

## Supplemental material for

“From the Crowded Valleys to the Preserved Summits: Mountain Sports Participants’ Attitude Toward Protected Areas in the Sprawling Urban Areas of the Northern French Alps”, by Léna Gruas, Clémence Perrin-Malterre, and Anne Loison, published in *Mountain Research and Development* 42(3), 2022. (See <https://bioone.org/toc/mred/42/3>)

**TABLE S1** Results for the general linear models testing for the effects of two explanatory variables, “Site”, “Activity” and their two-way interaction on the 5 response variables, ignoring the effect of Proximity.  $\chi^2$  values, degree of freedom (df) and P-values are provided. Main effects and interaction for which P-values were <0.05 are bolded and in cells with grey background.

Response variable	Site	Activity	Site : Activity
Knowledge of Status	$\chi^2=257.99$ , df =3, p<0.01	$\chi^2=78.80$ , df =1, p<0.01	$\chi^2=15.62$ , df =3, p<0.01
Knowledge of Wildlife	$\chi^2=119.72$ , df =3, p<0.01	$\chi^2=161.66$ df =1, p<0.01	$\chi^2=28.72$ , df =3, p<0.01
Knowledge of Tranquility Area	$\chi^2=50.74$ , df =3, p<0.01	$\chi^2=139.38$ , df =1, p<0.01	$\chi^2=2.59$ , df =3, p=0.46
« Limitations are required »	$\chi^2=1.50$ , df =3, p=0.68	$\chi^2=33.37$ , df =1, p<0.01	$\chi^2=26.30$ , df =3, p<0.01
« Access should not be restricted »	$\chi^2=7.96$ , df =3, p=0.05	$\chi^2=46.39$ , df =1, p<0.01	$\chi^2=23.56$ , df =3, p<0.01

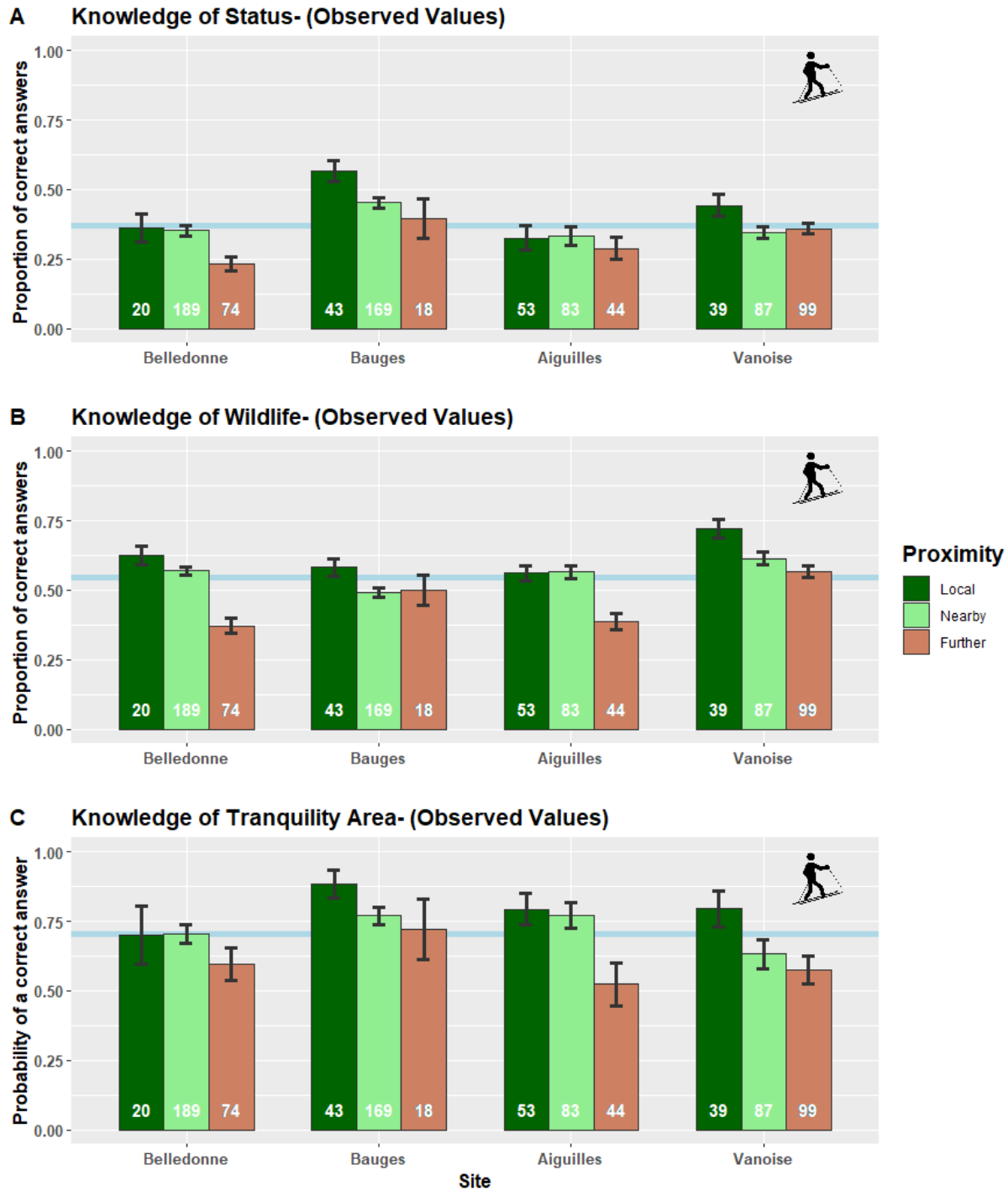
**TABLE S2** Values of the 5 response variables for each activity (expressed in percentage) when the variable Proximity is ignored, across all sites (“All” in the Site column) and for each site. Confidence intervals (95%) of the average values are provided in square brackets. Values per Site are in italic for the response variable “Access should not be restricted” to indicate that the Site effect was actually not significant (although we provide the site-specific values in this Table as the site effect was close to being significant).

