Online Supplementary Material for 'Upper Palaeolithic population histories of Southwestern France: a comparison of the demographic signatures of ^{14}C date distributions and archaeological site counts'

Additional methodological information

1. Bayesian modelling of radiocarbon dates

Radiocarbon dates were collected through a literature review and dealt with as described in the methods section of the main text. Where multiple radiocarbon dates were available, along with detailed stratigraphic information from the excavators, Bayesian models were built using Oxcal 4.2. Individual site models, along with the stratigraphic and site bibliography can be found in Collins (2012).

Tables S1 and S2 show the radiocarbon dates used for the analysis, divided into those used for the Bayesian models, and those that could not be modelled. While no filtering of dates was undertaken, the use of Bayesian models, alongside outlier analysis, on the modelled dates should elucidate the impact of applying filters. The use of Bayesian modelling restricts the range of the posterior probability distribution, based on formalized stratigraphic information. The use of outlier analysis also down-weights the importance of outlying dates in the model, and the posterior distribution of a date identified as an outlier can be very different to the prior (unmodelled) distribution for the same date.

Radiocarbon sample pretreatment methods have advanced dramatically since the early days of chronometric dating, most notably with the introduction of ultrafiltration since the early 2000s in order to reduce contamination in samples (Higham et al. 2006). In recent years several re-dating programmes have been undertaken at Palaeolithic sites, often producing very different results from the samples dated using earlier pretreatment protocols. In particular the radiocarbon re-dating programme undertaken on samples from the Abri Pataud, a key site for this analysis, have significantly altered the previously known chronology for this site (Higham et al. 2011). In light of the variable accuracy of radiocarbon dates, some authors have suggested 'chronometric hygiene' protocol; criteria for the inclusion or elimination of radiocarbon dates from analyses based on *a priori* judgements about the reliability of a sample (Pettitt et al. 2003; Spriggs 1989; Waterbolk 1971). However, we wished to retain as many radiocarbon dates as possible in our final analysis and felt that the

exclusion of radiocarbon dates from our analysis would reduce the impact of the analysis for a demographic study where we are interested in the amount of measured cultural carbon as a proxy for human activity. Bayesian modelling of radiocarbon dates allows us to include potentially erroneous dates, identifying and downweighting the outliers instead.

A potential criticism that can be levelled at outlier analysis is that, theoretically, if the majority of radiocarbon dates from a site are inaccurate then it is possible for correct dates to be incorrectly identified as outliers and downweighted in the analysis. However, this should not be a problem when outlier analysis is used in a Bayesian framework. Suppose that for a particular site we have a set of contaminated dates and a set of uncontaminated dates, and we do not know which dates belong to which group. Now suppose that there are more contaminated dates than uncontaminated dates. It is possible (but extremely unlikely) that each of the contaminated samples has a similar level of drift, so that the erroneous dates appear to fit into the correct stratigraphic sequence. In this scenario the Bayesian analysis will accept the contaminated dates and identify the uncontaminated dates as outliers.

However, it is overwhelmingly likely that this will not happen. The different error drifts will vary in magnitude and the contaminated dates will not fit into the correct stratigraphic sequence. If there are very few uncontaminated dates then the analysis may not be confident enough to identify any outliers. Otherwise, the correct stratigraphy of the uncontaminated dates will be picked up by the analysis and the contaminated dates, which will not fit in the stratigraphic order, will be identified as outliers. All incorrectly dated samples would need to be contaminated in such a way that the drift was consistent between the layers for all incorrect samples. In this situation, a minority of correctly dated samples might be incorrectly identified as outliers.

To illustrate how outlier analysis works in combination with stratigraphic information to identify outlying dates we have included two worked examples here from two different sites. The Abri Pataud has been the subject of a recent redating programme (Higham et al. 2011), and consequently there are a good mix of recent AMS dates, produced on samples prepared using ultrafiltration at the Oxford radiocarbon laboratory, and older dates that do not use this pretreatment protocol available for this site. By contrast only older radiocarbon dates are available for the site of Pégourié, with no Oxford AMS (OxA) dates available.

We see in the model for several layers of Pégourié (Figure S1) that the stratigraphic location of each radiocarbon date is tremendously important for the outlier model. Observe how radiocarbon dates have been identified as outliers due to the fact that they fall out of sequence from where they would be expected to be, based on the date and position in relation to other adjacent dates. Observe how the modelled and unmodelled distributions for Ly-1390 do not overlap at all, indicating that this date is an outlier. We see that as the unmodelled distribution for this date falls out of sequence with the surrounding dates, it is identified as an outlier and 'downweighted', resulting in the low degree of overlap between the modelled (dark) and unmodelled (light) distributions. This outlier identification has occurred even in this scenario, where no 'modern' AMS dates with a high standard of pretreatment applied are present.

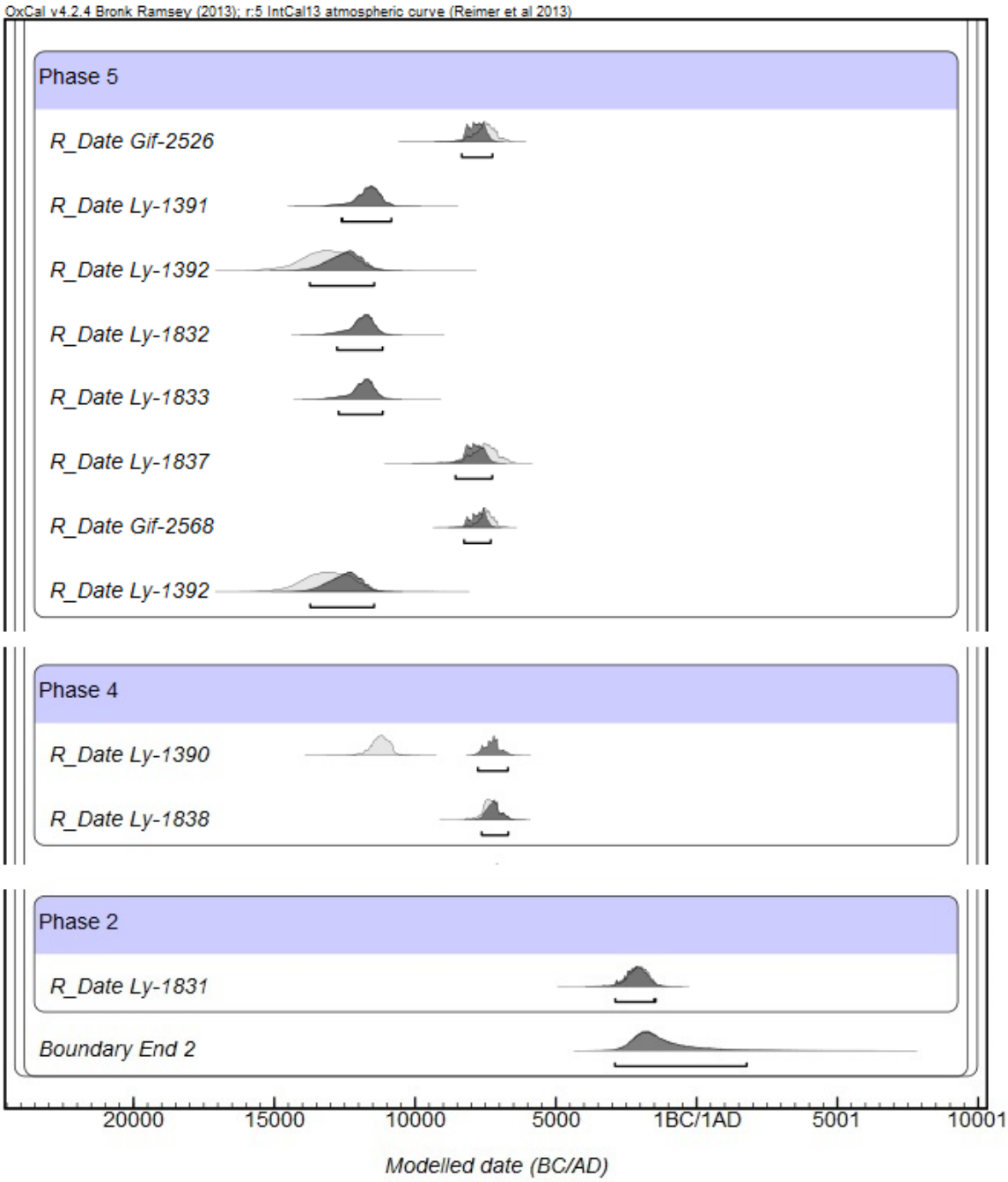

Figure S1. Bayesian model for the site of Pégourié, levels 2-5. Boundaries have been removed from the image for clarity, but were included in the model.

By contrast, observe the results from the Abri Pataud model (Figure S2) where a number of modern samples prepared using ultrafiltration are mixed-in with older samples. We see here that it is indeed the older samples that are identified as outliers, whilst the modern OxA samples are identified as much less likely to be outliers. In particular, the modelled date for GrN-4310 does not overlap with the unmodelled range at all. The range of the distribution is

reduced for OxA dates, with the increased confidence that comes from the additional stratigraphic information.

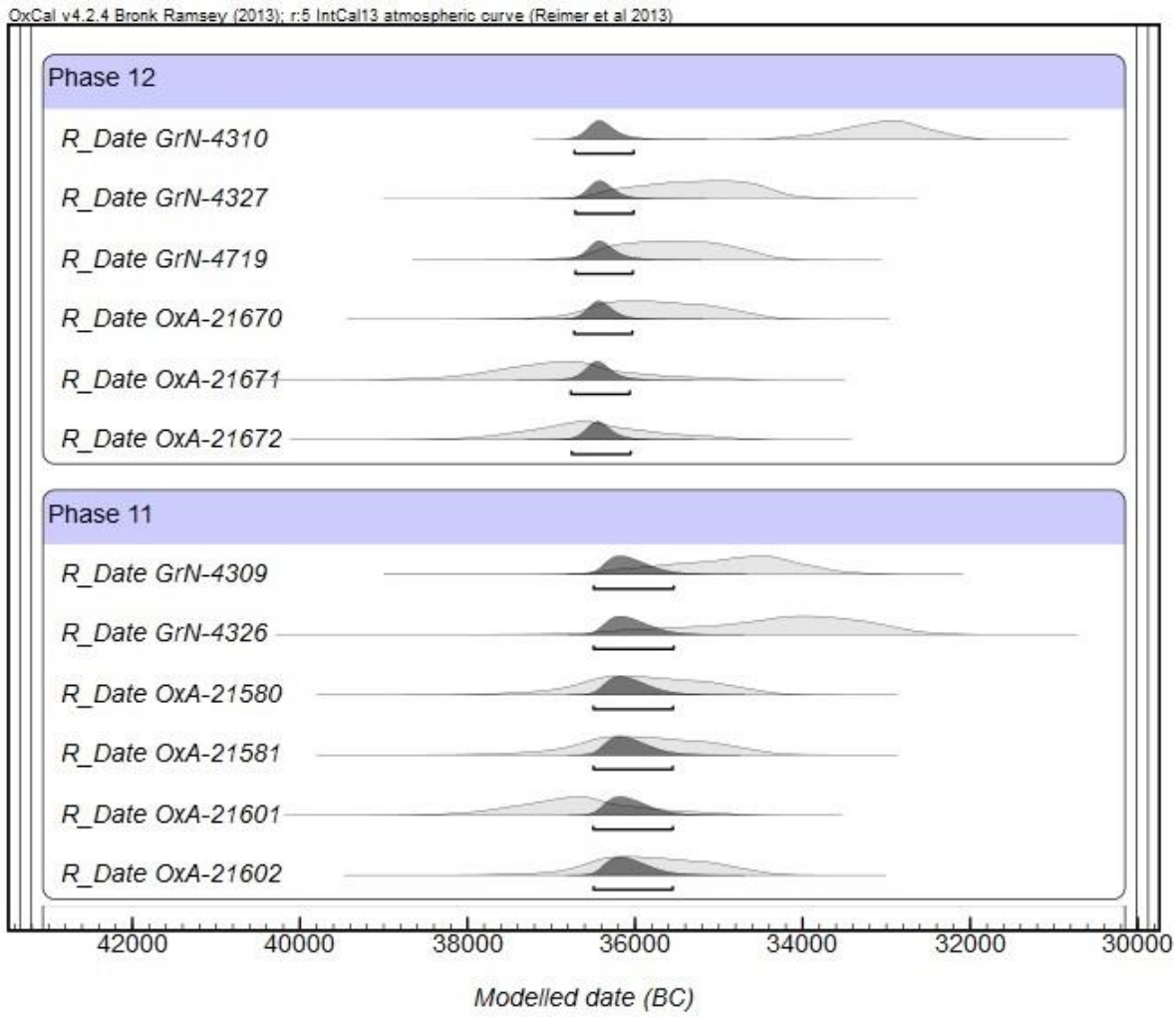

Figure S2. Bayesian model for the Abri Pataud, levels 12 and 11. Boundaries have been removed for clarity, but were included in the model.

