
524	16	76	76	1	1	1	12	1	0	0

525	7	31	30	0	1	1	6	0	1	0
526	25	124	127	0	1	8	7	5	1	0
527	31	138	145	1	0	0	17	5	0	0
528	45	129	136	4	1	5	26	2	0	0
529	54	169	172	3	3	1	40	4	0	0
530	27	119	109	3	2	2	27	3	1	0
531	11	83	73	0	1	4	13	3	0	0
532	21	115	112	0	0	1	23	0	0	0
533	14	76	70	0	0	3	15	2	0	0
534	18	79	84	1	3	2	4	3	0	0
535	16	116	117	1	0	1	12	1	0	0
536	21	71	74	1	1	2	14	0	0	0
537	22	137	121	1	4	5	26	2	0	0
538	34	460	414	5	10	2	61	3	0	0
539	73	450	441	12	7	4	56	3	4	0
540	30	588	513	13	5	3	75	5	0	0
541	99	465	459	11	6	3	78	7	0	0
542	22	472	486	4	8	8	87	1	0	0
543	63	457	420	4	2	7	81	6	0	0
544	38	232	235	1	0	3	29	2	0	0
545	5	191	161	1	1	0	29	4	0	0
546	21	178	170	0	1	1	24	3	0	0
547	51	281	282	1	2	3	42	2	0	0
548	63	359	337	2	4	2	76	1	0	0
549	64	284	260	1	0	8	78	1	0	0
550	44	120	115	0	0	4	43	1	0	0
551	44	425	394	4	4	4	54	9	0	0
552	37	353	342	1	1	2	42	2	0	0
553	32	434	396	5	2	7	50	6	0	0
554	28	276	226	1	5	0	69	3	0	0
555	23	337	245	4	1	8	100	3	1	0

556	53	337	288	2	1	2	94	2	0	0
557	53	382	374	10	0	1	49	1	0	0
558	60	456	440	10	4	3	56	3	0	0
559	39	389	365	3	1	2	53	3	1	0
560	64	774	685	6	11	10	125	1	0	0
561	37	411	395	6	4	1	42	0	0	0
562	35	527	462	12	3	8	74	3	0	0
563	22	210	190	6	3	4	25	4	0	0
564	30	267	243	8	3	2	39	3	0	0
565	74	296	301	7	5	5	50	2	0	0
566	46	257	233	4	1	7	57	1	1	0
567	62	146	153	2	1	6	46	0	0	0
568	7	107	96	2	0	0	13	3	0	0
569	65	271	289	1	4	7	30	5	0	0
570	31	137	148	2	1	5	12	0	0	0
571	30	271	268	1	2	9	20	1	0	0
572	27	166	153	1	0	1	37	1	0	0
573	26	288	223	1	1	4	23	2	0	0
574	30	338	316	4	2	1	43	2	0	0
575	20	201	184	3	1	4	25	4	0	0
576	25	424	408	3	5	2	25	6	0	0
577	35	376	358	6	3	4	37	3	0	0
578	38	382	369	12	2	3	28	5	0	0
579	32	249	236	10	6	5	12	13	0	0
580	9	216	213	0	0	1	10	1	0	0
581	28	450	436	4	1	9	26	2	0	0
582	22	318	309	2	2	3	19	5	0	0
583	14	298	288	2	3	4	11	4	0	0
584	44	544	553	2	0	5	21	7	0	0
585	25	350	357	1	0	4	12	1	0	0
586	82	636	641	10	7	2	51	7	0	0