Response Variable	Site	Ski Touring (%)	Hiking (%)
Knowledge of Status	<b>All</b>	<b>37 [36-38]</b>	<b>29 [28-30]</b>
	Belledonne	32 [30-34]	28 [26-30]
	Bauges	47 [45-49]	42 [39-44]
	Aiguilles	32 [32-34]	26 [24-28]
	Vanoise	37 [37-39]	25 [24-27]
Knowledge of Wildlife	<b>All</b>	<b>54 [53-55]</b>	<b>44 [42-45]</b>
	Belledonne	52 [50-54]	47 [45-50]
	Bauges	51 [49-53]	42 [39-45]
	Aiguilles	52 [49-55]	35 [33-28]
	Vanoise	61 [59-63]	49 [47-51]
Knowledge of Tranquility Area	<b>All</b>	<b>70 [37-73]</b>	<b>42 [39-46]</b>
	Belledonne	67 [62-73]	40 [34-47]
	Bauges	79 [73-84]	59 [52-66]
	Aiguilles	72 [65-78]	38 [33-44]
	Vanoise	64 [57-70]	36 [30-41]
Limitations are required	<b>All</b>	<b>76 [73-78]</b>	<b>86 [84-88]</b>
	Belledonne	78 [73-83]	80 [75-85]
	Bauges	77 [71-82]	89 [83-92]
	Aiguilles	80 [74-85]	83 [77-87]
	Vanoise	67 [61-73]	91 [87-94]
Access should not be restricted	<b>All</b>	<b>54 [51-57]</b>	<b>38 [35-41]</b>
	Belledonne	<i>50 [44-55]</i>	48 [41-55]
	Bauges	<i>58 [52-64]</i>	39 [32-46]
	Aiguilles	<i>50 [43-57]</i>	40 [34-46]
	Vanoise	<i>59 [53-65]</i>	28 [23-34]