A full list of the unmodelled radiocarbon dates is given in Table S1 and a full list of the modelled dates in Table S2.

The key theoretical differences between the dates contained in the modelled and unmodelled date distributions (Figure S3) relate to dating errors and research bias. The modelled dates, theoretically, should be more accurate than the unmodelled dates as they have been subject to Bayesian modelling with outlier analysis. The modelled dates originate from sites with strong research programmes and sufficient funds to produce numerous radiocarbon dates. Thus, while the unmodelled curve may be less reliable than the modelled curve, it may

conversely be more representative of activity in the region than the modelled curve, as it does not just represent sites that have the strongest research programme.

We see that the modelled and unmodelled curves are quite different, notably there are several peaks seen in the modelled curve that are absent in the unmodelled curve. The reverse is not true. There are several points though, such as at 28,000 BP in the unmodelled curve, and at 29,000 BP in the modelled curve, where the same curve is observed – just with a slight delay. This is likely to be due to the impact of the Bayesian modelling. However, points where peaks are observed in the modelled data, but where no peaks are observed in the unmodelled data are likely to instead reflect differences between the two samples of well researched sites, such as the Abri Pataud, versus the sorts of sites that provided only individual radiocarbon dates. The use of both curves, combined, in the main paper is therefore justified in order to gain the most representative yet accurate sample possible from the data.

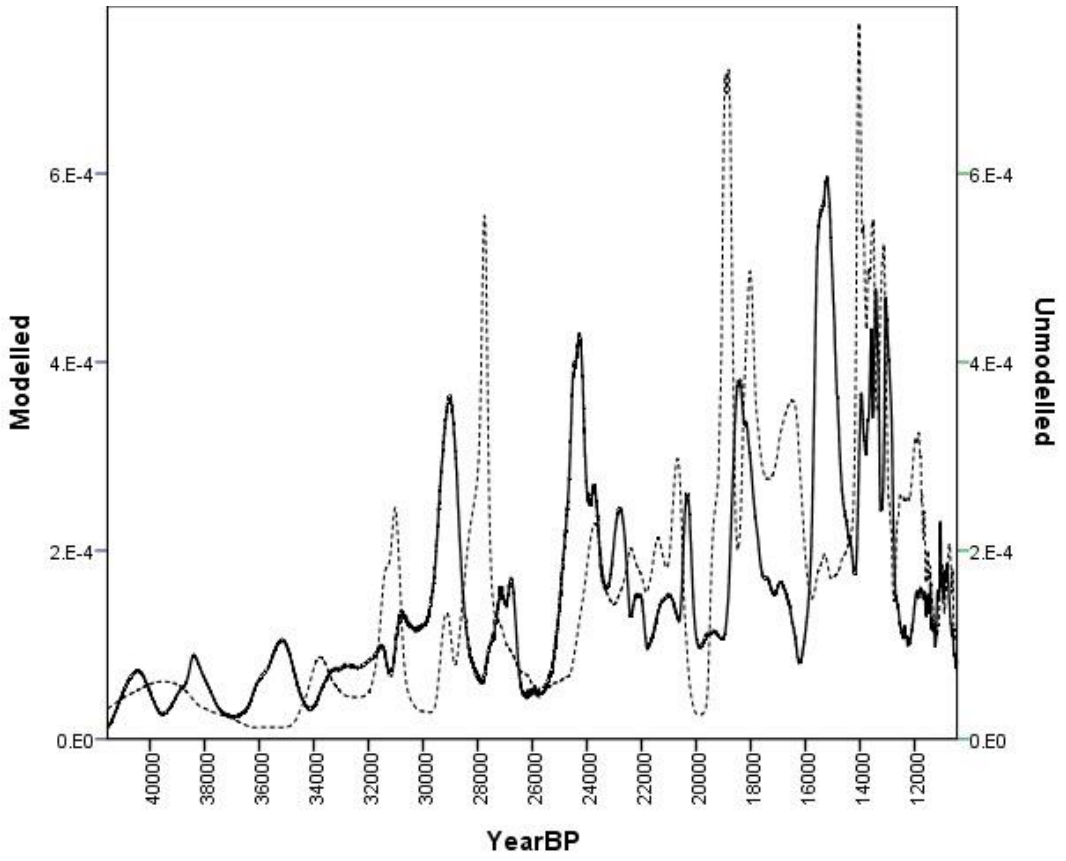

Figure S3. A comparision of the modelled (solid line) and unmodelled (dotted line) radiocarbon date distributions. Both distributions were calibrated using IntCal13 (Reimer et al. 2013)

2. Archaeological site counts

2.1. Construction of the database

All of the sites included in the analysis are listed in Table S3. Full bibliographic information is available in French (2013). As discussed in the associated article, a 'site' was defined as any location where at least one lithic artefact chronologically diagnostic of any of the five study periods was present. Sites from the study area which have been radiometrically dated to the Upper Palaeolithic, but which contain no artefactual evidence for human occupation were not included. Painted/decorated caves were included only when chronologically diagnostic artefactual material was also present. Due to the large-scale nature of the analysis, it was not practical to view the collections from each site. Where debate occurs in the literature as to whether a specific techno-complex or sub-stage is present at a site the majority consensus has been taken, and to maximise the database, sites have been included even when the chronological attribution is still considered ambiguous. When compiling the database the prevalent conventions from the literature were adhered to. For example, the caves and rock-shelters which make up the complex at Vilhonneur (Charente) have largely been included and analysed as discrete sites. In contrast, the complex of caves and rock-shelters at Roc-de-Sers (Charente) are typically treated as a single site, and we have retained that practice in our analysis.

Each site was also classified as either a cave, rock-shelter, or open-air site. The terms cave and rock-shelter are frequently conflated or used interchangeable in the archaeological literature of this region (Debénath 2006:73). To avoid further confusion and to facilitate comparisons with already-published work, each site was assigned to the category to which it is most frequently referred in the literature, despite this designation occasionally being debateable. Some site complexes analysed as a whole contain both caves and rock-shelters and this is indicated in Table S3. Similarly, where a site contained a clear open-air activity locus separate from the sheltered area, this is also indicated.

2.2. Absolute dating and estimates of date ranges

As the site counts were standardised by taking into account the length of each period/sub-period, accurate estimates of the lengths of each of the stages were crucial. The dates used for each stage of the Upper Palaeolithic sequence, and the estimates of the duration of each stage

and sub-stage, are summarised in Table 1 of the main paper. These were determined through a thorough literature review compiling all of the known radiocarbon dates for the region into a Microsoft Excel spreadsheet, and using the 'sort' function to determine the five earliest dates for each sub-stage of the sequence as described above (Table S4). Any clearly erroneous or aberrant dates were discarded and the remainder used to estimate an approximate start date for each sub-stage, which was then calibrated using the IntCal13 curve (68.2% confidence interval) (Reimer et al. 2013) in OxCal 4.2. This date was then rounded (to the nearest 500 years for the Aurignacian and Gravettian, and to the nearest 100 for the Solutrean, Magdalenian and Azilian) to arrive at the start date used in the analysis (Table S5). While reasonable confidence is placed in both these phase start-date estimates, and the estimates of phase duration, it should be borne in mind that most first-date appearances are almost inevitably under-estimates of the true start date of any given archaeological phase/event. In particular, the lack of radiocarbon dates for the Proto-Solutrean phase in Southwestern France, means that the available radiocarbon ages date the beginning of the Lower Solutrean phase, rather than the beginning of the entire Solutrean techno-complex. As crude compensation for this, in this analysis the start of the Solutrean was extended by an estimate of 200 years.

Table S1. The database of unmodelled radiocarbon dates

Site	Sample	Date and SD
Abri Pataud	OxA-688	19700 ± 350
Abri Pataud	GrN-5012	26050 ± 310
Abri Pataud	GrN-6390	23330 ± 230
Abri Pataud	GrN-6391	22670 ± 160
Abri Pataud	GrN-6392	22730 ± 160
Abri Pataud	OxA-162	22000 ± 600
Abri Pataud	GrN-2054	15080 ± 100
Abri Pataud	GrN-2064	17605 ± 420
Abri Pataud	GrN-3255	19650 ± 300
Abri Pataud	GrN-4230	20810 ± 170
Abri Pataud	GrN-4231	21380 ± 340
Abri Pataud	GrN-5452	20350 ± 200
Abri Pataud	GrN-5453	20230 ± 190
Abri Pataud	GrN-5454	20860 ± 215
Abri Pataud	OxA-162	22000 ± 600
Abri Pataud	OxA373	20400 ± 450
Abri Pataud	GrN6163	31800 ± 280
Abri Pataud	GrN-6274	31080 ± 290
Abri Pataud	OxA-2276-19	33050 ± 500

Site	Sample	Date and SD
Abri Pataud	OxA-215182	31300 ± 400
Abri Pataud	GrN-3116	32900 ± 700
Abri Pataud	GrN-3117	32800 ± 450
Abri Pataud	GrN-4531	31800 ± 310
Abri Pataud	OxA-2276-20	32150 ± 450
Abri Pataud	OxA-21583	32400 ± 450
Abri Pataud	OxA-21584	32200 ± 450
Abri Pataud	OxA-21680	32850 ± 500
Abri Pataud	GrN-6273	28510 ± 280
Abri Pataud	OxA-689	26600 ± 800
Abri Pataud	OxA-690	26600 ± 800
Abri Pataud	OxA-2278	31850 ± 450
Abri Pataud	OxA-21676	31250 ± 400
Abri Pataud	OxA-21677	31270 ± 390
Abri Pataud	OxA-21681	31200 ± 400
Abri Pataud	Ly-100	23800 ± 800
Abri Pataud	Ly-300	22000 ± 1000
Abri Pataud	GrN-4477	26600 ± 200
Abri Pataud	GrN-4631	21780 ± 215
Abri Pataud	GrN-5009	23350 ± 170

Site	Sample	Date and SD
Abri Pataud	GrN-5012	26050 ± 310
Abri Pataud	GrN-6390	26330 ± 230
Abri Pataud	GrN-6391	22670 ± 160
Abri Pataud	GrN-6392	22730 ± 160
Abri Pataud	Gx-1369	26720 ± 460
Abri Pataud	Gx-1371	25815 ± 330
Abri Pataud	Gx-1372	26340 ± 450
Abri Pataud	OxA-581	26000 ± 1000
Abri Pataud	W-191	24000 ± 1000
Abri Pataud	W-151	23600 ± 800
Abri Pataud	OxA-21585	28180 ± 270
Abri Pataud	OxA-21586	28230 ± 290
Abri Pataud	OxA-21587	28150 ± 290
Abri Pataud	OxA-21588	28250 ± 280
Abri Pataud	OxA-2225-38	26780 ± 280
Andre Ragout	GrN-4677	12890 ± 140
Andre Ragout	GrN-4693	9490 ± 90
Borie del Rey	Ly-1402	9870 ± 320
Borie del Rey	Ly-1401	10350 ± 340
Camiac	Ly-1104	35100 ± 2000
Caminade	GifA-97185	37200 ± 1500
Caminade	GifA-97186	35400 ± 1100

Site	Sample	Date and SD
Caminade	GifA-97187	34140 ± 990
Caminade	GrN-1491	29100 ± 300
Castanet	GifA-97312	34800 ± 1100
Castanet	GifA-97313	35200 ± 1100
Chaire à Calvin	Ly-1998	15440 ± 440
Chaire à Calvin	OxA-12053	16020 ± 80
Combarelles	Ly-3201	11380 ± 210
Combarelles	Ly-3202	13680 ± 210
Combe Cullier	Ly-978	15030 ± 330
Combe Saunière	OxA-482	26290 ± 800
Combe Saunière	OxA-486	22100 ± 440
Combe Saunière	OxA-487	10140 ± 120
Combe Saunière	OxA-768	14260 ± 200
Combe Saunière	OxA-769	14800 ± 240
Combe Saunière	OxA-770	14770 ± 200
Combe Saunière	OxA-6507	34000 ± 850
Commarque	Ly-2154	13370 ± 340
Commarque	Ly-2355	12760 ± 200
Conduche	Ly-2693	12040 ± 160
Cro le Biscop	Ly-3392	18510 ± 470
Cro Magnon	Beta-157439	27680 ± 270
Esclauzur	Ly-361	14540 ± 300
Faustin	Ly-2700	12370 ± 220
Fontgaban	Ly-977	14300 ± 680
Gabillou	GifA-95583	17180 ± 170
Graves	Gif-3518	9900 ± 180
Graves	Gif-7340	11360 ± 120
Grotte XVI	GifA-94201	29710 ± 510

