

Supplemental Table 1. Horse trail fen core data adapted from Jones et al., 2014

Depth (cm)	<i>Sphagnum</i> <i>spp.</i> (%)	<i>Tomenthypnum</i> <i>nitens</i> (%)	Other brown moss (%)	Sedge ( <i>Carex</i> ) (%)	Bryophyte total (%)	non- bryophyte /sedge components (%)	$\delta^{18}\text{O}$ raw bulk* (‰)	$\delta^{18}\text{O}$ to cellulose (‰)**
10.00	97.06	0.00	2.94	0.00	100.00	0.00	12.86	12.95
14.00	88.46	0.00	0.00	11.54	88.46	0.00	11.20	11.27
18.00	90.32	0.00	0.00	9.68	90.32	0.00	11.05	11.12
22.00	47.62	0.00	0.00	52.38	47.62	0.00	9.40	9.45
26.00	16.67	0.00	0.00	83.33	16.67	0.00	7.72	7.74
30.00	66.67	0.00	3.33	30.00	70.00	0.00	8.51	8.55
34.00	56.00	0.00	0.00	44.00	56.00	0.00	10.32	10.38
<b>38.00</b>	<b>67.74</b>	<b>0.00</b>	<b>0.00</b>	<b>22.58</b>	<b>67.74</b>	<b>9.68</b>	<b>9.97</b>	<b>10.02</b>
42.00	79.49	0.00	12.82	7.69	92.31	0.00	11.31	11.39
<b>50.00</b>	<b>60.78</b>	<b>0.00</b>	<b>0.00</b>	<b>35.29</b>	<b>60.78</b>	<b>3.92</b>	<b>13.92</b>	<b>14.03</b>
<b>54.00</b>	<b>77.78</b>	<b>0.00</b>	<b>0.00</b>	<b>13.33</b>	<b>77.78</b>	<b>8.89</b>	<b>9.77</b>	<b>9.82</b>
58.00	63.27	0.00	8.16	28.57	71.43	0.00	16.09	16.23
62.00	85.11	0.00	0.00	14.89	85.11	0.00	9.22	9.26
66.00	66.13	0.00	12.90	20.97	79.03	0.00	11.18	11.25
70.00	56.67	0.00	0.00	43.33	56.67	0.00	10.26	10.32
78.00	38.89	0.00	5.56	55.56	44.44	0.00	13.97	14.09
82.00	24.44	0.00	75.56	0.00	100.00	0.00	14.67	14.79
86.00	62.50	0.00	5.00	32.50	67.50	0.00	11.52	11.60
<b>90.00</b>	<b>50.00</b>	<b>0.00</b>	<b>15.00</b>	<b>22.50</b>	<b>65.00</b>	<b>12.50</b>	<b>12.15</b>	<b>12.24</b>
<b>94.00</b>	<b>44.44</b>	<b>0.00</b>	<b>27.78</b>	<b>22.22</b>	<b>72.22</b>	<b>5.56</b>	<b>9.67</b>	<b>9.72</b>
102.00	22.22	0.00	19.44	58.33	41.67	0.00	11.55	11.63
106.00	10.71	0.00	0.00	89.29	10.71	0.00	10.96	11.03
110.00	6.06	0.00	0.00	93.94	6.06	0.00	5.81	5.80
114.00	3.33	0.00	0.00	96.67	3.33	0.00	7.66	7.69
118.00	0.00	0.00	100.00	0.00	100.00	0.00	6.76	6.77
122.00	81.82	18.18	0.00	0.00	100.00	0.00	10.88	10.94
126.00	100.00	0.00	0.00	0.00	100.00	0.00	9.70	9.75
130.00	4.08	53.06	0.00	42.86	57.14	0.00	12.37	12.46
134.00	11.11	76.67	0.00	12.22	87.78	0.00	13.81	13.93
138.00	52.83	47.17	0.00	0.00	100.00	0.00	9.24	9.28
142.00	22.63	59.85	0.00	17.52	82.48	0.00	10.58	10.64
146.00	50.53	49.47	0.00	0.00	100.00	0.00	13.15	13.25
150.00	51.69	39.33	0.00	8.99	91.01	0.00	7.47	7.48
158.00	47.30	22.97	0.00	29.73	70.27	0.00	11.61	11.69
162.00	66.67	33.33	0.00	0.00	100.00	0.00	11.07	11.14