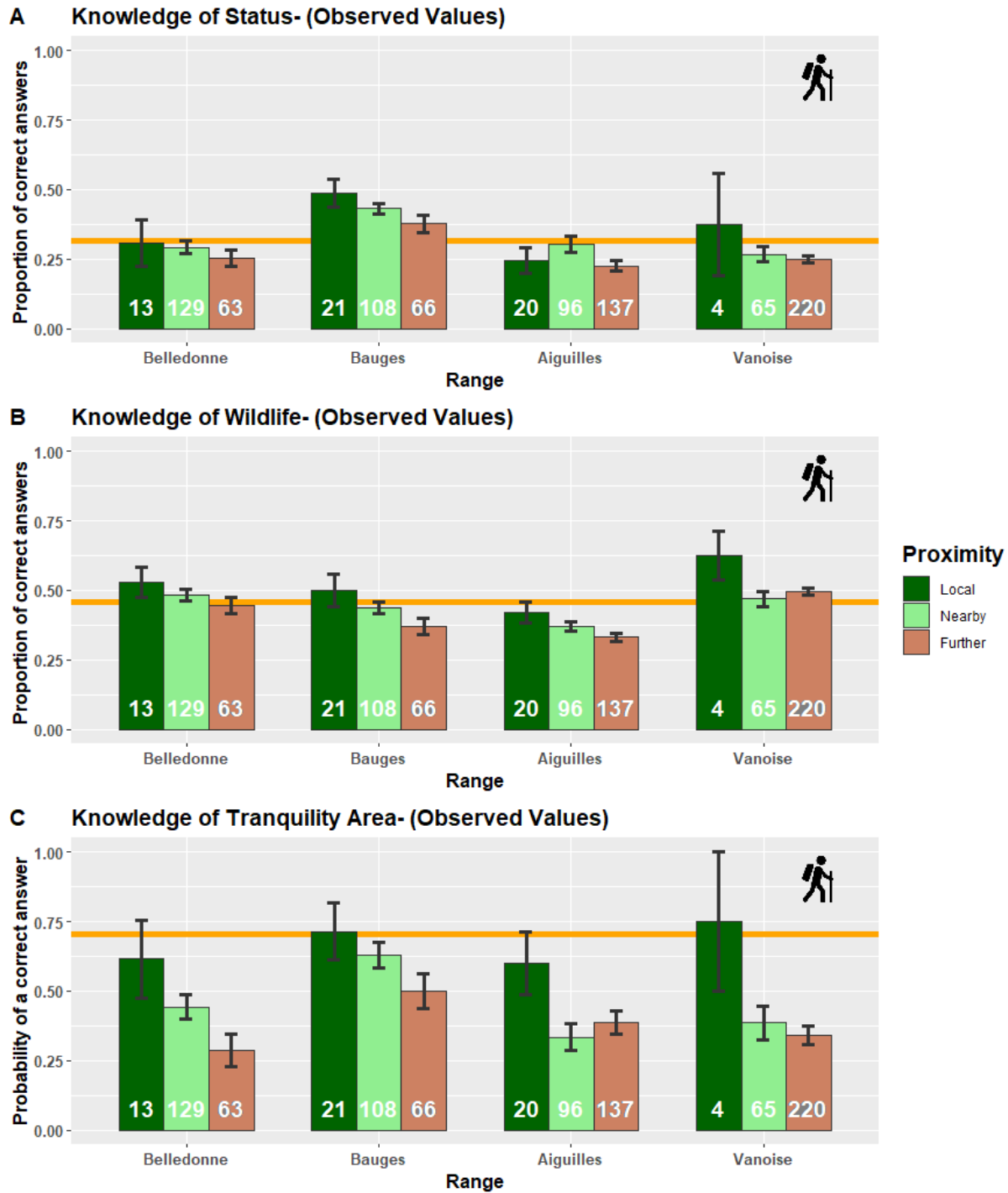
**TABLE S3** Predicted values (from the models including only significant effects, see Supp Table 1 for tests) of the 5 response variables for each activity (expressed in percentage), by Proximity and Site. Confidence intervals (95%) are in square brackets. Bold values with shaded background are values stemming from model with an interaction between Site and Proximity. Straight fonts are estimates stemming from models with additive effects of Proximity and Site. Italic values are the estimates of models with no effects of either Proximity or Site.