Site	Sample	Date and SD
Jamblancs	Gif-8667	14850 ± 130
Jaurius	Ly-3730	13580 ± 140
Jaurius	Gd-2693	13500 ± 200
Jaurius	Gd-2697	14660 ± 200
La Bergerie		20000 ± 300
La Madeleine	GifA-95457	10190 ± 100
La Roche à Pierrot	Ly-2193	22960 ± 840
La Roche à Pierrot	Ly-2192	21100 ± 540
La Rochette	OxA-11053	23630±130
La Truffière	Beta-156643	25120 ± 120
La Truffière	Beta-156644	15750 ± 50
Lascaux	C-406	15516 ± 900
Lascaux	GifA-95582	18600 ± 190
Lascaux	GrN-1182	8510 ± 100
Lascaux	GrN-1514	8060 ± 75
Lascaux	GrN-1632	17190 ± 140
Lascaux	GrN-3184	9070 ± 90
Lascaux	Ly-1196	7510 ± 650
Lascaux	Ly-1197	8660 ± 360
Lascaux	Sa-102	16100 ± 500
Laugerie Basse	GifA-94204	15700 ± 150
Laugerie Haute	GifA-100631	19550 ± 340
Laugerie Haute	Ly-1173	19525 ± 155
Le Morin	Gif-2105	10480 ± 200
Le Placard	Gif-8802	18470 ± 300
Le Placard	Gif-8962	19680 ± 180
Le Raysse	Ly-2783	23630 ± 480
Le Raysse	Ly-2782	25000 ± 660
Les Eyzies	BM-2285	11600 ± 380
Les Eyzies	BM-2286	12590 ± 980
Les Fieux	Gif-1807	9450 ± 190
Les Fieux	Gif-4281	9060 ± 190

Site	Sample	Date and SD
Les Garennes	Beta-216141	27110 ± 210
Les Garennes	Beta-216142	26790 ± 190
Les Garennes	Beta-216143	28520 ± 230
Les Marseilles	Gif-5386	12500 ± 250
Les Marseilles	Gif-5387	13850 ± 160
Lespaux	Ly-3307	17450 ± 780
Lespaux	Ly-3308	10580 ± 210
Limeuil	Gif-8040	11720 ± 110
Martinet	Ly-1605	12600 ± 1100
Martinet	Ly-5069	14100 ± 240
Montgaudier	BM-1913	18050 ± 230
Montgaudier	BM-1914	18180 ± 1070
Montgaudier	BM-2307	18090 ± 650
Montgaudier	BM-1916	13320 ± 360
Moulin de Lauguanay	Ly-360	11330 ± 480
Moulin de Lauguanay	Ly-18015	26770 ± 380
Moulin Neuf	Ly-2352	13570 ± 260
Moulin Neuf	Ly-2275	14280 ± 440
Moulin Neuf	Ly-2699	13380 ± 250
Pech de Cavanies	Ly-1717	12150 ± 60
Pégourié	Ly-3851	8390 ± 690
Pégourié	Ly-3932	8050 ± 120
Pégourié	Ly-3933	10170 ± 290
Pégourié	Ly-3852	12160 ± 200
Peyrugues	GifA-95447	17660 ± 160
Puyjarrige	Ly-2279	19310 ± 790
Roc Allan		7625 ± 80
Roc Allan		8160 ± 90
Roc de	GifA-95048	11210 ± 140

Site	Sample	Date and SD
Cave		
Roc de Combe	Gif-6304	23900 ± 330
Roc de Marcamps	Ly-3148	11910 ± 230
Roc de Sers	GifA-97329	17090 ± 160
Roc de Sers	Gif-3609	19230 ± 300
Saint Germain	GifA-95456	15780 ± 200
Saint Germain	Ly-614	15510 ± 120
Vidon	Ly-2701	14000 ± 350
Vignaud	Ly-3761	24220 ± 360

Table S2. The database of radiocarbon dates included in the Bayesian models

Site	Sample	Date and SD
Abri Pataud	GrN-4507	34250 ± 675
Abri Pataud	GrN-4610	333000 ± 760
Abri Pataud	GrN-4720	33330 ± 410
Abri Pataud	OxA-21578	35750 ± 700
Abri Pataud	OxA-21579	35000 ± 600
Abri Pataud	OxA-21596	34500 ± 600
Abri Pataud	OxA-21597	35000 ± 650
Abri Pataud	OxA-15216	35400 ± 750
Abri Pataud	OxA-21598	34750 ± 600
Abri Pataud	OxA-21599	34850 ± 600
Abri Pataud	OxA-21600	34200 ± 550
Abri Pataud	GrN-4310	31000 ± 500
Abri Pataud	GrN-4327	33000 ± 500
Abri Pataud	GrN-4719	33260 ± 425
Abri Pataud	OxA-21670	33450 ± 500
Abri Pataud	OxA-21671	34300 ± 600
Abri Pataud	OxA-21672	34050 ± 550
Abri Pataud	GrN-4309	32600 ± 550
Abri Pataud	GrN-4326	32000 ± 800
Abri Pataud	OxA-21580	33550 ± 550
Abri Pataud	OxA-21581	33550 ± 550
Abri Pataud	OxA-21601	34150 ± 550
Abri Pataud	OxA-21602	33500 ± 500
Abri Pataud	OxA-21679	33650 ± 500
Abri Pataud	OxA-21673	33400 ± 500
Abri Pataud	GrN-6272	23870 ± 180
Abri Pataud	OxA-168	26900 ± 1000
Abri Pataud	GrN-4280	27060 ± 370
Abri Pataud	OxA-374	26300 ± 900
Abri Pataud	OxA-167	26500 ± 980
Abri Pataud	OxA-166	26100 ± 900
Abri Pataud	OxA-687	25500 ± 700
Abri Pataud	GrN-4506	22780 ± 140
Abri Pataud	GrN-4721	23010 ± 170
Abri Pataud	OxA-163	23180 ± 670
Abri Pataud	OxA-164	24250 ± 750
Abri Pataud	OxA-165	24440 ± 740
Abri Pataud	OxA-599	21740 ± 450
Abri Pataud	OxA-686	24500 ± 600
Abri Pataud	GrN-1857	20960 ± 220
Abri Pataud	GrN-1861	20780 ± 170
Abri Pataud	GrN-1885	19300 ± 170

Site	Sample	Date and SD
Abri Pataud	GrN-1862	21940 ± 250
Abri Pataud	GrN-2081	20540 ± 140
Abri Pataud	GrN-2100	20240 ± 200
Abri Pataud	GrN-2115	20340 ± 200
Chez Jugie	Ly-1802	13000 ± 1000
Chez Jugie	Ly-1572	11840 ± 580
Chez Jugie	Ly-1601	11730 ± 530
Chez Jugie	Ly-1651	7650 ± 510
Chez Jugie	Ly-1331	8040 ± 260
Chez Jugie	Ly-1652	8080 ± 280
Chez Jugie	Ly-1600	7010 ± 430
Chez Jugie	Ly-1396	7060 ± 140
Combe Saunière	OxA-758	21640 ± 400
Combe Saunière	Ly-3330	21940 ± 350
Combe Saunière	Ly-3328	13910 ± 230
Combe Saunière	Ly-3329	17470 ± 240
Combe Saunière	OxA-485	16300 ± 220
Combe Saunière	OxA-488	17700 ± 290
Combe Saunière	OxA-489	19450 ± 330
Combe Saunière	OxA-751	15190 ± 200
Combe Saunière	OxA-752	19490 ± 350
Combe Saunière	OxA-753	19630 ± 320
Combe Saunière	OxA-754	15200 ± 200
Combe Saunière	OxA-755	14890 ± 200
Combe Saunière	OxA-756	15120 ± 200
Combe Saunière	OxA-757	18860 ± 320
Combe Saunière	OxA-481	14990 ± 220
Combe Saunière	OxA-459	15480 ± 210
Combe Saunière	OxA-410	15750 ± 230
Cuzoul de Vers	Gif-6699	19400 ± 210
Cuzoul de Vers	Lyon-1682	19510 ± 110
Cuzoul de Vers	Lyon-1680	19950 ± 319
Cuzoul de Vers	Lyon-1679	19540 ± 310
Cuzoul de Vers	Gif-6798	18400 ± 200
Cuzoul de Vers	Gif-6370	18300 ± 200
Cuzoul de Vers	Lyon-1678	19280 ± 120
Cuzoul de Vers	Gif-6797	17050 ± 170
Cuzoul de Vers	Lyon-1681	19020 ± 110
Cuzoul de Vers	Lyon-1677	19800 ± 190
Cuzoul de Vers	Gif-6371	16800 ± 170
Cuzoul de Vers	Lyon-1675	19970 ± 270
Cuzoul de Vers	Lyon-1674	18730 ± 110
Cuzoul de Vers	Gif-6638	15980 ± 150

Site	Sample	Date and SD
Cuzoul de Vers	Gif-6372	14560 ± 130
Faurelie II	Gif-3649	11780 ± 180
Faurelie II	Lyon-5369	12980 ± 80
Faurelie II	Lyon-5370	12070 ± 70
Faurelie II	Lyon-5366	11850 ± 70
Faurelie II	Lyon-5367	11180 ± 70
Faurelie II	Lyon 5368	11010 ± 60
Flageolet I	OxA-598	33800±1800
Flageolet I	GifA-95538	2040±850
Flageolet I	GifA-95559	34300±1100
Flageolet I	Ly-2726	27000±1000
Flageolet I	Ly-2725	27350±1400
Flageolet I	Ly-2724	26800±1000
Flageolet I	OxA-597	24800±600
Flageolet I	Ly-2723	26150±600
Flageolet I	OxA-579	26500±900
Flageolet I	Ly-2722	24280±500
Flageolet I	Ly-2721	22520±500
Flageolet I	OxA-447	25700±700
Flageolet I	Ly-2186	22950±500
Flageolet I	OxA-596	23250±500
Flageolet I	Ly-2185	18610±440
Flageolet I	OxA-448	24600±700
Flageolet II	Ly-917	14110±690
Flageolet II	Ly-918	15250±320
Flageolet II	Ly-1182	14250±400
Flageolet II	Ly-916	12870±390
Gare de Couze	BM-1616	12540±75
Gare de Couze	Ly-975	12430±320
Gare de Couze	BM-1615	11230±180
Gare de Couze	BM-1614	10190±200
Gare de Couze	BM-1613	8260 ± 130
Gare de Couze	Ly-976	11750±310
Gare de Couze	Ly-391	10900±230
Grotte XVI	AA-2673	20550 +- 260
Grotte XVI	AA-2996	20010 ± 230
Grotte XVI	AA-2671	19750 ± 270
Grotte XVI	AA-2672	21490 ± 460
Grotte XVI	AA-2994	19260 ± 240
Grotte XVI	AA-2995	21530 ± 280
Grotte XVI	AA-2670	26340 ± 470
Grotte XVI	AA-2699	20230 ± 270
Grotte XVI	AA-2668	20070 ± 330

Site	Sample	Date and SD
Grotte XVI	AA-2991	20410 ± 380
Grotte XVI	AA-2992	20280 ± 220
Grotte XVI	AA-2993	20460 ± 260
Grotte XVI	AA-3031	19930 ± 160
Grotte XVI	AA-6843	12285±100
Jamblancs	Ly-4588	19010 ± 210
Jamblancs	Ly-4889	19010±310
Jamblancs	Gif-8668	16490±130
Jamblancs	Ly-4589	17770±260
Jamblancs	Gif-8666	13790±120
Jamblancs	Gif-8669	13900±110
Jamblancs	GifA-97147	17650±200
La Doue	Ly-2822	11520±170
La Doue	Ly-2821	8860±210
La Doue	Ly-2820	8980±160
La Doue	Ly-2819	9260±200
La Doue	Ly-2234	8880±160
La Doue	Ly-2233	8750±150
Le Facteur	Gsy-67	27890±200
Le Facteur	Gsy-69	23180±1500
Le Facteur	OxA-583	24720±600
Le Facteur	OxA-584	24210±500
Le Facteur	OxA-585	24400±600
Le Facteur	OxA-586	24690±600
Le Facteur	OxA-594	25450±650
Le Facteur	OxA-595	25630±650
La Ferrassie	GrN-5751	33220±570
La Ferrassie	Gif-4277	31300±300
La Ferrassie	Gif-4275	27100±320
La Ferrassie	Gif-4274	27470±280
La Ferrassie	OxA-409	28600±1050
La Ferrassie	Gif-2427	28820±1500
La Ferrassie	Gif-4273	26750±250
La Ferrassie	Gif-4272	25500±250
La Ferrassie	Gif-4271	28700±250
La Ferrassie	Gif-4268	22700±240
La Ferrassie	Gif-4269	23700±240
La Ferrassie	Gif-4270	23000±240
La Ferrassie	Gif-4266	26100±210
La Ferrassie	OxA-405	29000±850
La Ferrassie	Gif-4267	21070±170
La Ferrassie	GrN-5750	30970±395
La Ferrassie	Gif-4265	22200±650