166.00	39.39	24.24	0.00	36.36	63.64	0.00	14.06	14.18
170.00	42.00	24.00	4.00	30.00	70.00	0.00	13.03	13.13
174.00	61.11	11.11	5.56	22.22	77.78	0.00	13.67	13.78
178.00	41.33	32.00	2.67	24.00	76.00	0.00	12.17	12.26
182.00	65.71	22.86	0.00	11.43	88.57	0.00	14.07	14.18
190.00	73.68	15.79	3.16	7.37	92.63	0.00	13.68	13.79
194.00	92.16	7.84	0.00	0.00	100.00	0.00	14.09	14.21
198.00	92.06	7.94	0.00	0.00	100.00	0.00	10.73	10.80
202.00	43.24	56.76	0.00	0.00	100.00	0.00	13.24	13.34
206.00	71.83	15.49	0.00	12.68	87.32	0.00	14.49	14.61
210.00	69.70	6.06	0.00	24.24	75.76	0.00	13.61	13.72
214.00	40.00	8.57	0.00	51.43	48.57	0.00	13.95	14.06
218.00	88.89	11.11	0.00	0.00	100.00	0.00	14.71	14.83
222.00	38.46	57.69	0.00	3.85	96.15	0.00	14.72	14.84
226.00	86.49	9.46	0.00	4.05	95.95	0.00	10.28	10.34
234.00	66.22	10.81	0.00	22.97	77.03	0.00	12.30	12.39
238.00	59.57	28.72	0.00	11.70	88.30	0.00	12.67	12.77
<b>242.00</b>	<b>43.48</b>	<b>52.17</b>	<b>0.00</b>	<b>0.00</b>	<b>95.65</b>	<b>4.35</b>	<b>14.42</b>	<b>14.55</b>
246.00	3.70	62.96	0.00	33.33	66.67	0.00	13.91	14.02
250.00	57.89	42.11	0.00	0.00	100.00	0.00	12.89	12.99
254.00	53.49	46.51	0.00	0.00	100.00	0.00	17.74	17.91
258.00	51.92	40.38	7.69	0.00	100.00	0.00	13.92	14.03
262.00	36.49	63.51	0.00	0.00	100.00	0.00	12.37	12.46
266.00	37.68	52.17	0.00	10.14	89.86	0.00	14.39	14.51
270.00	52.05	24.66	8.22	15.07	84.93	0.00	13.56	13.67
274.00	11.36	79.55	2.27	6.82	93.18	0.00	15.48	15.62
282.00	14.29	61.90	4.76	19.05	80.95	0.00	13.71	13.82
286.00	5.26	80.26	2.63	11.84	88.16	0.00	13.90	14.01
<b>290.00</b>	<b>16.98</b>	<b>64.15</b>	<b>3.77</b>	<b>11.32</b>	<b>84.91</b>	<b>3.77</b>	<b>9.52</b>	<b>9.56</b>
294.00	18.92	81.08	0.00	0.00	100.00	0.00	10.30	10.36
298.00	8.11	51.35	5.41	35.14	64.86	0.00	12.99	13.09
302.00	35.71	50.00	14.29	0.00	100.00	0.00	10.81	10.87
306.00	14.81	59.26	0.00	25.93	74.07	0.00	12.32	12.40
<b>310.00</b>	<b>14.81</b>	<b>40.74</b>	<b>0.00</b>	<b>37.04</b>	<b>55.56</b>	<b>7.41</b>	<b>10.81</b>	<b>10.88</b>
<b>314.00</b>	<b>0.00</b>	<b>42.86</b>	<b>28.57</b>	<b>0.00</b>	<b>71.43</b>	<b>28.57</b>	<b>12.98</b>	<b>13.08</b>
318.00	33.33	55.56	11.11	0.00	100.00	0.00	13.21	13.32
<b>322.00</b>	<b>18.18</b>	<b>9.09</b>	<b>40.91</b>	<b>0.00</b>	<b>68.18</b>	<b>31.82</b>	<b>9.41</b>	<b>9.46</b>
<b>326.00</b>	<b>9.09</b>	<b>6.06</b>	<b>24.24</b>	<b>48.48</b>	<b>39.39</b>	<b>12.12</b>	<b>9.79</b>	<b>9.85</b>
330.00	16.67	16.67	16.67	50.00	50.00	0.00	10.11	10.16
<b>334.00</b>	<b>15.38</b>	<b>0.00</b>	<b>15.38</b>	<b>61.54</b>	<b>30.77</b>	<b>7.69</b>	<b>14.08</b>	<b>14.19</b>