587	91	837	830	18	10	9	53	8	0	0
588	164	962	964	27	4	9	116	6	0	0
589	142	531	530	6	4	25	104	4	0	0
590	103	508	519	8	2	9	66	8	0	0
591	58	354	350	8	1	5	47	1	0	0
592	57	372	362	5	1	3	57	1	0	0
593	49	278	262	8	0	8	47	2	0	0
594	39	185	171	4	2	8	36	3	0	0
595	25	94	89	1	0	7	21	1	0	0
596	24	266	221	6	3	9	47	4	0	0
597	49	82	107	2	2	6	13	1	0	0
598	28	137	131	7	2	6	16	3	0	0
599	32	304	272	13	4	7	37	1	1	0
600	29	329	284	5	5	4	56	0	0	0
601	14	58	62	0	0	5	4	0	0	0
602	12	60	54	1	1	6	9	1	0	0
603	11	100	89	1	1	4	15	1	0	0
604	11	139	122	2	1	3	19	2	0	0
605	19	214	185	4	4	5	32	3	0	0
606	11	162	128	8	4	6	23	4	0	0
607	16	213	180	3	6	13	25	2	0	0
608	14	120	108	0	1	3	19	3	0	0
609	45	277	268	5	0	9	38	2	0	0
610	28	98	190	2	2	10	17	5	0	0
611	39	194	190	1	2	12	15	3	0	0
612	60	246	261	3	1	5	34	2	0	0
613	18	137	124	1	1	3	22	4	0	0
614	20	99	100	1	1	3	13	1	0	0
615	9	101	99	2	0	3	16	1	0	0
616	20	181	155	3	0	5	33	4	1	0
617	50	308	279	4	3	8	61	2	0	0

618	29	266	248	6	1	5	35	0	0	0
619	36	231	202	1	0	8	52	4	0	0
620	14	131	122	1	2	6	12	2	0	0
621	19	161	173	2	0	0	4	1	1	0
622	11	99	98	5	0	1	5	0	0	0
623	50	187	196	4	4	12	19	2	0	0
624	11	110	55	6	1	33	13	3	0	0
625	20	121	106	9	4	14	6	2	0	0
626	2	43	33	0	0	5	8	0	0	0
627	18	62	65	1	0	3	10	1	0	0
628	14	70	69	2	1	4	6	2	0	0
629	6	73	65	9	0	2	2	1	0	0
630	12	55	56	3	0	5	2	1	0	0
631	26	51	57	3	4	9	3	1	0	0
632	10	68	77	0	0	0	1	0	0	0
633	20	106	74	9	0	24	15	4	0	0
634	20	99	76	1	1	33	4	4	0	0
635	25	84	83	1	0	20	5	1	0	0
636	9	55	44	1	0	16	1	2	0	0
637	11	61	45	0	0	25	1	1	0	0
638	3	32	22	0	0	11	2	0	0	0
639	9	78	43	2	0	29	9	4	0	0
640	7	33	32	1	0	6	1	0	0	0
641	5	51	33	1	1	19	1	1	0	0
642	1	16	11	0	0	4	1	1	0	0
643	3	24	9	0	0	17	1	0	0	0
644	3	45	25	0	0	21	2	2	0	0
645	3	71	43	2	1	25	1	2	0	0
646	12	78	67	2	0	19	2	0	0	0
647	9	32	29	0	1	11	0	0	0	0
648	13	80	56	2	4	29	1	1	0	0

