S1_File. EEG power in the left and right cerebral hemispheres and the left and right eye state in fur seals resting in a prone position.
Data for all rest and sleep episodes recorded in two fur seals and the results of statistical tests.

The average EEG power (1.2-4.0 Hz) during USWS in the waking and sleep hemispheres in fur seals
(standardized to the average power during QW; % of QW)

episode	episode (N)	seal	Mean S	Mean W	SEM S	SEM W	N S	N W
R-USWS	A1	A	1712%	163%	59%	7%	336	336
R-USWS	A2	A	1560%	185%	842%	160%	372	372
R-USWS	A3-R	A	1579%	402%	1283%	405%	131	131
L-USWS	A3-L	A	2107%	144%	1386%	58%	97	97
L-USWS	A4	A	1526%	149%	960%	53%	55	55
L-USWS	B1	B	734%	252%	448%	130%	41	41
R-USWS	B2	B	2254%	509%	1274%	393%	83	83
	Mean		1639%	257%				
	SER		185%	54%				
	N (episodes)		7	7				
	Min		734%	144%				
	Max		2254%	509%				

The power(1.2-4.0 Hz) was standardized to the average power during QW in the corresponding hemisphere in the same frequency range
The difference between EEG power in the two hemispheres was also highly significant for each USWS episode (p<0.001)

R-USWS	unihemispheric sleep in the right hemisphere
L-USWS	unihemispheric sleep in the left hemisphere
W	waking hemisphere
S	sleeping hemisphere
SEM	standard error
N	number of 20-sec epochs
N (episodes)	number of USWS episodes

Total amount of time two eyes were open during QW in fur seals (% of time the eyes were visible and sec)

Eye state episode (N)	seal	Open Mean (%) LO	Open Mean (%) RO	Open sec LO	Closed sec LC	Open sec RO	Closed sec RC
A1	A	9.7%	26.0%	410	3804	1084	3081
A2	A	7.5%	29.4%	426	5246	1935	4649
A3 (R,L)	A	12.0%	16.5%	585	4309	803	4066
A4	A	24.2%	14.5%	160	502	174	1026
B1	B	29.0%	16.9%	282	690	161	790
B2	B	14.6%	38.1%	103	602	252	410
Mean		16.2%	23.6%				
SER		3.5%	3.8%				
N		6	6				
Min		7.5%	14.5%				
Max		29.0%	38.1%				

LO,LC	left eye open or closed
RO,RC	right eye open or closed

Difference between the EEG power in the waking and sleeping hemispheres

Paired T-test			Wilcoxon Signed Rank Test	
Normality test:	Passed (P=0.541)		W	28
t	7.707		T+	0 Sum of pos. ranks
k (degree of freedom)	6		T-	28 Sum of negat. rank
			Z-value	-2.366
p	<0.001		P	0.016

Difference between two eyes

Paired T-test			Wilcoxon Signed Rank Test	
Normality test:	Passed (P=0.246)		W	11
t	1.158		T+	16 Sum of pos. ranks
k (degree of freedom)	5		T-	5 Sum of negat. rank
			Z-value	1.153
p	0.299 ns		P	0.313 ns

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Total amount of time two eyes were closed during USWS in fur seals (% of time the eyes were visible and sec)

episode (type of SWS)	episode (N)	seal	Eye state Closed Mean (%) c-S	Closed Mean (%) c-W	Open sec LO	Closed sec LC	Open sec RO	Closed sec RC
R-USWS	A1	A	99.2%	75.8%	56	6573	1576	4941
R-USWS	A2	A	99.5%	75.1%	34	6290	1807	5463
R-USWS	A3-R	A	99.0%	79.2%	26	2486	254	969
L-USWS	A3-L	A	99.5%	68.0%	614	1307	9	1705
L-USWS	A4	A	99.7%	81.8%	198	892	5	1571
L-USWS	B1	B	99.3%	64.9%	293	542	6	805
R-USWS	B2	B	99.6%	81.4%	8	1944	142	621
	Mean		99.4%	75.2%				
	SER		0.1%	2.5%				
	N		7	7				
	Min		99.0%	64.9%				
	Max		99.7%	81.8%				

Difference between two eyes

Paired T-test

Normality test:	Passed (P=0.246)
t	9.861
k (degree of freedom)	6
p	<0.001

Wilcoxon Signed Rank Test

W	28
T+	0 Sum of pos. ranks
T-	28 Sum of negat. rank
Z-value	-2.366
P	0.016

c-S, c-W — eye contralateral to the sleeping or waking hemisphere
Mean (%) — percent of time the eye was visible
sec — total amount of time in sec