338.00	0.00	0.00	0.00	100.00	0.00	0.00	13.55	13.66
342.00	0.00	0.00	23.08	76.92	23.08	0.00	13.01	13.11
346.00	10.26	7.69	5.13	76.92	23.08	0.00	13.64	13.75
350.00	0.00	0.00	3.23	96.77	3.23	0.00	12.72	12.81
<b>354.00</b>	<b>8.33</b>	<b>4.17</b>	<b>0.00</b>	<b>83.33</b>	<b>12.50</b>	<b>4.17</b>	<b>10.80</b>	<b>10.86</b>
<b>358.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.70</b>	<b>92.59</b>	<b>3.70</b>	<b>3.70</b>	<b>13.47</b>	<b>13.58</b>
362.00	50.00	33.33	16.67	0.00	100.00	0.00	11.73	11.81
366.00	77.27	22.73	0.00	0.00	100.00	0.00	9.36	9.40
370.00	23.08	23.08	17.95	35.90	64.10	0.00	9.96	10.01
<b>374.00</b>	<b>14.29</b>	<b>28.57</b>	<b>28.57</b>	<b>0.00</b>	<b>71.43</b>	<b>28.57</b>	<b>12.13</b>	<b>12.22</b>
<b>378.00</b>	<b>2.60</b>	<b>5.19</b>	<b>15.58</b>	<b>74.03</b>	<b>23.38</b>	<b>2.60</b>	<b>9.76</b>	<b>9.81</b>
382.00	66.67	16.67	16.67	0.00	100.00	0.00	10.88	10.95
386.00	33.33	33.33	33.33	0.00	100.00	0.00	10.88	10.95
<b>390.00</b>	<b>27.27</b>	<b>0.00</b>	<b>36.36</b>	<b>27.27</b>	<b>63.64</b>	<b>9.09</b>	<b>10.61</b>	<b>10.67</b>
<b>394.00</b>	<b>38.46</b>	<b>0.00</b>	<b>30.77</b>	<b>0.00</b>	<b>69.23</b>	<b>30.77</b>	<b>7.99</b>	<b>8.02</b>
<b>398.00</b>	<b>0.00</b>	<b>0.00</b>	<b>42.86</b>	<b>14.29</b>	<b>42.86</b>	<b>42.86</b>	<b>8.63</b>	<b>8.66</b>
<b>402.00</b>	<b>13.33</b>	<b>26.67</b>	<b>26.67</b>	<b>20.00</b>	<b>66.67</b>	<b>13.33</b>	<b>12.54</b>	<b>12.63</b>
<b>406.00</b>	<b>13.33</b>	<b>0.00</b>	<b>26.67</b>	<b>40.00</b>	<b>40.00</b>	<b>20.00</b>	<b>11.87</b>	<b>11.96</b>
<b>410.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>12.17</b>	<b>12.26</b>
<b>414.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>10.97</b>	<b>11.04</b>
<b>418.00</b>	<b>0.00</b>	<b>0.00</b>	<b>16.67</b>	<b>25.00</b>	<b>16.67</b>	<b>58.33</b>	<b>10.07</b>	<b>10.12</b>
<b>422.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>13.32</b>	<b>13.42</b>
<b>424.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>9.93</b>	<b>9.98</b>

\* from Jones et al., 2014

\*\* Using equation  $y = 1.0148x - 0.0927$  from Jones et al., 2014 for the conversion of bulk to cellulose  $\delta^{18}\text{O}$

Bold values indicate samples where moss + *Carex* macrofossils did not combine to equal 100% and were omitted from species effects analysis