649	8	40	28	0	0	20	0	0	0	0
650	3	50	43	1	1	9	5	4	0	0
651	20	55	48	0	0	27	0	0	0	0
652	7	59	40	1	1	21	2	1	0	0
653	12	33	29	0	1	15	0	0	0	0
654	5	24	21	0	0	6	0	2	0	0
655	16	27	22	0	3	14	0	4	0	0
656	13	41	36	1	0	13	4	0	0	0
657	8	37	28	1	0	16	0	0	0	0
658	18	27	29	1	0	15	0	0	0	0
659	4	19	12	0	0	11	0	0	0	0
660	18	71	56	4	0	25	1	3	0	0
661	5	35	28	1	0	10	0	1	0	0
662	10	21	19	0	1	9	2	0	0	0
663	8	24	22	0	0	9	0	1	0	0
664	20	87	66	5	4	25	4	3	0	0
665	21	53	51	0	4	14	1	4	0	0
666	21	54	55	0	1	17	1	1	0	0
667	19	75	59	2	3	27	2	1	0	0
668	22	66	43	3	5	32	3	2	0	0
669	25	65	48	1	2	35	1	3	0	0
670	57	72	79	0	3	43	3	1	0	0
671	36	69	56	0	0	44	3	2	0	0
672	19	59	51	1	0	24	0	2	0	0
673	6	40	32	1	0	12	0	1	0	0
674	33	84	82	0	1	32	1	1	0	0
675	14	79	69	0	1	20	1	2	0	0
676	8	36	29	3	1	9	0	0	0	0
677	27	105	106	0	1	20	2	3	0	0
678	13	148	122	0	7	26	3	2	0	0
679	21	128	107	0	0	35	1	6	0	0

680	18	67	62	1	2	17	0	3	0	0
681	7	44	35	0	3	13	0	0	0	0
682	19	88	79	0	1	25	1	1	0	0
683	10	135	108	0	4	27	1	5	0	0
684	23	95	90	0	3	21	0	4	0	0
685	13	32	30	0	0	14	0	1	0	0
686	7	23	24	0	0	5	0	1	0	0
687	2	28	19	0	0	10	0	1	0	0
688	45	103	103	0	2	42	0	2	0	0
689	35	71	66	1	2	34	2	1	0	0
690	28	69	67	0	1	21	3	3	0	0
691	24	83	47	2	2	53	2	1	0	0
692	26	81	52	3	2	45	3	2	0	0
693	18	49	43	0	0	23	0	1	0	0
694	41	65	76	0	0	25	3	2	0	0
695	17	44	41	3	0	13	1	3	0	0
696	16	53	48	0	0	18	1	2	0	0
697	25	77	79	2	0	18	2	1	0	0
698	32	104	85	5	0	42	2	2	0	0
699	31	101	86	5	1	35	4	1	0	0
700	10	45	39	0	2	11	3	0	0	0
701	7	28	25	1	0	7	1	1	0	0
702	5	69	55	1	2	16	0	0	0	0
703	25	49	51	0	0	22	2	0	0	0
704	23	65	51	3	5	28	1	0	0	0
705	21	38	48	0	1	9	0	0	0	0
706	63	118	127	0	7	36	9	2	0	0
707	33	37	50	1	3	13	3	0	0	0
708	17	79	54	0	0	22	2	1	0	0
709	38	86	89	3	1	29	0	2	0	0
710	18	84	70	0	1	27	4	0	0	0

711	59	136	149	2	2	40	1	1	0	0
712	46	105	109	1	4	34	3	0	0	0
713	58	124	133	2	0	41	5	1	0	0
714	42	134	148	0	2	25	1	0	0	0
715	40	126	136	0	3	16	8	3	0	0
716	36	117	128	0	2	17	5	1	0	0
717	37	117	124	1	4	15	7	3	0	0
718	44	137	151	0	3	21	4	2	0	0
719	73	180	208	0	2	43	0	2	0	0
720	41	59	83	0	1	13	3	0	0	0
721	91	157	199	0	1	41	3	4	0	0
722	61	163	203	1	1	18	1	0	0	0
723	32	151	169	0	1	11	2	0	0	0
724	101	207	257	0	2	42	4	3	0	0
725	114	217	263	2	1	51	5	1	0	0
726	33	35	54	0	1	11	2	0	0	0
727	27	102	105	0	4	14	4	2	0	0
728	20	161	150	1	7	20	3	0	0	0
729	26	172	172	2	4	19	0	1	0	0
730	6	178	168	0	2	10	3	0	0	0
731	26	216	202	2	3	31	2	2	0	0
732	26	187	170	3	5	24	8	3	0	0
733	34	191	170	5	7	29	12	2	0	0
734	41	199	177	1	4	41	13	4	0	0
735	58	77	98	0	1	17	14	4	0	0
736	15	108	101	0	4	14	3	0	0	0
737	25	172	160	1	1	29	5	1	0	0
738	8	32	33	0	0	1	0	0	0	0
739	23	154	151	1	1	20	3	1	0	0
740	21	169	158	4	1	23	3	1	0	0
741	5	23	25	0	0	3	0	0	0	0