Response Variable	Activity	SKI TOURING (%)			HIKING (%)		
	Proximity	Local	Nearby	Further	Local	Nearby	Further
	SITE						
Knowledge of Status	Belledonne	<b>36</b> [29-44]	<b>35</b> [33-38]	<b>23</b> [20-27]	31 [26-26]	29 [27-32]	25 [22-27]
	Bauges	<b>57</b> [51-62]	<b>45</b> [43-48]	<b>40</b> [32-48]	45 [40-50]	44 [41-46]	38 [35-41]
	Aiguilles	<b>33</b> [28-37]	<b>33</b> [30-37]	<b>29</b> [24-34]	29 [25-34]	28 [26-30]	23 [24-26]
	Vanoise	<b>44</b> [39-50]	<b>35</b> [31-38]	<b>36</b> [33-39]	30 [26-35]	29 [26-32]	24 [23-26]
Knowledge of Wildlife	Belledonne	<b>63</b> [55-70]	<b>57</b> [54-59]	<b>37</b> [33-41]	55 [50-60]	48 [45-40]	45 [42-48]
	Bauges	<b>58</b> [52-63]	<b>49</b> [47-52]	<b>50</b> [42-58]	49 [44-54]	42 [40-45]	40 [37-42]
	Aiguilles	<b>56</b> [51-61]	<b>56</b> [53-60]	<b>39</b> [34-44]	43 [38-48]	36 [34-39]	34 [31-36]
	Vanoise	<b>72</b> [67-77]	<b>61</b> [58-65]	<b>57</b> [53-60]	58 [53-63]	51 [48-54]	48 [46-51]
Knowledge of Tranquility Area	Belledonne	79 [70-86]	70 [64-75]	59 [50-66]	60 [45-73]	41 [42-48]	35 [28-43]
	Bauges	75 [78-90]	78 [72-83]	68 [58-77]	76 [39-85]	60 [52-67]	53 [45-62]
	Aiguilles	80 [72-87]	72 [64-79]	61 [51-70]	59 [34-72]	40 [33-47]	34 [28-41]
	Vanoise	77 [67-84]	67 [59-74]	55 [47-63]	59 [48-73]	40 [32-48]	34 [29-40]
Limitations are required	Belledonne	64 [52-73]	82 [77-86]	74 [66-80]	68 [52-38]	80 [73-38]	84 [77-38]
	Bauges	62 [52-72]	81 [75-86]	73 [63-81]	81 [66-38]	89 [83-38]	91 [86-38]
	Aiguilles	71 [61-79]	86 [80-91]	79 [71-6]	70 [55-38]	81 [74-38]	85 [80-38]
	Vanoise	54 [43-64]	75 [65-81]	65 [57-72]	82 [68-1]	89 [84-38]	92 [88-38]
Access should not be restricted	Belledonne	54 [51-57]	54 [51-57]	54 [51-57]	60 [46-73]	49 [42-57]	42 [34-51]
	Bauges	54 [51-57]	54 [51-57]	54 [51-57]	51 [37-65]	40 [33-48]	33 [26-42]
	Aiguilles	54 [51-57]	54 [51-57]	54 [51-57]	54 [40-67]	43 [35-50]	36 [30-43]
	Vanoise	54 [51-57]	54 [51-57]	54 [51-57]	43 [29-58]	33 [26-40]	27 [22-32]