Site	Sample	Date and SD
La Ferrassie	Gif-2701	23580±550
La Ferrassie	Gif-2700	22520±500
La Ferrassie	Gif-4264	23700±250
La Ferrassie	OxA-404	26250±620
La Ferrassie	Gif-2696	23960±550
La Ferrassie	Gif-2699	22520±500
La Ferrassie	Gif-2698	24650±550
La Ferrassie	OxA-402	27900±770
La Ferrassie	OxA-403	27530±720
La Ferrassie	OxA-401	23800±530
La Madeleine	Ly-922	13440±300
La Madeleine	Ly-921	13070±190
La Madeleine	Ly-920	12750±240
La Madeleine	Ly-919	12640±260
La Quina	Lyon-1367	35950±450
La Quina	GrN-1489	30760±490
La Quina	GrN-1493	31400±350
La Quina	Lyon-256	32650 ± 850
La Quina	GrN-2325	25070±220
La Rochette	GrN-4362	36000 ± 550
La Rochette	GrN-4345	30700 ± 400
La Rochette	GrN-4632	36000 ± 550
La Rochette	GrN-4529	28420±320
La Rochette	GrN-4530	28860±300
Laugerie Haute	OxA-492	14770±180
Laugerie Haute	OxA-480	14730±250
Laugerie Haute	OxA-759	14320±180
Laugerie Haute	OxA-760	15730±200
Laugerie Haute	OxA-761	14320±180
Laugerie Haute	OxA-762	14100±180
Laugerie Haute	GrN-4446	20810±230
Laugerie Haute	GrN-4469	20160±100
Laugerie Haute	GrN-4573	20750±150
Laugerie Haute	GifA-100632	20690±210
Laugerie Haute	Lyon-1175	20360±160
Laugerie Haute	Lyon-1174	20195±265
Laugerie Haute	GrN-4442	19600±140
Laugerie Haute	GrN-4495	19740±140
Laugerie Haute	Lyon-1173	19525±155
Laugerie Haute	GifA-100630	19600±200
Laugerie Haute	GifA-100634	19550±340
Laugerie Haute	GrN-4441	20000±240
Laugerie Haute	GrN-4605	19870±190

Site	Sample	Date and SD
Le Piage	Gif-5030	25700±500
Le Piage	Gif-5029	24900±450
Le Piage	Gif-5028	25700±500
Le Piage	Gif-5027	29000±1000
Le Piage	Gif-5026	18900±250
Le Placard	GifA-92084	20210±260
Le Placard	GifA-92083	20310±220
Le Placard	GifA-91184	19970±250
Le Placard	Gif-8800	18370±200
Le Placard	Gif-8801	17440±200
Le Placard	Gif-8804	17320±160
Le Placard	Gif-8803	16300±190
Le Queroy	Gif-5324	12800±140
Le Queroy	Gif-5325	12590±140
Le Queroy	Gif-5130	10150±180
Le Queroy	Gif-5129	9460±170
Montgaudier	BM-2311	20870 ± 370
Montgaudier	BM-2310	11690 ± 170
Montgaudier	BM-1911	11450±70
Montgaudier	BM-2308	11930 ± 190
Montgaudier	BM-2309	14770 ± 270
Montgaudier	BM-1912	12180±130
Morin	OxA-19826	12945±50
Morin	OxA-19699	13065±60
Morin	OxA-19827	12630±60
Morin	OxA-19828	12690±60
Morin	OxA-19829	12380±55
Moulin	Ly-5445	15600±1200
Moulin	Ly-5444	11340±170
Moulin	Beta-180049	12890 ± 50
Pégourié	Ly-1830	
Pégourié	Ly-1598	13980±510
Pégourié	Gif-2526	
Pégourié	Ly-1391	11680±330
Pégourié	Ly-1392	12690±530
Pégourié	Ly-1832	11870±290
Pégourié	Ly-1833	11850±280
Pégourié	Ly-1837	8450±310
Pégourié	Gif-2568	8450±190
Pégourié	Ly-1392	12690±530
Pégourié	Ly-1390	11290±320
Pégourié	Ly-1838	8310±220

Site	Sample	Date and SD
Peyrugues	GifA-92170	25270 ± 320
Peyrugues	Gif-7998	24800±500
Peyrugues	Ly-3596	23150 ± 170
Peyrugues	Ly-3595	23520 ± 180
Peyrugues	GifA-92169	22400±280
Peyrugues	GifA-96224	22750 ± 250
Peyrugues	GifA-92224	22750 ± 250
Peyrugues	GifA-96230	24590 ± 700
Peyrugues	Ly-3593	18910 ± 110
Peyrugues	Ly-3594	17890 ± 100
Peyrugues	GifA-95474	21700 ± 250
Peyrugues	GifA-96228	18600 ± 140
Peyrugues	GifA-96227	17560 ± 160
Peyrugues	GifA-93089	18660 ± 210
Peyrugues	GifA-93084	18740 ± 200
Peyrugues	GifA-95446	16140 ± 150
Peyrugues	GifA-95450	15940 ± 150
Peyrugues	GifA-93085	16960 ± 190
Peyrugues	Gif-7529	13020 ± 140
Peyrugues	Ly-3599	13700 ± 60
Peyrugues	Ly-3600	13960 ± 100
Peyrugues	GifA-92168	20290±230
Peyrugues	GifA-92166	19310 ± 210
Peyrugues	GifA-92167	19410 ± 210
Peyrugues	GifA-96225	19410 ± 200
Peyrugues	GifA-95460	20910 ± 220
Peyrugues	GifA-91419	19970 ± 210
Peyrugues	GifA-95461	20110 ± 210
Peyrugues	GifA-91410	20400 ± 220
Peyrugues	GifA-91186	20410 ± 280
Peyrugues	GifA-91427	20470 ± 290
Peyrugues	GifA-91417	20750 ± 240
Pont d'Ambon	Gif-3369	12840±220
Pont d'Ambon	Gif-3739	12130±160
Pont d'Ambon	Gif-7223	11600±120
Pont d'Ambon	Gif-7222	8750±1000
Pont d'Ambon	Gif-2570	9830±130
Pont d'Ambon	Gif-3368	10350±190
Pont d'Ambon	Gif-3561	9990±250
Pont d'Ambon	GifA-99102	10730±100
Pont d'Ambon	Gif-3740	9640±120
Roc de Combe	OxA-1443	38000±2000
Roc de Combe	OxA-1263	34800±1200

Site	Sample	Date and SD
Roc de Combe	OxA-1262	33400±1100
Roc de Combe	OxA-1442	29100 ±700
Roc de Combe	OxA-1261	28000±550
Roc de Combe	OxA-1315	27500±500
Roc de Combe	OxA-1260	25500 ± 1200
Roc de Combe	OxA-1441	28500±700
Roc de Combe	OxA-1259	32000 ± 1000
Roc de Combe	OxA-1440	24000 ± 1900
Roc de Combe	OxA-1258	24500 ± 400
Roc de Combe	OxA-1257	24700 ± 400
Roc de Combe	OxA-1256	29800 ± 750
Roc de Combe	OxA-1255	25300 ± 400
Roc de Combe	OxA-1254	32000 ± 1000
Roc de Marcamps	Ly-2682	26520±830
Roc de Marcamps	Ly-4221	18290±230
Roc de Marcamps	Ly-2292	17410±310
Roc de Marcamps	Ly-4219	16840±520
Roc de Marcamps	Ly-4220	17880±280
Roc de Marcamps	Ly-4222	15070±270
Roc de Marcamps	Ly-2681	15700±450
Roc de Marcamps	Ly-2291	14910±240
Roc de Marcamps	Ly-2680	13570±420
Roc de Marcamps	Ly-2290	14200±190
Sainte Eulalie	Gif-2194	15200±300
Sainte Eulalie	Gif-1745	15100±270
Sainte Eulalie	Gif-2193	10400±300
Sainte Eulalie	Gif-1697	10830±200
Saint Germain	Ly-617	16890±130
Saint Germain	GifA-7260	16890 ± 130
Saint Germain	Gif-5479	16200±600
Saint Germain	Gif-5478	15300±410
Saint Germain	Ly-615	15330±150
Saint Germain	Gif-6037	14100± 160
Sanglier	Ly-373	13700±90
Sanglier	Ly-6161	11100±100

Site	Sample	Date and SD
Sanglier	Ly-7286	11180±80
Sanglier	Ly-204	11025±70
Sanglier	Ly-7794	8710±75
Sanglier	Ly-6162	7943±76
Sanglier	Ly-5687	7753±235
Sanglier	Ly-7793	8065±80
Sanglier	Ly-6510	7557±104
Sanglier	Ly-7792	8075±75
Renardières	Ly-1127	29200±450
Renardières	Ly-1650	29440±490
Renardières	Ly-2202	32170 ± 220
Renardières	Ly-1388	26600 ± 240
Renardières	Ly-1665	25065 ± 135
Renardières	Ly-1652	25460 ± 310
Renardières	Ly-1387	21270 ± 280
Renardières	Ly-1651	20430 ± 180
Renardières	Ly-1784	11550 ± 70

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Table S3. List of the sites included in the site counts analysis. The following abbreviations have been used: Type: RS= Rock-shelter, C=Cave, O=Open-air, C/O= Cave with associated Open-air locale, RS/O= Rock-shelter with associate Open-air locale, ?= Unknown; Aurignacian: E=Early, L= Late, I= Indeterminate; Gravettian: E=Early, M=Middle, L=Late, I=Indeterminate; Solutrean: E/M= Early/Middle, L=Late, I= Indeterminate; Magdalenian: B= Badegoulian, M=Middle, U=Upper, F=Final, I=Indeterminate; Azilian: X= Present. See Table 1 (main article) for explanation of the chronological sub-stages

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
La Coquiere	RS	Dordogne	?	I				
Font St. Pey	O	Dordogne	?				B	
Rocher de Valeuil	RS	Dordogne	?					X
Abri du Lavoir	RS	Dordogne	Aillac	I	I			
La Gravette	RS	Dordogne	Bayac	L	E			
Jean Blancs (Jamblancs, Champs B.)	RS	Dordogne	Bayac			E/M, L	B,M	
Mazerat	C/RS	Dordogne	Bayac			L	B	
Grotte du Colombier	C	Dordogne	Bayac			I		
La Cavaille	RS	Dordogne	Bayac (Couze-et-Saint-Front?)	L			M	
Champ Parel 3	O	Dordogne	Bergerac	E				
Corbiac-Vignoble	O	Dordogne	Bergerac	E	L			
Le Flageolet I	RS	Dordogne	Bézenac	E, L	E,M,L			
Le Flageolet II	RS	Dordogne	Bézenac				M, U, F	
Le Landais	O	Dordogne	Bosset				B	
Grotte des Bernous	C	Dordogne	Bourdeilles	I				
Le Fourneau de Diable	RS/O	Dordogne	Bourdeilles		E,M	L	F	
La Trou de la Chèvre	RS	Dordogne	Bourdeilles	E, L	E,M			
Abri Bernoux	RS	Dordogne	Bourdeilles			L		
Grotte du Pey de l'Azé	C	Dordogne	Bourdeilles			L		
Le Pont d'Ambon	RS	Dordogne	Bourdeilles				F	X
Le Malpas	RS	Dordogne	Bourniquel		L	L	B	
Abri Durand Ruel (Les Rebieres I)	RS	Dordogne	Brantôme	E, L	M, I			
Abri du Bonhomme	RS	Dordogne	Brantôme	E	M, I			
Les Festons	RS	Dordogne	Brantôme	E				