742	7	29	29	1	0	5	0	1	0	0
743	3	18	14	2	1	3	0	1	0	0
744	8	32	34	0	0	5	0	0	0	0
745	12	26	29	1	0	7	1	0	0	0
746	13	39	44	0	0	8	0	0	0	0
747	17	58	62	1	0	11	1	0	0	0
748	9	22	20	0	0	10	0	1	0	0
749	13	25	27	1	0	8	2	0	0	0
750	23	52	53	0	1	20	0	1	0	0
751	21	65	74	0	0	9	1	2	0	0
752	16	32	41	0	0	7	0	0	0	0
753	17	40	40	0	0	15	0	2	0	0
754	17	38	41	0	0	12	1	1	0	0
755	19	37	48	0	0	8	0	0	0	0
756	15	28	30	0	0	12	0	1	0	0
757	21	19	23	1	0	15	0	1	0	0
758	6	111	70	11	3	1	31	0	0	0
759	58	194	172	30	21	21	38	2	0	0
760	13	43	36	7	7	2	4	0	0	0
761	13	73	51	12	11	4	6	2	0	0
762	30	140	108	23	11	9	17	0	0	0
763	52	266	191	55	16	1	47	1	0	0
764	50	163	157	35	5	5	7	0	0	0
765	43	108	106	18	3	7	3	1	0	0
766	52	104	128	17	2	3	4	0	0	0
767	26	85	85	13	0	2	9	0	0	0
768	48	176	177	29	1	3	6	1	0	0
769	24	114	105	22	0	2	9	0	0	0
770	35	105	106	22	0	1	9	2	0	0
771	76	247	240	62	1	3	14	4	0	0
772	29	175	149	31	2	8	13	2	0	0

773	27	76	77	25	0	0	1	2	0	0
774	34	107	106	28	0	5	2	0	0	0
775	19	35	39	9	0	2	1	1	0	0
776	48	117	113	34	1	4	9	1	0	0
777	51	142	128	53	0	3	8	1	0	0
778	43	210	167	60	1	7	12	6	0	0
779	33	95	42	28	2	2	5	1	0	0
780	47	131	142	21	1	3	5	5	0	0
781	29	92	91	19	8	2	0	1	0	0
782	27	64	71	13	0	4	3	0	0	0
783	22	61	63	6	0	0	2	2	0	0
784	27	71	52	21	2	19	2	3	0	0
785	27	40	50	13	0	0	4	0	0	0
786	25	96	95	13	1	3	5	1	0	0
787	24	59	60	14	0	7	2	0	0	0
788	34	56	70	14	0	5	0	1	0	0
789	24	34	37	15	0	3	2	1	0	0
790	9	40	33	9	0	3	4	0	0	0
791	16	102	80	26	1	3	4	4	0	0
792	32	78	90	18	0	2	0	0	0	0
793	14	34	34	12	0	0	2	0	0	0
794	22	67	58	22	0	2	5	2	0	0
795	50	80	93	28	2	3	3	1	0	0
796	31	112	100	33	1	4	6	0	0	0
797	12	62	51	15	1	3	2	0	0	0
798	25	61	63	15	0	5	2	0	0	0
799	22	76	68	21	0	4	2	2	0	0
800	12	41	38	9	1	2	2	0	0	0
801	6	47	38	10	0	2	3	0	0	0
802	20	72	57	23	1	6	4	1	0	0
803	18	45	43	15	2	2	1	0	0	0