Rate (frequency) of opening of the eye contralateral to the sleeping and waking hemisphere during episodes of USWS in fur seals

episode (type of SWS)	episode (N)	seal	rate (per min) c-S	c-W	c-S N	c-S sum (sec)	c-W N	c-W sum (sec)
R-USWS	A1_R	A	0.3	8.5	35	6629	921	6517
R-USWS	A2_R	A	0.2	8.7	16	6324	1057	7270
R-USWS	A3.1_R	A	0.5	8.9	20	2512	181	1223
L-USWS	A3.2_L	A	0.3	10.3	8	1714	330	1921
L-USWS	A4	A	0.2	4.4	4	1576	80	1090
L-USWS	B1_L	B	0.2	12.0	3	811	167	835
R-USWS	B2	B	0.2	5.0	5	1952	63	763
	Mean		0.3	8.2				
	SER		0.0	1.0				
	N		7	7				
	Min		0.2	4				
	Max		0.5	12				

Difference between two eyes

Paired T-test

Normality test:	Passed (P=0.536)
t	7.888
k (degree of freedom)	6
p	<0.001

Wilcoxon Signed Rank Test

W	28
T+	0 Sum of pos. ranks
T-	28 Sum of negat. rank
Z-values	-2.366
P	0.016

N — number of opening
sum (sec) — duration of recording

Duration of the opening of the eye contralateral to waking and sleeping hemisphere (in sec) during episodes of USWS in fur seals

episode (type of SWS)	episode (N)	seal	Open (sec) c-S	c-W	c-S Mean	SEM	N	sum	min	max	c-W Mean	SEM	N	sum	min	max
R-USWS	A1_R	A	1.6	1.7	1.6	0.1	35	56	1	3	1.7	0.0	921	1576	1	8
R-USWS	A2_R	A	2.1	1.7	2.1	0.4	16	34	1	6	1.7	0.0	1057	1807	1	12
R-USWS	A3.1_R	A	1.3	1.4	1.3	0.2	20	26	1	4	1.4	0.1	181	254	1	6

Difference between two eyes

Paired T-test

Normality test:	Passed (P=0.734)
t	1.401
k (degree of freedom)	6

Wilcoxon Signed Rank Test

W	14
T+	21 Sum of pos. ranks
T-	7 Sum of negat. rank

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episode (type of SWS)	episode (N)	seal	c-S	c-W	Mean	SEM	N	sum	min	max	Mean	SEM	N	sum	min	max			
L-USWS	A3.2_L	A	1.1	1.9	1.1	0.1	8	9	1	2	1.9	0.1	330	614	1	7	Z-value	1.183	
L-USWS	A4	A	1.3	2.5	1.3	0.3	4	5	1	2	2.5	0.1	80	198	1	5	p	0.211 ns	P 0.297 ns
L-USWS	B1_L	B	2.0	1.8	2.0	0.6	3	6	1	3	1.8	0.1	167	293	1	4			
R-USWS	B2	B	1.6	2.3	1.6	0.2	5	8	1	2	2.3	0.1	63	142	1	8			
	Mean		1.6	1.9															
	SER		0.1	0.1															
	N		7	7															
	Min		1.1	1															
	Max		2.1	2															

Duration of the closure of the eye contralateral to waking and sleeping hemisphere (in sec) during episodes of USWS in fur seals　　　　　　Difference between two eyes

episode (type of SWS)	episode (N)	seal	Closed (sec) c-S	c-W	c-S Mean	SEM	N	sum	min	max	c-W Mean	SEM	N	sum	min	max
R-USWS	A1_R	A	113.3	5.2	113.3	24.9	58	6573	1	721	5.2	0.3	952	4941	1	99
R-USWS	A2_R	A	146.3	5.1	146.3	32.1	43	6290	1	775	5.1	0.2	1071	5463	1	112
R-USWS	A3.1_R	A	80.2	5.2	80.2	17.4	31	2486	1	517	5.2	0.5	188	969	1	80
L-USWS	A3.2_L	A	106.6	3.9	106.6	18.4	16	1705	2	239	3.9	0.1	333	1307	1	15
L-USWS	A4	A	174.6	11.0	174.6	73.4	9	1571	7	589	11.0	0.7	81	892	1	32
L-USWS	B1_L	B	100.6	3.2	100.6	41.3	8	805	1	346	3.2	0.2	169	542	1	20
R-USWS	B2	B	162.0	9.1	162.0	59.4	12	1944	1	533	9.1	2.0	68	621	1	122
	Mean		126.2	6.1												
	SER		13.2	1.1												
	N		7	7												
	Min		80.2	3.2												
	Max		174.6	11.0												