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Grotte des Oiseaux	C	Dordogne	Brantôme				F	
Grotte du Cheval	C	Dordogne	Brantôme				M	
Recourbie	RS	Dordogne	Brantôme				M	
Grotte de Champel	C	Dordogne	Calviac-en-Périgord	I	I	L	U	
Roc d'Abeilles (Coucoulu)	RS	Dordogne	Calviac-en-Périgord				F	X
Roc-de-Marsal	C	Dordogne	Campagne	E				
Poulverouse	O	Dordogne	Campagne-du-Bugue				U	
Grotte du Single de Monfort	C	Dordogne	Carsac		I			
Pech de la Boissière	RS	Dordogne	Carsac-Aillac			L	B	
Grotte Noire (les Fours)	C	Dordogne	Castelnaud-la-Chapelle	E	I			
La Boissière	C	Dordogne	Castels	E	E	I	I	
Roque-Bayssette	RS	Dordogne	Castels			L		
Grotte XVI	C	Dordogne	Cénac-et-Saint-Julien	E	E	I	I	
La Font Bargeix	RS	Dordogne	Champeaux-La Chapelle-Pommier				U, F	
Raymonden	C/RS	Dordogne	Chancelade	I			B,M,U,F	X
La Chapelle-Aubareil	O	Dordogne	Chapelle-Aubareil			I		
La Massonie/ Machonie	RS	Dordogne	Condat-sur-Vézère				M	
Grotte de Saint-Front (Corgnac)	C	Dordogne	Corgnac-sur-L'Isle			L	F	
Trou de Peyrol	C	Dordogne	Couze-et-Saint-Front				F	X
Barbas II/III	O	Dordogne	Creysse	E				
Cantalouette II	O	Dordogne	Creysse	E		I		
Vieux Coutet	O	Dordogne	Creysse	E				
Grateloup	O	Dordogne	Creysse			L		

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Usine Henry	O	Dordogne	Creysse				U	
Villazette	O	Dordogne	Creysse				I	
Abri du Roc de la Belle	RS	Dordogne	Cubjac		E		F	
Grotte de Eglise (d'Excideuil)	C	Dordogne	Excideuil			E/M, L	U	
Abri de la Rouquette	RS	Dordogne	Eymet			L		
Titelle	RS	Dordogne	Eymet			L	B	
La Brande	RS	Dordogne	Eymet				U	
Rochereil	C/O	Dordogne	Grand-Brassac				F	X
Abri de la Gane	RS	Dordogne	Groléjac	E				
Grotte du Péchialet	C	Dordogne	Groléjac		M			
Abri de Cantelouve	RS	Dordogne	La Canéda		M			
Abri Caminade (Est and Ouest)	RS	Dordogne	La Canéda	E,L				
Abri du Moulin de Rocheraille/Rochecaillé (Sous les Roches)	RS/O	Dordogne	La Chapelle-Faucher		I	L	F	
Abri du Château de Lasfond	RS	Dordogne	La Chapelle-Faucher	E				
Abri Brouillaud (Tabaterie)	RS	Dordogne	La Gonterie-Boulouneix	E				
Maldidier	C/RS	Dordogne	La Roque-Gageac	E	E			
Gare de Couze	C/RS	Dordogne	Lalinde				U,F	X
Le Souci (Soucy)	RS	Dordogne	Lalinde				F	X
Roc de Birol	C/O	Dordogne	Lalinde				U,F	
Rabier	O	Dordogne	Lanquais		L	I		
La Truffière (Cussac)	C	Dordogne	Le Buisson-de-Cadouin		I		U,F	X
Auberoche	RS	Dordogne	Le Change				F	X
La Combe Ségéral	?	Dordogne	Le Lardin-Saint-Lazare		E			
Badegoule	RS/O	Dordogne	Le Lardin-Saint-Lazare			E/M, L	B	
Abri Casserole	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	I	E,M	E/M, L	B,M	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Grotte de la Combe	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	E				
Abri de Cro-Magnon	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E,L		E/M		
Abri de Cro-le-Biscop/Delprat	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E		L		
Croze à Gondran	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	E				
Font-de-Gaume	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	L		E/M		
Abri Pasquet	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E	E,M	L		
Abri du Poisson	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E	M			
Abri Lartet	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E				
Abri du Bil (Bil-Bas)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	I			I	
Grotte de Malbarrat	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	E,L				
Grotte de la Mouthe	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	E,L		L	U	X
Abri du Pech Saint-Sourd	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E,L			B	
Grotte Vidal	C	Dordogne	Les Eyzies-de-Tayac-Sireuil		E			
Grotte d'Oreille d'Enfer	C	Dordogne	Les Eyzies-de-Tayac-Sireuil		M	L		
Grotte de Fatouret	C	Dordogne	Les Eyzies-de-Tayac-Sireuil		M			
Abri Vignaud	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	I	E	E/M		
Abri Pataud	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil	E,L	E,M,L	E/M		
Laugerie-Haute (Est and Ouest)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil		L	E/M, L	B,M,U	X
Grotte de Cazelle	C	Dordogne	Les Eyzies-de-	E			F	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
			Tayac-Sireuil					
Grotte du Vieil Mouly	C	Dordogne	Les Eyzies-de-Tayac-Sireuil		L			
Audi (lower/2nd)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil		E			
Grotte Rey	C	Dordogne	Les Eyzies-de-Tayac-Sireuil		I	I	U,F	
Grotte Nancy	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	I				
Grotte de Beyssac	C	Dordogne	Les Eyzies-de-Tayac-Sireuil	I				
Abri Maury	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil			E/M, L		
Abri Pageyral (Delluc)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil			I	U	
Chez Galou	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil			L	U	
Grotte Richard (Grotte des Eyzies)	C	Dordogne	Les Eyzies-de-Tayac-Sireuil			L	U,F	X
Crouzette (Le Tunnel)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil			E/M		
Château des Eyzies	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				M, U, F	X
Bout du Monde	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				F	X
Bernifal	C	Dordogne	Les Eyzies-de-Tayac-Sireuil				U	
Calèvie	?	Dordogne	Les Eyzies-de-Tayac-Sireuil				I	
Barry	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				M	
Commarque (Comarque)	C	Dordogne	Les Eyzies-de-Tayac-Sireuil				M,U	
Crabillat	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				M	
Abzac	C	Dordogne	Les Eyzies-de-Tayac-Sireuil				M,U	X