804	26	57	54	26	0	3	0	0	0	0
805	16	50	52	13	0	1	0	0	0	0
806	14	47	44	17	0	0	0	0	0	0
807	26	65	58	16	5	9	1	2	0	0
808	11	37	36	14	1	2	0	1	0	0
809	8	54	41	15	0	3	4	0	0	0
810	18	54	52	16	1	0	2	1	0	0
811	12	63	55	20	0	0	0	0	0	0
812	25	57	56	19	1	5	1	0	0	0
813	13	60	46	24	1	1	1	0	0	0
814	15	67	64	11	0	6	1	0	0	0
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816	3	92	64	21	1	5	3	0	0	0
817	8	51	20	61	7	1	0	0	0	0
818	19	40	42	10	0	7	0	0	0	0
819	29	40	55	7	0	5	0	2	0	0
820	35	86	84	27	4	3	3	0	0	0
821	36	117	83	47	3	10	9	0	0	0
822	48	93	80	29	2	10	5	0	0	0
823	17	69	54	21	3	6	2	0	0	0
824	13	44	41	7	2	6	0	0	0	0
825	4	52	46	4	2	4	0	0	0	0
826	35	120	92	36	4	14	6	1	0	0
827	23	135	115	21	0	6	15	1	0	0
828	32	141	128	19	4	8	12	2	0	0
829	10	85	75	11	3	1	4	0	0	0
830	40	75	78	15	4	8	9	0	0	0
831	48	195	122	44	11	24	42	0	0	0
832	24	136	89	38	0	6	27	0	0	0
833	33	174	117	44	6	13	27	0	0	0
834	58	176	140	46	4	7	37	0	0	0

835	37	141	131	30	0	8	10	0	0	0
836	39	177	141	36	7	12	21	0	0	0
837	58	183	156	47	2	19	17	0	0	0
838	44	158	115	34	3	20	19	0	0	0
839	13	60	38	18	0	4	13	0	0	0
840	23	129	97	22	1	5	25	0	0	0
841	70	282	175	104	26	23	26	0	0	0
842	29	154	87	50	2	8	25	0	0	0
843	20	178	111	58	3	8	16	0	0	0
844	19	162	96	40	4	6	31	0	0	0
845	15	122	75	37	4	1	20	0	0	0
846	11	137	78	22	9	13	25	0	0	0
847	16	189	124	38	5	13	24	0	0	0
848	21	87	65	19	0	8	15	0	0	0
849	33	115	80	25	13	4	14	0	0	0
850	23	180	77	64	27	14	19	0	0	0
851	19	143	108	27	4	11	11	0	0	0
852	17	137	92	30	2	4	25	0	0	0
853	19	115	73	33	4	8	9	0	0	0
854	21	150	88	53	5	9	17	0	0	0
855	35	163	106	32	19	14	12	6	0	0
856	26	128	94	34	5	9	16	0	0	0
857	12	85	45	38	5	1	8	0	0	0
858	18	92	65	23	1	3	16	0	0	0
859	19	148	54	35	3	21	52	0	0	0
860	23	207	123	73	2	5	25	0	0	0
861	33	116	96	33	5	0	15	0	0	0
862	45	217	171	63	12	2	14	1	0	0
863	20	119	90	28	14	2	6	0	0	0
864	38	132	67	54	13	17	20	0	0	0
865	20	121	108	30	2	3	10	0	0	0

866	31	157	83	71	16	3	16	0	0	0
867	23	124	92	44	4	1	9	0	0	0
868	18	140	86	62	0	2	14	0	0	0
869	18	75	52	33	3	4	1	0	0	0
870	12	59	45	24	0	0	3	0	0	0
871	17	119	74	24	7	22	9	0	0	0
872	14	74	60	17	0	8	4	0	0	0
873	17	94	74	22	2	6	11	0	0	0
874	30	111	89	32	6	3	11	0	0	0