Supplemental Table 2. Horse trail fen core data adapted from Jones et al., 2014

Depth (cm)	<i>Sphagnum</i> (%)	<i>Tomenth- ypnum nitens</i> (%)	Other brown moss (%)	Moss total (%)	Sedge ( <i>Carex</i> ) (%)	Residual macrofoss il (%)	$\delta^{18}\text{O}$ to cellulose (‰)**	Single value $\delta^{18}\text{O}$ adjusted to water (‰)	Species- adjusted $\delta^{18}\text{O}$ to water (‰)
10	97.06	0.00	2.94	100.00	0.00	0.00	12.95	-19.95	-21.04
14	88.46	0.00	0.00	88.46	11.54	0.00	11.27	-21.46	-23.53
18	90.32	0.00	0.00	90.32	9.68	0.00	11.12	-21.63	-23.55
22	47.62	0.00	0.00	47.62	52.38	0.00	9.45	-22.67	-28.27
26	16.67	0.00	0.00	16.67	83.33	0.00	7.74	-23.91	-32.18
30	66.67	0.00	3.33	70.00	30.00	0.00	8.55	-23.90	-27.55
34	56.00	0.00	0.00	56.00	44.00	0.00	10.38	-21.86	-26.74

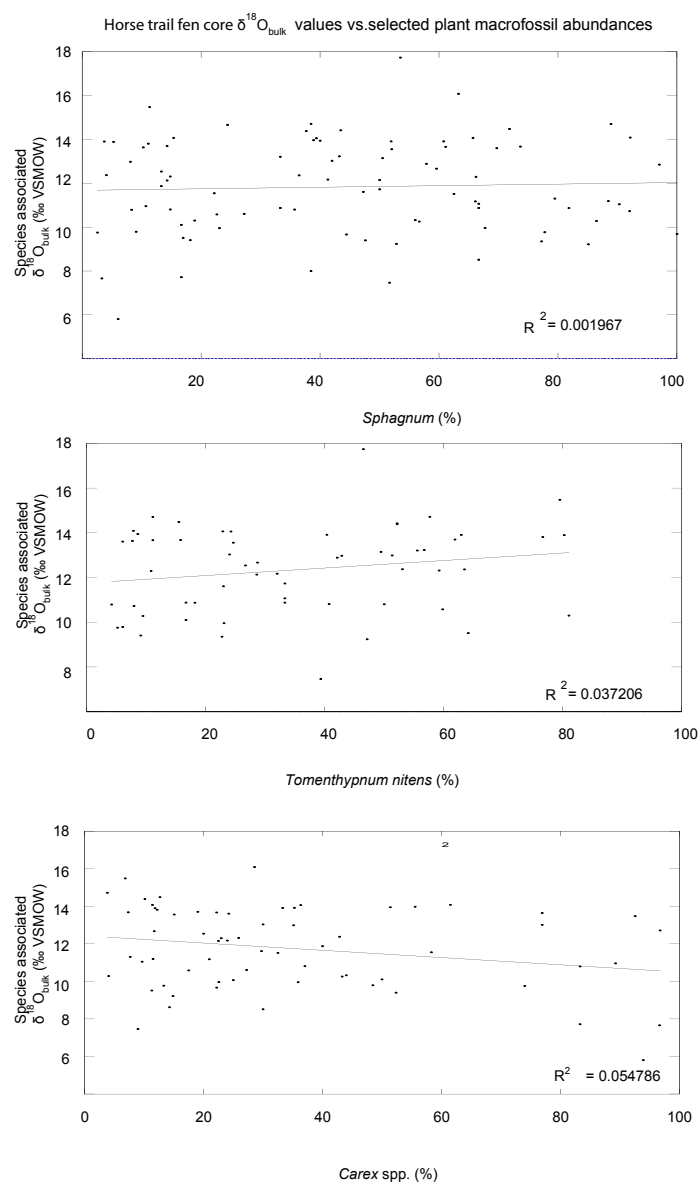
<b>38</b>	<b>67.74</b>	<b>0.00</b>	<b>0.00</b>	<b>67.74</b>	<b>22.58</b>	<b>9.68</b>	<b>10.02</b>		
42	79.49	0.00	12.82	92.31	7.69	0.00	11.39	-21.40	-23.14
<b>50</b>	<b>60.78</b>	<b>0.00</b>	<b>0.00</b>	<b>60.78</b>	<b>35.29</b>	<b>3.92</b>	<b>14.03</b>		
<b>54</b>	<b>77.78</b>	<b>0.00</b>	<b>0.00</b>	<b>77.78</b>	<b>13.33</b>	<b>8.89</b>	<b>9.82</b>		
58	63.27	0.00	8.16	71.43	28.57	0.00	16.23	-16.24	-19.87
62	85.11	0.00	0.00	85.11	14.89	0.00	9.26	-23.42	-25.76
66	66.13	0.00	12.90	79.03	20.97	0.00	11.25	-21.33	-24.23
70	56.67	0.00	0.00	56.67	43.33	0.00	10.32	-21.93	-26.76
78	38.89	0.00	5.56	44.44	55.56	0.00	14.09	-17.98	-23.93
82	24.44	0.00	75.56	100.00	0.00	0.00	14.79	-18.11	-19.23
86	62.50	0.00	5.00	67.50	32.50	0.00	11.60	-20.81	-24.72
<b>90</b>	<b>50.00</b>	<b>0.00</b>	<b>15.00</b>	<b>65.00</b>	<b>22.50</b>	<b>12.50</b>	<b>12.24</b>		