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
La Gaubert (La Source/La Fontaine)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				M,U	X
Combarelles	C	Dordogne	Les Eyzies-de-Tayac-Sireuil				U,F	
Laugerie Basse	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				B,M,U,F	X
Roc de la Peine (Rocher de la Peine)	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil			I	U	
Guilhem	C/RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				I	
Peyrille	RS	Dordogne	Les Eyzies-de-Tayac-Sireuil				U,F	
Font Brunel (Les Tufs)	RS/O	Dordogne	Limeuil				F	X
Limeuil	O	Dordogne	Limeuil				F	
Abri de la Peyzie	RS	Dordogne	Lisle	I	I		F	X
Abri de Laussel	RS	Dordogne	Marquay	E,L	M	E/M, L		
Abri de Cacaro	RS	Dordogne	Marquay		E			
La Grèze	C	Dordogne	Marquay		I	L	U	
Abri du Masnaigre/Masnègre	RS	Dordogne	Marquay	E,L	E,M			
Cap Blanc	RS	Dordogne	Marquay			L	M,U	X
Moulin de Laussel (Four)	RS	Dordogne	Marquay				U	
Milhac (Goulet)	RS	Dordogne	Mauzac-et-Grand-Castang				U	X
Chateau Milhac	C/O	Dordogne	Mauzeac				F	X
La Faurélie I	RS	Dordogne	Mauzens-et-Miremont	L	E			
La Faurélie II	RS	Dordogne	Mauzens-et-Miremont				U,F	X
La Plane	O	Dordogne	Mazeyrolles	I	I			
La Bernarderie	O	Dordogne	Minzac	I	E		B,F	X
Monestier Sud	O	Dordogne	Monestier	I		I		
Gabastou	O	Dordogne	Monfaucon				U	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Monpazier	O	Dordogne	Monpazier		L			
Gisement de Fontoursine	O	Dordogne	Monsaguel	I				
Lascaux	C	Dordogne	Montignac				B,M	
La Balutie	C/RS	Dordogne	Montignac-sur-Vézère	I		L		
Les Grillauds	O	Dordogne	Montpon-Ménestérol				B	
La Côte	O	Dordogne	Neuvic		E			
Le Breuil	O	Dordogne	Neuvic				B	
Station du Burin	O	Dordogne	Neuvic				B	
La Jaubertie	O	Dordogne	Neuvic				B,M	
La Gravière de Planèze	O	Dordogne	Neuvic		I	I	B	
Camp de César/Puy de Pont	O	Dordogne	Neuvic				I	
Gour de l'Arche	O	Dordogne	Périgueux	E		E/M, L	B	
Les Jambes	O	Dordogne	Périgueux		M			
Abri du Petit Puyrousseau	RS	Dordogne	Périgueux		M			
Abri de Fongal	RS	Dordogne	Peyzac-le-Moustier	E	M			
Le Moustier	RS	Dordogne	Peyzac-le-Moustier	E		E/M, L		
Abri de la Roque Saint Christophe	RS	Dordogne	Peyzac-le-Moustier		E,M			
Abri Jardel I	RS	Dordogne	Peyzac-le-Moustier	I				
Abri de Combe-de-Banne	RS	Dordogne	Peyzac-le-Moustier			L		
Abri Jardel II	RS	Dordogne	Peyzac-le-Moustier				F	X
La Forge	RS	Dordogne	Plazac				M	
Longueroche	RS	Dordogne	Plazac				B,M,U,F	X
Pech de Bourre	C/RS	Dordogne	Prat-de-Carlux	I	I			
Le Caillou	O	Dordogne	Rouffignac-de-Sigoulès		M			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Le Roc de Saint Cirq	RS	Dordogne	Saint Cirq				M,U	
Les Meuniers	?	Dordogne	Saint Leon sur L'lsle				I	
Les Grands Rochers	RS	Dordogne	Saint-Amand-de-Coly				M	
Le Dau	O	Dordogne	Saint-André-d'Allas	E				
Abri du Pas-Estret	RS	Dordogne	Saint-André-d'Allas	E				
Abri de Patary	RS	Dordogne	Saint-Avit-Sénier	E				
La Croix de Belingrou	O	Dordogne	Saint-Avit-Sénier	E				
Roc-de-Combe-Capelle	RS	Dordogne	Saint-Avit-Sénier	E,L	E,M	E/M,L		
Gisement de Termo-Pialat	O	Dordogne	Saint-Avit-Sénier	E	E,M			
Fontaine de Gaudonne	RS	Dordogne	Saint-Avit-Sénieur				F	X
Gare de Saint Capraise	O	Dordogne	Saint-Capraise-de-Lalinde				U	
Le Moulin du Roc	RS	Dordogne	Saint-Chamassy				U,F	X
Bonnefont	?	Dordogne	Saint-Crépin-et-Carlucet			I		
Lussachou	?	Dordogne	Saint-Cyprien		I			
Lacaud	O	Dordogne	Saint-Front-de-Pradoux				B	
Le Châtenet	O	Dordogne	Saint-Front-de-Pradoux				B	
Plateau Parrain (Parrain 1)	O	Dordogne	Saint-Front-de-Pradoux				M	
Parrain Ouest	O	Dordogne	Saint-Front-de-Pradoux				B	
Parrain (Parrain II)	O	Dordogne	Saint-Front-de-Pradoux				M	
Tas de Beaufort	O	Dordogne	Saint-Front-de-Pradoux				M	
Parrain Nord	O	Dordogne	Saint-Front-de-Pradoux				B	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Le Cerisier	O	Dordogne	Saint-Front-de-Pradoux				M	
La Croix de Fer	O	Dordogne	Saint-Germain-du-Salembre				B	
Moulin à Vent	?	Dordogne	Saint-Laurent-la-Vallée			L		
La Charlie	?	Dordogne	Saint-Léon-sur-l'Isle				B	
Le Guillassou	O	Dordogne	Saint-Léon-sur-l'Isle				B	
Abri du Renne	RS	Dordogne	Saint-Léon-sur-Vézère	E,L				
Abri de la Métairie	RS	Dordogne	Saint-Léon-sur-Vézère	E,L			M	
Plateau de Belcayre (Belcayre Haut)	O	Dordogne	Saint-Léon-sur-Vézère	L			M	
Roc de la Tuilière	RS	Dordogne	Saint-Léon-sur-Vézère		E		U	
La Rochette	RS	Dordogne	Saint-Léon-sur-Vézère	E,L	M	L		
Le Roc	RS?	Dordogne	Saint-Léon-sur-Vézère		E			
Sous le Roc	RS	Dordogne	Saint-Léon-sur-Vézère	E,L	M			
Solvieux	O	Dordogne	Saint-Louis-en-l'Isle	L	M	I	B,M	
Coly	O	Dordogne	Saint-Louis-en-l'Isle			L	I	
Le Peyrat	RS	Dordogne	Saint-Rabier				B,M,U,F	X
Saint Sulpice d'Excideuil	C	Dordogne	Saint-Sulpice-d'Excideuil			L		
Bois de l'Ange	O	Dordogne	Sarlat	E				
Combe Saunière	C	Dordogne	Sarliac-sur-l'Isle	E	M	L	I	
La Ferrassie (Grotte)	C	Dordogne	Savignac-de-Miremont	E,L	M	L		
La Ferrassie (Abri)	RS	Dordogne	Savignac-de-	E,L	E,M			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
			Miremont					
Abri Blanchard des Roches (Didon)	RS	Dordogne	Sergeac	E,L				
Abri Labattut	RS	Dordogne	Sergeac		M,I	E/M		
Second Abri Blanchard	RS	Dordogne	Sergeac		L			
Abri Castanet	RS	Dordogne	Sergeac	E				
Abri de la Souquette	RS	Dordogne	Sergeac	E		I	M,U,F	
Abri de Rochers de l'Acier	RS	Dordogne	Sergeac	I	I			
Abri des Merveilles	RS	Dordogne	Sergeac	I	M			
Combe de Laborie (Cailloux/Valojoulx)	RS	Dordogne	Sergeac	L		L	U	X
Abri Reverdit	RS	Dordogne	Sergeac				B,M	
Gabillou	C	Dordogne	Sourzac				B	
Jumeau	RS	Dordogne	Sourzac				I	
La Caillade	O	Dordogne	Sourzac				U,F	
Le Mas	O	Dordogne	Sourzac				M	
Grotte de Pouzet (Grotte de la Tchiourie)	C	Dordogne	Terrasson			L	U	
Abri Lachaud	C/RS	Dordogne	Terrasson			L	B,I	
Jolivet	RS	Dordogne	Terrasson-la-Villedieu				B,M,F	X
La Mairie	C	Dordogne	Teyjat				U,F	
Mège	RS	Dordogne	Teyjat				U	
Belcayre-Bas	RS	Dordogne	Thonac			L		
Grotte de Tourtoirac	C	Dordogne	Tourtoirac	E	I	L		
Trélissac/Moulin de Rodas	RS	Dordogne	Trélissac				F	X
Grotte de Lestruque	C	Dordogne	Trémolat			L	U	X
Abri de la Roquebécube (Rochebécude)	RS	Dordogne	Trémolat			L	F	
Chez Maury	RS	Dordogne	Trémolat			L	F	
Boulou/Boulou-Bas	RS/O	Dordogne	Tursac	L				
Abri Cellier	RS	Dordogne	Tursac	E,L	E			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Le Facteur (La Forêt)	RS	Dordogne	Tursac	E,L	E,M	I	I	
L'Angle	RS	Dordogne	Tursac	E		I	U	
Abri Pagès (Ruth)	RS	Dordogne	Tursac	E	E,M	E/M, L	M	
La Madeleine	RS	Dordogne	Tursac			E/M	U,F	X
Liveyre	C	Dordogne	Tursac			E/M,L	U,F	
Villepin	RS	Dordogne	Tursac				F	X
(La Maison Forte-de)Reignac	RS	Dordogne	Tursac			L	U	
Roc du Barbeau	RS	Dordogne	Tursac				U,I	
Sardy	?	Dordogne	Vélines				I	
Grotte du Roc/Roc de Vezac	C	Dordogne	Vézac	E	I			
Vézac Nord	?	Dordogne	Vézac				I	
Madame de Gérard	RS	Dordogne	Vitrac				U	
Laforêt	?	Gironde	?	I				
Milha	?	Gironde	?		I			
La Pigne	RS	Gironde	?				M,U	
Canère	?	Gironde	?				M,U	
Liobau	O	Gironde	?				B	
La Cassotte	O	Gironde	Andernos-les-Bains					X
Le Bétey	O	Gironde	Andernos-les-Bains					X
François Brugier	O	Gironde	Baigneaux	E	I		B	
Sacremort	O	Gironde	Baigneaux				I	
Balette	O	Gironde	Bellebat				B	
Peybideau	?	Gironde	Bellefond				F	X
Tertre de Casevert	O	Gironde	Blasimon				B	
La Forêt	C	Gironde	Blasimon				I	
Ermitage (Le Marais)	C	Gironde	Bouliac				M	
Croûte Charlus	O	Gironde	Bourg				B	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Abbaye	C	Gironde	Bourg-sur-Gironde				U	
Plateau de Camiac	O	Gironde	Camiac-et-Saint-Denis	E				
Les Artigaux	O	Gironde	Camiac-et-Saint-Denis		M,L			
Le Gouillard	O	Gironde	Camiac-et-Saint-Denis				B	
Guimberteau (Malcarré, Léonce Féret)	RS	Gironde	Camiac-et-Saint-Denis				M,F	
Le Peyrat	RS	Gironde	Camiac-et-Saint-Denis				F	X
Butte des Queyrons	O	Gironde	Cantois				B	
Grégeons	O	Gironde	Castelviel				B	
Le Moulin du Pourquey	O	Gironde	Castelviel	I			B	
Le Pourquey Sud	O	Gironde	Castelviel				B	
Chinchon 2	O	Gironde	Castillon-la-Bataille				U	
Bouron	O	Gironde	Castillon-la-Bataille				I	
Butte de (Launay)	O	Gironde	Cazaugitat		I			
Abri Faustin	RS	Gironde	Cessac				F	X
Cubzac les Ponts	?	Gironde	Cubzac-les-Ponts				B	
Abri Baring	RS	Gironde	Daignac				I	
Abri Pique	RS	Gironde	Daignac				U,F	X
Abri Piganeau	RS	Gironde	Daignac				U	
Beauregard (Mazères)	O	Gironde	Faleyras				B	
La Fontaine	?	Gironde	Fronsac				M	
Marmisson	RS	Gironde	Gauriac				U	
Le Tauzin (Gornac)	O	Gironde	Gornac				B	
Taillebois	O	Gironde	Grayan-et-l'Hôpital					X
La Lède du Gurp	O	Gironde	Grayan-et-					X

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
			l'Hôpital					
Granet 1	RS	Gironde	Grézillac				M	
Le Bourg	?	Gironde	Hostens					X
La Carlisse	O	Gironde	Hourtin					X
La Pointe de la Roque	O	Gironde	Hourtin					X
Lachanau	O	Gironde	Hourtin					X
Lagnière (Lagnère)	O	Gironde	Hourtin					X
Le Débarcadère	O	Gironde	Hourtin					X
Abri Vidon	RS	Gironde	Juillac				U,F	
Le Vieux Port	O	Gironde	Lacanau					X
Haurets	C	Gironde	Ladaux	I				
Les Vignes du Moulin (Moulin de Beausoleil)	O	Gironde	Landerrouat	E	I		B	
La Pibole	O	Gironde	Le Puy				B	
Pontaret	O?	Gironde	Lugasson		I		B	
Grotte de Fauroux	C	Gironde	Lugasson			I	F	X
Le Grand Moulin	RS	Gironde	Lugasson			L	B, U, F	
Plateau de Charron	O	Gironde	Lugasson				B	
Fontarnaud	C	Gironde	Lugasson				U	X
Porteau	?	Gironde	Lussac			L		
Les Sablons	O	Gironde	Marsas				B,U	
Truc de Bourdiou	O	Gironde	Mios					X
La Balutie	?	Gironde	Montignac	I				
Plateau de Laroque	O	Gironde	Nérigean	E				
Noulet 2	?	Gironde	Nérigean					X
La Cabanne	?	Gironde	Pellegrue			L		
Viaud de Pellegrue	O	Gironde	Pellegrue				B	
La Chapelle	O	Gironde	Pellegrue				B	
Chez Leix (Durège)	RS	Gironde	Pessac-sur-Dordogne	L				

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Le Pigeonnier	RS	Gironde	Pessac-sur-Dordogne	L				
Abri Morin	RS	Gironde	Pessac-sur-Dordogne				U,F	X
La Bertonne	O	Gironde	Peujard				B	
Grotte de Pair-non-Pair	C	Gironde	Prignac-et-Marcamps	I	E			
La Roc de Marcamps	RS	Gironde	Prignac-et-Marcamps	I		I	B,M,U	
Jolias	C	Gironde	Prignac-et-Marcamps	E				
Grotte des Fées	C	Gironde	Prignac-et-Marcamps				M,U	
Bel-Air	O	Gironde	Pugnac				B	
Viaud de Pugnac	O	Gironde	Pugnac				B	
Le Petit Barail	O	Gironde	Sablons				F	
Saint Germain-la-Rivière	C/RS	Gironde	Saint Germain-la-Rivière				B,M,U	
Garrigue	O	Gironde	Saint-Antoine				F	
Le Touron (Houleau)	RS	Gironde	Sainte-Florence			I	B,M	
Fonplégade 1	O	Gironde	Saint-Emilion	L				
Fonplégade 2 (La Madeleine)	?	Gironde	Saint-Emilion	L				
Fongaban	RS	Gironde	Saint-Emilion				U,F	X
Moulin de Barrail	O	Gironde	Sainte-Radegonde				B	
Ferrand	C	Gironde	Saint-Hippolyte		I			
Maurens	RS	Gironde	Saint-Hippolyte				B,U	X
Bellefond Belcier	RS	Gironde	Saint-Laurent-des-Combes				U	
Lavision	C	Gironde	Saint-Maixent				I	
Camp de la Hire	O	Gironde	Saint-Philippe-d'Aiguille		I		B	
Abri Lespaux	RS	Gironde	Saint-Quentin-de-Baron		M			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Moulin Neuf	RS	Gironde	Saint-Quentin-de-Baron				M	
Jaurias (Bisqueytan)	C/RS	Gironde	Saint-Quentin-de-Baron				M	
Savariaud	RS	Gironde	Saint-Quentin-de-Caplong				F	
Roc	C	Gironde	Saint-Sulpice-de-Guilleragues					X
Birac	O	Gironde	Saint-Sulpice-et-Cameyrac				B	
Coudet	O	Gironde	St-Laurent-d'Arce				B	
La Cousteyre	?	Gironde	Talais					X
Le Luc	O	Gironde	Talais					X
Le Pérey	O	Gironde	Talais					X
Les Vignauds	O	Gironde	Talais					X
Saint Martin	O	Gironde	Talais					X
La Lustre	RS	Gironde	Tauriac		M		M	
Artigauts	O	Gironde	Tizac-de-Curton				B	
Soumensac	?	Lot-et-Garonne	?			I		
Bordeneuve	O	Lot-et-Garonne	Beaugas				B	
Maubin	O	Lot-et-Garonne	Beaupuy				B	
La Plaine	O	Lot-et-Garonne	Beauville	E				
Toulousète	O	Lot-et-Garonne	Beauville	E				
Hui	O	Lot-et-Garonne	Beauville	E				
Laburlade	O	Lot-et-Garonne	Blanquefort-sur-Briolance	L				
Abri du Callan	RS	Lot-et-Garonne	Blanquefort-sur-Briolance		E,M,L			
Borie del Rey	C	Lot-et-Garonne	Blanquefort-sur-Briolance				F	X
La Roche de Castelmoron	O	Lot-et-Garonne	Castelmoron-sur-Lot				M	
Grotte Guiraudel	C	Lot-et-Garonne	Cuzorn	I	E			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Belledent	O	Lot-et-Garonne	Cuzorn	I				
Grand Champ	C	Lot-et-Garonne	Esclottes	E				
Abri Peyrony	RS	Lot-et-Garonne	Gavaudun	I	E,M			
Grotte du Moulin-du-Milieu	C	Lot-et-Garonne	Gavaudun	I				
Plateau Baillard	O	Lot-et-Garonne	Gavaudun	I	M	I		
Roc Chaud	RS	Lot-et-Garonne	Gavaudun	E	M			
Les Forges de Ratis	RS	Lot-et-Garonne	Gavaudun	E				
Métayer	O	Lot-et-Garonne	Gavaudun	L	M			
Roc de Gavaudun/Bas du Roc	RS	Lot-et-Garonne	Gavaudun		E,M			
Roquecave	RS	Lot-et-Garonne	Gavaudun		E,M			X
Solutréenne (Grotte de Gavaudun)	C	Lot-et-Garonne	Gavaudun			I		
Helix	RS	Lot-et-Garonne	Gavaudun				U	X
La Papeterie	RS	Lot-et-Garonne	Gavaudun					X
Layrac (Cote 132)	O	Lot-et-Garonne	Layrac				B	
Comte	O	Lot-et-Garonne	Loubès-Bernac	E				
Sous les Vignes (Las Pelenos)	RS	Lot-et-Garonne	Monsempron-Libos	L	E,M	I		
Moulin de Madone	?	Lot-et-Garonne	Montastruc				U	
Camping du Saut/Port de Penne	O	Lot-et-Garonne	Penne-d'Agenais					X
Pepeyrou	O	Lot-et-Garonne	Saint-Front-sur-Lémance	E				
Plateau Cabrol	O	Lot-et-Garonne	Saint-Front-sur-Lémance		I			
Peutille	O	Lot-et-Garonne	Saint-Front-sur-Lémance		E			
Le Mayne (Fresquet)	O	Lot-et-Garonne	Saint-Vite		L			
Les Forges Hautes	RS	Lot-et-Garonne	Sauveterre-la-Lémance	L	I			
L'Abri du Château	RS	Lot-et-Garonne	Sauveterre-la-Lémance		I			
Le Martinet	RS/O	Lot-et-Garonne	Sauveterre-la-Lémance				U	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Roc Allan	RS	Lot-et-Garonne	Sauveterre-la-Lémance				F	X
Jacob	?	Lot-et-Garonne	Savignac-de-Duras		E, I			
Moulin de Bayle	O	Lot-et-Garonne	Tourtrès	L				
Tourtrès	O	Lot-et-Garonne	Tourtrès	I				
Cassegros	C	Lot-et-Garonne	Trentels			I	B	
La Bergerie de Saint Géry	RS	Lot	Saint-Géry		E,M	I		
Moulin de Mesnard	?	Lot	Bagnac-sur-Célé				B	
Grotte Bâtie de Conduché	C	Lot	Bouziès				I	
Conduché (Grotte Carriot)	C	Lot	Bouziès				F	
Grotte de la Crevasse (Escargotière)	C	Lot	Bouziès				I	X
Gare de Conduché	C	Lot	Bouziès				F	
Roc Grand	RS	Lot	Bouziès					X
Abri de Cambous	RS	Lot	Bouziès (Cabrerets?)				U	X
Cabrerets (Louradour, Vertut, Dimanche, Garrigue)	RS	Lot	Cabrerets			E/M, L	B	
Petit Cloup Barrat	C	Lot	Cabrerets			L	B,M	
Cave aux Endives (Pech del Mas)	C	Lot	Cabrerets				B,M	
Pech de Cavaniès	C	Lot	Cahors				F	
Grotte de Pégourié	C	Lot	Caniac-du-Causse		M		B	X
La Bergerie de Caniac	C	Lot	Caniac-du-Causse				M	
Chemin des Dames	C	Lot	Cassagnes				I	X
Lacabrette	O	Lot	Castelnau-Montratier	E				
Grotte de Murcens	C	Lot	Cras				I	
Peyrazet	C/RS	Lot	Creysse				U	X
Sainte Eulalie	C	Lot	Espagnac-Sainte-Eulalie			L	M,U,F	
Le Piage	RS	Lot	Fajoles	E		L	B	
Baillot	C	Lot	Gramat	E				