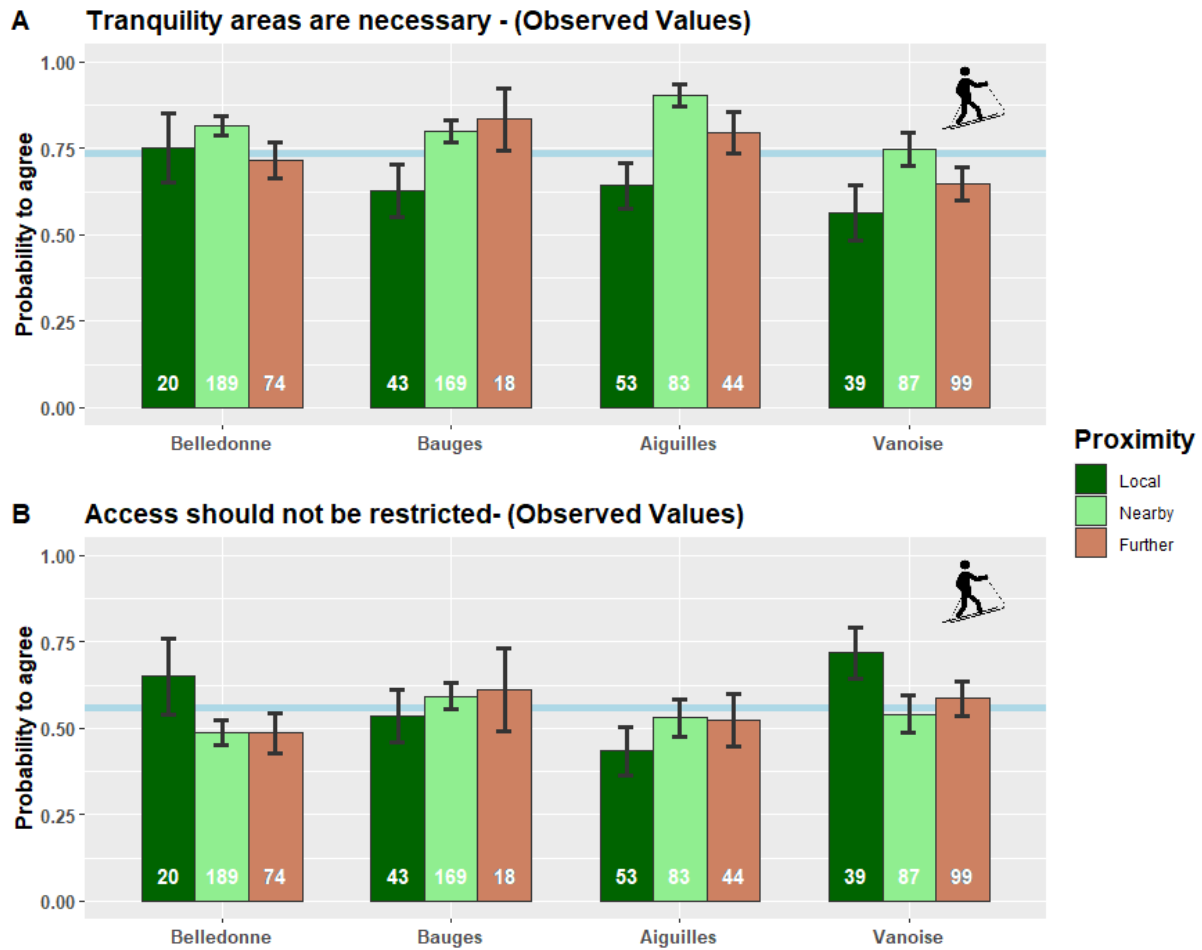
**FIGURE S1** Observed proportions (and standard errors) for the three questions about knowledge by massif and depending on Proximity, for skiers. A. Proportion of correct answers for the Knowledge of statuses; B. Proportion of correct answers for the Knowledge of wildlife; C. Probability of a correct answer for the Knowledge of Tranquility area. White numbers within the bars are sample sizes.



**FIGURE S2** Observed proportions (and standard errors) for the three questions about knowledge by massif and depending on Proximity, for hikers. A. Proportion of correct answers for the Knowledge of statuses; B. Proportion of correct answers for the Knowledge of wildlife; C. Probability of a correct answer for the Knowledge of Tranquility area. White numbers within the bars are sample sizes.



**FIGURE S3** Probability to agree (and standard errors) for the 2 questions about opinions for skiers. A. Probability to agree that *Tranquility areas are necessary*; B. Probability to agree that *Access should not be restricted*. White numbers within the bars are sample sizes.



**FIGURE S4** Probability to agree (and standard errors) for the 2 questions about opinions for hikers. A. Probability to agree that *Tranquility areas are necessary*; B. Probability to agree that *Access should not be restricted*. White numbers within the bars are sample sizes.