<b>94</b>	<b>44.44</b>	<b>0.00</b>	<b>27.78</b>	<b>72.22</b>	<b>22.22</b>	<b>5.56</b>	<b>9.72</b>		
102	22.22	0.00	19.44	41.67	58.33	0.00	11.63	-20.40	-26.55
106	10.71	0.00	0.00	10.71	89.29	0.00	11.03	-20.53	-29.37
110	6.06	0.00	0.00	6.06	93.94	0.00	5.80	-25.69	-34.86
114	3.33	0.00	0.00	3.33	96.67	0.00	7.69	-23.76	-33.20
118	0.00	0.00	100.00	100.00	0.00	0.00	6.77	-26.13	-27.14
122	81.82	18.18	0.00	100.00	0.00	0.00	10.94	-21.96	-23.02
126	100.00	0.00	0.00	100.00	0.00	0.00	9.75	-23.15	-24.20
130	4.08	53.06	0.00	57.14	42.86	0.00	12.46	-19.79	-24.61
134	11.11	76.67	0.00	87.78	12.22	0.00	13.93	-18.79	-20.97
138	52.83	47.17	0.00	100.00	0.00	0.00	9.28	-23.62	-24.66
142	22.63	59.85	0.00	82.48	17.52	0.00	10.64	-21.99	-24.58
146	50.53	49.47	0.00	100.00	0.00	0.00	13.25	-19.65	-20.75
150	51.69	39.33	0.00	91.01	8.99	0.00	7.48	-25.28	-27.08
158	47.30	22.97	0.00	70.27	29.73	0.00	11.69	-20.76	-24.43
162	66.67	33.33	0.00	100.00	0.00	0.00	11.14	-21.76	-22.83
166	39.39	24.24	0.00	63.64	36.36	0.00	14.18	-18.18	-22.46
170	42.00	24.00	4.00	70.00	30.00	0.00	13.13	-19.32	-23.03
174	61.11	11.11	5.56	77.78	22.22	0.00	13.78	-18.79	-21.83
178	41.33	32.00	2.67	76.00	24.00	0.00	12.26	-20.28	-23.45
182	65.71	22.86	0.00	88.57	11.43	0.00	14.18	-18.54	-20.65
190	73.68	15.79	3.16	92.63	7.37	0.00	13.79	-19.00	-20.75
194	92.16	7.84	0.00	100.00	0.00	0.00	14.21	-18.69	-19.81
198	92.06	7.94	0.00	100.00	0.00	0.00	10.80	-22.10	-23.17
202	43.24	56.76	0.00	100.00	0.00	0.00	13.34	-19.56	-20.66
206	71.83	15.49	0.00	87.32	12.68	0.00	14.61	-18.10	-20.33
210	69.70	6.06	0.00	75.76	24.24	0.00	13.72	-18.82	-22.04
214	40.00	8.57	0.00	48.57	51.43	0.00	14.06	-18.07	-23.65