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Cuzoul de Gramat	C	Lot	Gramat					X
Grotte de Péchialet (Chien)	C	Lot	Grolejac		M			
Jouclas (Lacave)	C	Lot	Lacave			L	F	
Combe Cullier (Crozo Gentillo)	C/RS	Lot	Lacave				M	
Rivière de Tulle	RS	Lot	Lacave				I	
Coual (Abreuvoir)	C	Lot	Lamagdelaine				U	
Braugnes	RS	Lot	Lauzès				B	
Abri de Graves	RS	Lot	Léobard					X
Abri X (Lugagnac)	RS	Lot	Lugagnac					X
Abri du Roc (Roque) Rouge	RS	Lot	Marcilhac					X
La Paillole	?	Lot	Marminiac			I		
Grotte des Fieux	C	Lot	Miers	E,I	E,M,L	E		X
Roc de Cavart	RS	Lot	Montcabrier		M,L	L		
Les Peyrugues	RS	Lot	Orniac		E,M,L	E,L	B,M	
Roc-de-Combe	C	Lot	Payrignac	E,L	E,M,L			
Roussignol (Reilhac/Les Pouzets)	C	Lot	Reilhac	I	L	L	U	X
Sanglier	C	Lot	Reilhac				F	X
Crozo del Dua /Roque de Coucart	?	Lot	Rocamadour	I				
Abri Murat	RS	Lot	Rocamadour				F,I	X
Abri Pagès	RS	Lot	Rocamadour					X
Abri Malaurie	RS	Lot	Rocamadour					X
Abri Mazet	RS	Lot	Rocamadour					X
Grotte de Linars	C	Lot	Rocamadour					X
Sindic (Sundic, Syndic)	RS	Lot	Saint-Cirq-Madelon		I	I	I	
Roc de Cave	C	Lot	Saint-Cirq-Madelon	I		L	F	X
Grotte Bâtie (Crozo Bastido)	C	Lot	Saint-Sozy (Pinsac?)				F	X
Peyro Lebado 2	?	Lot	Saint-Vincent-		M,L			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
			Rive-d'Olt					
Les Ardailloux	O	Lot	Soturac	E				
Couvert	RS	Lot	Soturac		M,L	I		
Pis-de-la-Vache	C	Lot	Souillac	I		I	I	X
Escabasses (Salgues)	C	Lot	Thémines		I	I		X
Le Cuzoul de Vers	RS	Lot	Vers			L	B	
Coronzac	RS	Lot	Vers				F	
La Salpétrière	C	Lot	Vers			I		X
Puy d'Issolud	RS	Lot	Veyrac	I		I	I	
Abri de Fontfroide	RS	Charente	?			I	I	
L'abri en face des Fieux/ La Casine	RS	Charente	?				F	
Le Bois Douvesse (Anqueville)	?	Charente	Bouteville				F	X
La Trache 1	C	Charente	Châteaubernard				I	
Fontaury	RS	Charente	Chateauneuf-sur-Charente	E				
Hauteroche (Grotte à Melon)	C/RS	Charente	Châteauneuf-sur-Charente	I				
Le Quéroy	C	Charente	Chazelles				F	X
Brossac	O	Charente	Cherves Richemont		I			
Chillac	O	Charente	Chillac		I		I	
Marcel Clouet	C	Charente	Cognac	E,L	M	I	I	
Ménieux/Gavechou	C	Charente	Édon		I	L	I	
Périssac	O	Charente	Esse				F	
La Malsaisie	C	Charente	Gardes-le Pontaroux				I	
La Quina (Station Aval)	RS	Charente	Gardes-le-Pontaroux	E,L				
Le Pont Neuf (La Combe-à-Rolland)	RS	Charente	La Couronne	E				
Les Renardières	C	Charente	Les Pins	E,L	M,I		B,F	X
Les Moradies	C	Charente	Marthon				I	

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Montgaudier	C/RS	Charente	Montbron	I	M	L	B,M,U,F	
Les Rois du Mouthiers	C	Charente	Mouthiers-sur-Boëme	E,L	I			
Combe à Rolland (Rochandry)	RS	Charente	Mouthiers-sur-Boëme			L		
La Chaire-à-Calvin (La Papeterie)	RS	Charente	Mouthiers-sur-Boëme			I	M,U,F	
Fontéchevade	C	Charente	Orgedeuil	E,L	I			
Plateau de Clergon	O	Charente	Puymoyen			I		
Trou du Cluzeau	C	Charente	Ronsenac	I	I			
Saint Mary	?	Charente	Saint-Mary		I			X
Les Planes	O	Charente	Saint-Yrieix-sur-Charente	I				
Bellevaud (Vallée)	C/RS	Charente	Sers	I			I	
Roc de Sers	C/RS	Charente	Sers		L	E/M, L	I	
Castaigne	C	Charente	Torsac	E				
Petite Courrière	O	Charente	Torsac		I		B,F	
Chasseur (Boiseau)	RS	Charente	Vilhonneur	E,L	E,M	L	I	
André Ragout	RS	Charente	Vilhonneur		E,M	E/M, L	B	
Les Fadets (Fades)	C/RS	Charente	Vilhonneur		M	L,I		
Le Placard (Grotte de Rochebertier)	C	Charente	Vilhonneur			E/M, L	B,M,U,F	
Rochebertier	C	Charente	Vilhonneur			I		
Grotte du Sureau	C	Charente	Vilhonneur			I	I	
Grotte du Moulin	C	Charente	Vilhonneur			I		
Ammonite	C	Charente	Vilhonneur				F	X
Le Loup	C	Charente	Vilhonneur				I	
Les Vachons	C/RS	Charente	Voulgézac	E,L	E,M,L	L,I	I	
Grotte Duport (La Chaise)	C	Charente	Vouthon	E				
Bourgeois Delaunay (La Chaise)	RS	Charente	Vouthon	E				
Saint Julien	O	Charente-Maritime	Bois		I			

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Piphrez	RS	Charente-Maritime	Grandjean				F	
Chez Pinaud 2	O	Charente-Maritime	Jonzac	L				
Chez Pinaud	RS	Charente-Maritime	Jonzac	E	I			
Heurtebise (grottes)	C	Charente-Maritime	Jonzac		I		F	
Heurtebise (plateau)	O	Charente-Maritime	Jonzac		I			
Le Sablon	O	Charente-Maritime	Jonzac?	I				
Chez-Claveau	O	Charente-Maritime	Jonzac?	I				
Chez-Philipeau	O	Charente-Maritime	Jonzac?	I				
Gros Roc (Chambres Noires)	C	Charente-Maritime	Le Douhet	L			I	
Saint Georges des Agouts	O	Charente-Maritime	Mirambeau		L			
Le Perzo	?	Charente-Maritime	Neuillac					X
La Roche à Pierrot (Saint Césaire)	RS	Charente-Maritime	Saint-Césaire	E,L				
Le Rail	O	Charente-Maritime	Saint-Germain-du-Seudre			I		
Chez Fiacre	O	Charente-Maritime	Saint-Hilaire-du-Bois			I	B	
Roche Courbon (Bouil Bleu)	C	Charente-Maritime	Saint-Porchaire	I	E			
Flétrie	C	Charente-Maritime	Saint-Porchaire	I				
La Vauzelle (La Baraude)	C/RS	Charente-Maritime	Saint-Porchaire	I			I	
La Grange	O	Charente-Maritime	Surgères					X
Combemenue	O	Corrèze	Brignac-la-Plaine	L				

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Ressaulier	O	Corrèze	Brive-la-Gaillarde	E				
Grotte Renardière	C	Corrèze	Brive-la-Gaillarde	E,L				
Font Robert	C	Corrèze	Brive-la-Gaillarde	E	E,M	E/M		
Coumba del Bouïtou	C	Corrèze	Brive-la-Gaillarde	E,L		I		
Le Raysse (Fouillade)	C/RS	Corrèze	Brive-la-Gaillarde	E	M	L		
Plateau de Bassaler	O	Corrèze	Brive-la-Gaillarde	E	I			
Font Yves	C	Corrèze	Brive-la-Gaillarde	E,L	I	I		
Grotte de Bassaler Nord	C	Corrèze	Brive-la-Gaillarde	E,L	M			
Grotte de Chanlat	C	Corrèze	Brive-la-Gaillarde	E,L				
Grotte Dufour	C	Corrèze	Brive-la-Gaillarde	L				
Grotte de Bos-del-Ser	C	Corrèze	Brive-la-Gaillarde	L	M			
Abri de Puyjarrige	RS	Corrèze	Brive-la-Gaillarde	L	E			
Champ (Sous-Champ)	C/O	Corrèze	Brive-la-Gaillarde	I	M	E/M, L		
Coumba Negra (Combe-a-Nègre)	C	Corrèze	Brive-la-Gaillarde	E	E,M	L		
Grotte de Lacoste	C	Corrèze	Brive-la-Gaillarde	I	M			
Les Morts	C	Corrèze	Brive-la-Gaillarde	I	E,M			
Grotte Bouyssonie	C	Corrèze	Brive-la-Gaillarde	I			I	
Les Sablières	?	Corrèze	Brive-la-Gaillarde		L			
Pré Aubert (Lacoste II)	C	Corrèze	Brive-la-Gaillarde		M	E/M,L		
Thévenard (Grotte des Anglais)	C	Corrèze	Brive-la-Gaillarde		M	E/M	U	
Les Treize Croix (Chez Gillet)	?	Corrèze	Brive-la-Gaillarde			I		
Chez-Rose	C	Corrèze	Brive-la-Gaillarde			L		
Bellet	C/O	Corrèze	Brive-la-Gaillarde			I	B,M	X
Les Escrozes	?	Corrèze	Brive-la-Gaillarde				B	
Roc de Changuy	O	Corrèze	Brive-la-Gaillarde	I			M	
Combe du Milieu (Chez Bonny)	RS	Corrèze	Brive-la-Gaillarde					X
Puy de Crochet	?	Corrèze	Chasteaux				M	
La Gaillardie (Le Loup)	C	Corrèze	Cosnac	L	I	I		