Paired T-test
Normality test: Passed (P=0.603)
t 9.732
k (degree of freedom) 6
p <0.001

Wilcoxon Signed Rank Test
W 28
T+ 0 Sum of pos. ranks
T- 28 Sum of negat. rank
Z-values -2.366
P 0.016

N　number of episodes
min　min duration
max　maximal duration

Duration of the opening of the eye contralateral to the waking and sleeping hemisphere during QW in fur seals　　　　　　Difference between two eyes

episode (type of SWS)	episode (N)	seal	Open c-S*	c-W*	c-S Mean	SEM	N	sum	min	max	c-W Mean	SEM	N	sum	min	max
R-USWS	A1_R	A	1.8	1.7	1.8	0.1	234	414	1	9	1.7	0.0	624	1087	1	8
R-USWS	A2_R	A	1.8	2.0	1.8	0.1	245	436	1	14	2.0	0.0	987	1944	1	25
R-USWS	A3.1_R	A	1.9	1.6	1.9	0.1	104	196	1	10	1.6	0.0	460	714	1	16
L-USWS	A3.2_L	A	1.5	2.1	2.1	0.1	188	393	1	7	1.5	0.1	62	96	1	5
L-USWS	A4	A	2.3	3.0	2.3	0.3	105	243	1	34	3.0	0.4	72	215	1	31
L-USWS	B1_L	B	1.5	1.6	1.5	0.1	111	164	1	9	1.6	0.1	179	282	1	13
R-USWS	B2	B	2.5	3.6	2.5	0.3	41	103	1	9	3.6	0.6	69	251	1	25
	Mean		1.9	2.2												
	SER		0.1	0.3												
	N		7	7												
	Min		1.5	1.6												
	Max		2.5	3.6												

Paired T-test
Normality test: Passed (P=0.936)
t 1.753
k (degree of freedom) 6
p 0.13 ns

Wilcoxon Signed Rank Test
W 18
T+ 23 Sum of pos. ranks
T- 5 Sum of negat. rank
Z-values 1.511
P 0.156 ns

Duration of the closure of the eye contralateral to the waking and sleeping hemisphere during QW in fur seals　　　　　　Difference between two eyes

episode (type of SWS)	episode (N)	seal	Closed (sec) c-S*	c-W*	c-S Mean	SEM	N	sum	min	max	c-W Mean	SEM	N	sum	min	max	Paired T-test		Wilcoxon Signed Rank Test	
R-USWS	A1_R	A	15.3	4.8	15.3	1.6	248	3784	1	217	4.8	0.2	636	3064	1	77				
R-USWS	A2_R	A	21.5	4.7	21.5	3.3	243	5226	1	560	4.7	0.2	987	4635	1	68	Normality test:	Passed (P=0.587)	W	28
R-USWS	A3.1_R	A	26.1	5.4	26.1	5.2	118	3074	1	372	5.4	0.3	468	2535	1	61	t	4.258	T+	28 Sum of pos. ranks
L-USWS	A3.2_L	A	21.9	6.5	21.9	3.7	69	1510	1	158	6.5	0.7	187	1219	1	113	k (degree of freedom)	6	T-	0 Sum of negat. rank
L-USWS	A4	A	10.6	7.2	10.6	1.9	111	1176	1	133	7.2	0.8	78	563	1	38			Z-values	2.366
L-USWS	B1_L	B	6.8	3.9	6.8	1.1	114	776	1	91	3.9	0.3	183	709	1	39	p	0.005	P	0.016
R-USWS	B2	B	13.0	5.4	13.0	2.9	46	596	1	105	5.4	0.6	75	406	1	27				
	Mean		16.4	5.4																
	SER		2.6	0.4																
	N		7	7																
	Min		6.8	3.9																
	Max		26.1	7.2																

c-S* eye contralateral to the waking hemisphere during the adjacent (preceding or following periods of USWS)

c-W* eye contralateral to the sleeping hemisphere during the adjacent (preceding or following periods of USWS)