218	88.89	11.11	0.00	100.00	0.00	0.00	14.83	-18.07	-19.19
222	38.46	57.69	0.00	96.15	3.85	0.00	14.84	-18.00	-19.46
226	86.49	9.46	0.00	95.95	4.05	0.00	10.34	-22.50	-23.91
234	66.22	10.81	0.00	77.03	22.97	0.00	12.39	-20.17	-23.25
238	59.57	28.72	0.00	88.30	11.70	0.00	12.77	-19.96	-22.07
<b>242</b>	<b>43.48</b>	<b>52.17</b>	<b>0.00</b>	<b>95.65</b>	<b>0.00</b>	<b>4.35</b>	<b>14.55</b>		
246	3.70	62.96	0.00	66.67	33.33	0.00	14.02	-18.38	-22.39
250	57.89	42.11	0.00	100.00	0.00	0.00	12.99	-19.91	-21.01
254	53.49	46.51	0.00	100.00	0.00	0.00	17.91	-14.99	-16.16
258	51.92	40.38	7.69	100.00	0.00	0.00	14.03	-18.87	-19.98
262	36.49	63.51	0.00	100.00	0.00	0.00	12.46	-20.44	-21.53
266	37.68	52.17	0.00	89.86	10.14	0.00	14.51	-18.24	-20.24
270	52.05	24.66	8.22	84.93	15.07	0.00	13.67	-19.00	-21.42
274	11.36	79.55	2.27	93.18	6.82	0.00	15.62	-17.18	-18.91
282	14.29	61.90	4.76	80.95	19.05	0.00	13.82	-18.80	-21.57
286	5.26	80.26	2.63	88.16	11.84	0.00	14.01	-18.71	-20.85
<b>290</b>	<b>16.98</b>	<b>64.15</b>	<b>3.77</b>	<b>84.91</b>	<b>11.32</b>	<b>3.77</b>	<b>9.56</b>		
294	18.92	81.08	0.00	100.00	0.00	0.00	10.36	-22.54	-23.60
298	8.11	51.35	5.41	64.86	35.14	0.00	13.09	-19.28	-23.44
302	35.71	50.00	14.29	100.00	0.00	0.00	10.87	-22.03	-23.09
306	14.81	59.26	0.00	74.07	25.93	0.00	12.40	-20.11	-23.45
<b>310</b>	<b>14.81</b>	<b>40.74</b>	<b>0.00</b>	<b>55.56</b>	<b>37.04</b>	<b>7.41</b>	<b>10.88</b>		
<b>314</b>	<b>0.00</b>	<b>42.86</b>	<b>28.57</b>	<b>71.43</b>	<b>0.00</b>	<b>28.57</b>	<b>13.08</b>		
318	33.33	55.56	11.11	100.00	0.00	0.00	13.32	-19.58	-20.69
<b>322</b>	<b>18.18</b>	<b>9.09</b>	<b>40.91</b>	<b>68.18</b>	<b>0.00</b>	<b>31.82</b>	<b>9.46</b>		
<b>326</b>	<b>9.09</b>	<b>6.06</b>	<b>24.24</b>	<b>39.39</b>	<b>48.48</b>	<b>12.12</b>	<b>9.85</b>		
330	16.67	16.67	16.67	50.00	50.00	0.00	10.16	-21.99	-27.39
<b>334</b>	<b>15.38</b>	<b>0.00</b>	<b>15.38</b>	<b>30.77</b>	<b>61.54</b>	<b>7.69</b>	<b>14.19</b>		
338	0.00	0.00	0.00	0.00	100.00	0.00	13.66	-17.74	-27.55
342	0.00	0.00	23.08	23.08	76.92	0.00	13.11	-18.63	-26.42
346	10.26	7.69	5.13	23.08	76.92	0.00	13.75	-17.99	-25.80
350	0.00	0.00	3.23	3.23	96.77	0.00	12.81	-18.64	-28.15
<b>354</b>	<b>8.33</b>	<b>4.17</b>	<b>0.00</b>	<b>12.50</b>	<b>83.33</b>	<b>4.17</b>	<b>10.86</b>		
<b>358</b>	<b>0.00</b>	<b>0.00</b>	<b>3.70</b>	<b>3.70</b>	<b>92.59</b>	<b>3.70</b>	<b>13.58</b>		
362	50.00	33.33	16.67	100.00	0.00	0.00	11.81	-21.09	-22.17
366	77.27	22.73	0.00	100.00	0.00	0.00	9.40	-23.50	-24.54
370	23.08	23.08	17.95	64.10	35.90	0.00	10.01	-22.35	-26.53
<b>374</b>	<b>14.29</b>	<b>28.57</b>	<b>28.57</b>	<b>71.43</b>	<b>0.00</b>	<b>28.57</b>	<b>12.22</b>		
<b>378</b>	<b>2.60</b>	<b>5.19</b>	<b>15.58</b>	<b>23.38</b>	<b>74.03</b>	<b>2.60</b>	<b>9.81</b>		
382	66.67	16.67	16.67	100.00	0.00	0.00	10.95	-21.95	-23.02