Site name	Type	Département	Commune	Aurignacian	Gravettian	Solutrean	Magdalenian	Azilian
Le Bessol (Chez Jugie)	RS	Corrèze	Cosnac				F	X
Cublac	O	Corrèze	Cublac				B	
Le Gour Noir	O	Corrèze	Gourdon-Murat				F	
Le Puytinaud	O	Corrèze	Juillac	I				
Moulin de Laguenay (La Poissière)	C	Corrèze	Lissac		I			
Esclauzur (Ezcaluzure)	C	Corrèze	Lissac-sur-Couze	I	M	L	M	
Puy de Lacan (Lacam)	C/O	Corrèze	Malemort-sur-Corrèze			L	M,U	
Noailles (Chez Serre)	C	Corrèze	Noailles	L	E,M	L		
Grotte Gorse	C	Corrèze	Noailles	L				
Coumba du Pré Neuf	RS/O	Corrèze	Noailles				B	
Saint Angel	?	Corrèze	Saint-Angel				B	
Puy de Fournet	O	Corrèze	Saint-Cernin-de-Larche				I	
La Doue	RS	Corrèze	Saint-Cernin-de-Larche				F	
Embesse	?	Corrèze	Sainte-Fortunade				B	
Charles Bas	O	Corrèze	Saint-Pardoux-la-Croizille				F	X
Vermillard	?	Corrèze	Sérandon					X
Peuch de Malecourse	O	Corrèze	Ussac	I		L		
Ro del Dra	C	Corrèze	Végennes				F	

Table S4. The five earliest radiocarbon dates for each sub-period of the Upper Palaeolithic of Southwestern France, used to calculate the start dates and duration of each period as given in Table 1 (main text). Erroneous dates were discarded from the analysis and are indicated in italics

						IntCal13 (68.2%)		
Cultural Phase	**Lab Number**	**Site**	**Level**	**Date BP**	**Sig**	**From**	**To**	**Reference**
Early Aurignacian	Gif-4279	La Ferrassie	K6	35000	---	39710	39405	Delibrias (1984)
Early Aurignacian	GifA-99166	Abri Castanet	---	34320	520	39513	38335	White *et al.*(2012)
Early Aurignacian	OxA-21671	Abri Pataud	12	34300	600	39640	38212	Higham *et al.* (2011)
Early Aurignacian	GifA-95559	Le Flageolet	XI	34300	1100	40159	37445	Michel (2010)
Early Aurignacian	OxA-21601	Abri Pataud	11	34150	550	39411	38018	Higham *et al*. (2011)
Late Aurignacian	GifA-97187	Abri Caminade Est	D2i	34140	990	39829	37323	Lenoble (2006)
Late Aurignacian	OxA-15218	La Ferrassie	K3	33610	340	38515	37515	Higham *et al.* (2006)
Late Aurignacian	OxA-2276-19	Abri Pataud	8	33050	500	37917	36510	Higham *et al.* (2011)
Late Aurignacian	GrN-3116	Abri Pataud	7	32900	700	38030	36246	Bricker (1995)
Late Aurignacian	OxA-21680	Abri Pataud	7	32850	500	37689	36287	Higham *et al.* (2011)
Early Gravettian	OxA-15217	La Ferrassie	D2h	29000	370	33646	32760	Higham *et al*. (2006)
Early Gravettian	OxA-169	Abri Pataud	Level 5 (Rear-Lower)	28400	1100	33521	31384	Bricker (1995)
Early Gravettian	OxA-21588	Abri Pataud	Level 5 (Front-Middle)	28250	280	32539	31666	Higham *et al.* (2011)
Early Gravettian	OxA-21586	Abri Pataud	Level 5 (Rear-Upper)	28230	290	32520	31636	Higham *et al.* (2011)
Early Gravettian	OxA-21585	Abri Pataud	Level 5 (Rear-Lower)	28180	270	32426	31595	Higham *et al.* (2011)
Middle Gravettian	GrN-4280	Abri Pataud	4	27060	370	31313	30863	Bricker (1995)
Middle Gravettian	OxA-168	Abri Pataud	4	26900	1000	32059	29823	Bricker (1995)
Middle Gravettian	OxA-167	Abri Pataud	3/4	26500	980	31455	29477	Bricker (1995)
Middle Gravettian	OxA-374	Abri Pataud	4	26300	900	31196	29480	Bricker (1995)
Middle Gravettian	OxA-166	Abri Pataud	3/4	26100	900	31064	29360	Bricker (1995)
Late Gravettian	*OxA-1256*	*Roc-de-Combe*	*1*	*29800*	*750*	*34679*	*33193*	*Hedges et al. (1990)*
Late Gravettian	OxA-1255	Roc-de-Combe	1	25300	400	29864	28868	Hedges *et al. (*1990)
Late Gravettian	OxA-448	Le Flageolet	I-III	24600	700	29391	27936	Mellars *et al.* (1987)

						IntCal13 (68.2%)		
Cultural Phase	**Lab Number**	**Site**	**Level**	**Date BP**	**Sig**	**From**	**To**	**Reference**
Late Gravettian	GifA-96230	Les Peyrugues	18	24590	700	29379	27929	Allard *et al.* (1996)
Late Gravettian	OxA-686	Abri Pataud	3	24500	600	29146	27918	Bricker (1995)
Early/Middle Solutrean	GifA-95460	Les Peyrugues	12	20910	220	25547	24951	Allard *et al*. (1996)
Early/Middle Solutrean	GrN-1888	Laugerie-Haute Est	31	20890	300	25578	24798	Bosselin & Djindjian (1997)
Early/Middle Solutrean	GrN-4573	Laugerie-Haute Ouest	12d	20750	150	25264	24755	Bosselin & Djindjian (1997)
Early/Middle Solutrean	GifA-91417	Les Peyrugues	12a	20750	240	25295	24619	Allard *et al*. (1996)
Early/Middle Solutrean	GifA-91427	Les Peyrugues	12a	20470	290	25061	24292	Allard *et al*. (1996)
Late Solutrean	*OxA-486*	*Combe Saunière*	*III-IV*	*22100*	*440*	*26869*	*25948*	*Geneste & Plisson (1986)*
Late Solutrean	BM-2311	Mongaudier (Abri Paignon)	4	20870	370	25564	24659	Ambers *et al.* (1987)
Late Solutrean	GrN-4441	Laugerie-Haute Ouest	2	20000	240	24350	23774	Bosselin & Djindjian (1997)
Late Solutrean	GrN-4605	Laugerie-Haute Ouest	2	19870	190	24136	23675	Bosselin & Djindjian (1997)
Late Solutrean	GrN-4495	Laugerie-Haute Ouest	5	19740	140	23951	23595	Bosselin & Djindjian (1997)
Badegoulian	*OxA-10664 (Ly-1387)*	*Les Renardières*	*1048*	*21270*	*280*	*25860*	*25322*	*http://www.vdujardin.com/14C.html*
Badegoulian	GrA-19864 (Ly-1651)	Les Renardières	1048	20430	180	24887	24328	http://www.vdujardin.com/14C.html
Badegoulian	Gif-8962	Le Placard (Grotte de Rochebertier)	Zone Y Level 4b	19680	180	23938	23492	Dujardin & Tymula (2005)
Badegoulian	?	Le Cuzoul de Vers	25	19540	625	24283	22805	Ducasse (2010)
Badegoulian	?	Le Cuzoul de Vers	22	19280	250	23542	22922	Ducasse (2010)
Middle Magdalenian	BM-1914	Montgaudier	Foyer C, J-10	18180	360	22425	21595	Dujardin & Tymula (2005)
Middle Magdalenian	BM-1913	Montgaudier (Exterieur)	-----	18050	230	22194	21589	Dujardin & Tymula (2005)
Middle Magdalenian	GifA-95447	Les Peyrugues	5d	17660	160	21594	21110	Allard *et al*. (1996)
Middle Magdalenian	GifA-93085	Les Peyrugues	5x	16960	190	20686	20202	Allard *et al*. (1996)
Middle Magdalenian	SacA-22779 (Ly-7832)	Petit Cloup Barrat	4	16950	90	20574	20314	Ducasse *et al.* (2011)
Upper Magdalenian	Ly-977	Fongaban	3	14300	680	18230	16476	Delibrias & Evin (1980)
Upper Magdalenian	Ly-5069	Le Martinet	IV	14098	239	17490	16793	Djindjian (2000)
Upper Magdalenian	Ly-2701	Abri Vidon	C	14000	350	17478	16500	Evin *et al.* (1985)

						IntCal13 (68.2%)		
Cultural Phase	**Lab Number**	**Site**	**Level**	**Date BP**	**Sig**	**From**	**To**	**Reference**
Upper Magdalenian	Ly-1605	Le Martinet	IV	13600	1100	17992	14910	Djindjian (2000)
Upper Magdalenian	Ly-922	La Madeleine	14	13440	300	16640	15748	Delibrias & Evin (1980)
Final Magdalenian	*Ly-918*	*Le Flageolet II*	*IX base*	*15250*	*320*	*18830*	*18135*	*Djindjian (2003)*
Final Magdalenian	Ly-1182	Le Flageolet II	IX base	14250	400	17870	16800	Djindjian (2003)
Final Magdalenian	Ly-917	Le Flageolet II	IX summit	14110	690	18003	16203	Djindjian (2003)
Final Magdalenian	OxA-9423 (Ly-373)	Sanglier	8	13700	90	16686	16350	Séronie-Vivien (2001)
Final Magdalenian	OxA-19699	Abri Morin	B1	13065	60	15800	15540	Szmidt *et al*. (2009)
Azilian	*Ly-1598*	*Grotte de Pégourié*	*5*	*13980*	*510*	*17627*	*16262*	*Séronie-Vivien (1995)*
Azilian	Ly-1392	Grotte de Pégourié	5	12690	530	15783	14143	Séronie-Vivien (1995)
Azilian	Gif-2822	Grotte de Pégourié	7	12250	350	14879	13771	Séronie-Vivien (1995)
Azilian	Ly-3852	Grotte de Pégourié	5	12160	200	14438	13752	Séronie-Vivien (1995)
Azilian	Gif-3739	Pont d'Ambon	3b (base)	12130	160	14231	13765	Célérier (1998)

Table S5. Calibrated date ranges used in the site counts analysis, based on the raw dates given in Table S4

	Start date Uncal BP	Start date ranges (cal BP, Intcal 13 (62.8% CI)	Mean start date from range (cal BP, Intcal 13)	Rounded start date used in analysis (cal BP, Intcal 13)	Date range (kya)
Early Aurignacian	35 000	39 710 –39 405	39 557	39 500	3.5
Late Aurignacian	32 500	36 458 –36 266	36 362	36 000	2.0
Early Gravettian	30 000	34 140 –33 949	34 044	34 000	2.5
Middle Gravettian	27 500	31 379 –31 221	31 300	31 500	2.0
Late Gravettian	25 500	29 685 –29 465	29 575	29 500	3.4
Early/Middle Solutrean	22 000	26 255 –26 085	26 170	26 100	0.6
Late Solutrean	21 000	25 450 –25 263	25 536	25 500	0.9
Badegoulian	20 500	24 767 –24 500	24 633	24 600	2.8
Middle Magdalenian	18 000	21 895 – 21 740	21 817	21 800	3.6
Upper Magdalenian	15 000	18 310–18165	18 237	18 200	1.2
Final Magdalenian	14 000	17 087 –16 935	17 011	17 000	1.5
Azilian	13 000	15 662–15 464	15 563	15 500	4.0
End of Upper Palaeolithic	10 000	11 599– 11359	11 479	11 500	N/A

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