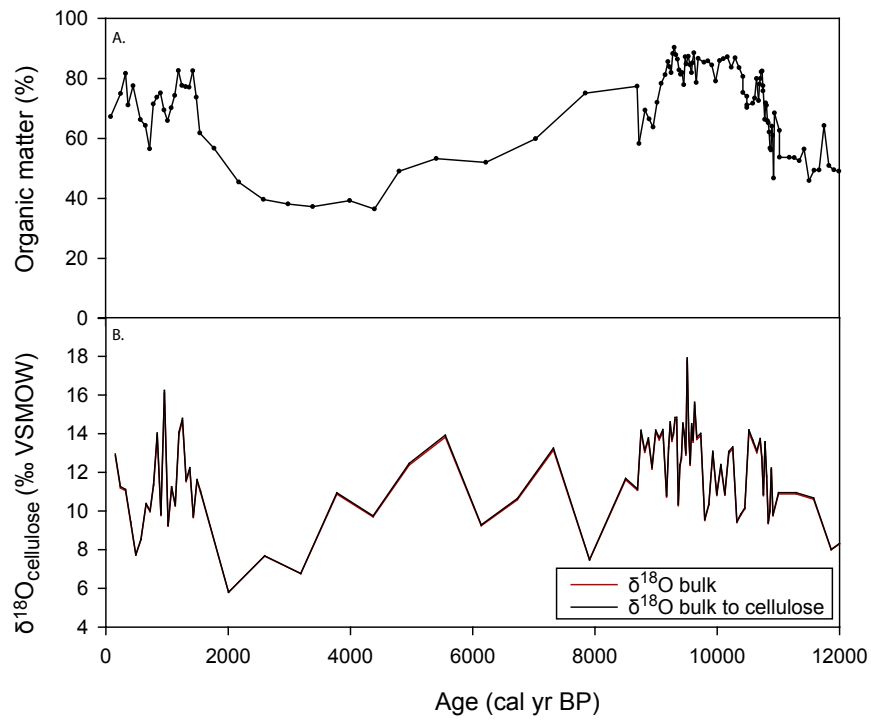
386	33.33	33.33	33.33	100.00	0.00	0.00	10.95	-21.95	-23.02
<b>390</b>	<b>27.27</b>	<b>0.00</b>	<b>36.36</b>	<b>63.64</b>	<b>27.27</b>	<b>9.09</b>	<b>10.67</b>		
<b>394</b>	<b>38.46</b>	<b>0.00</b>	<b>30.77</b>	<b>69.23</b>	<b>0.00</b>	<b>30.77</b>	<b>8.02</b>		
<b>398</b>	<b>0.00</b>	<b>0.00</b>	<b>42.86</b>	<b>42.86</b>	<b>14.29</b>	<b>42.86</b>	<b>8.66</b>		
<b>402</b>	<b>13.33</b>	<b>26.67</b>	<b>26.67</b>	<b>66.67</b>	<b>20.00</b>	<b>13.33</b>	<b>12.63</b>		
<b>406</b>	<b>13.33</b>	<b>0.00</b>	<b>26.67</b>	<b>40.00</b>	<b>40.00</b>	<b>20.00</b>	<b>11.96</b>		
<b>410</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>12.26</b>		
<b>414</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>11.04</b>		
<b>418</b>	<b>0.00</b>	<b>0.00</b>	<b>16.67</b>	<b>16.67</b>	<b>25.00</b>	<b>58.33</b>	<b>10.12</b>		
<b>422</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>13.42</b>		
<b>424</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>	<b>9.98</b>		

Bold values indicate samples where moss + *Carex* macrofossils did not combine to equal 100% and were omitted from species effects analysis

\*\* Using equation  $y = 1.0148x - 0.0927$  from Jones et al., 2014 for the conversion of bulk to cellulose  $\delta^{18}\text{O}$ , stdev =  $\pm 3\text{‰}$ .



SI Figure 1. Horse trail fen core (HTF) from Jones et al., 2014, showing the relationship between the macrofossil abundance and the  $\delta^{18}\text{O}_{\text{bulk}}$  peat value recorded for the given sample.



SI Figure 2. a. Horse trail fen (HTF) peat core loss-on-ignition and b. unaltered  $\delta^{18}\text{O}_{\text{bulk}}$  values plotted with the  $\delta^{18}\text{O}$  values that were converted to cellulose, using the relationship identified in Jones et al., 2014 and found in SI Table 2.