

RECREATION USE VALUES DATABASE

Welcome to the Recreation Use Values Database for North America. What you will find here are links to the database, bibliography, and background information. If you have questions, comments and/or suggestions about the database, would like assistance in using this database for benefit transfer, or would like to submit documentation on North American studies not currently in the database, please contact Dr. Randall Rosenberger (R.Rosenberger@oregonstate.edu). We also are interested in how you apply benefit transfer for recreation valuation, so please submit documentation about your applications.

The database currently contains 352 documents of economic valuation studies that estimated the use value of recreation activities in the U.S. and Canada from 1958 to 2006, totaling 2,703 estimates in per person per activity day, adjusted to 2010 USD. Twenty-one primary activity types are provided, with several more available if segregated by activity mode, resource type, primary species sought, or little studied activities (i.e., 'other recreation' has an additional 22 activities identified). These recreation use value estimates are measures of net willingness-to-pay or consumer surplus for recreational access to specific sites, or for certain activities at broader geographic scales (e.g., state or province, national) in per person per activity day units—this database does not contain information on marginal values for changes in site quality or condition. The database is currently offered as an Excel workbook containing the database and coding protocols. It is currently sorted by primary activity by region—of course, you may download and sort it however you wish. The bibliography cross-references the database via the document code.

An overview of the database is provided below, including distributions of estimates and studies, and mean values by activity type by region.

Figures 1 and 2 display the distribution of the number of studies and number of estimates per year, respectively. The spikes in the number of estimates correspond with the estimates provided from U.S. Fish and Wildlife's National Surveys on fishing, hunting and wildlife viewing.

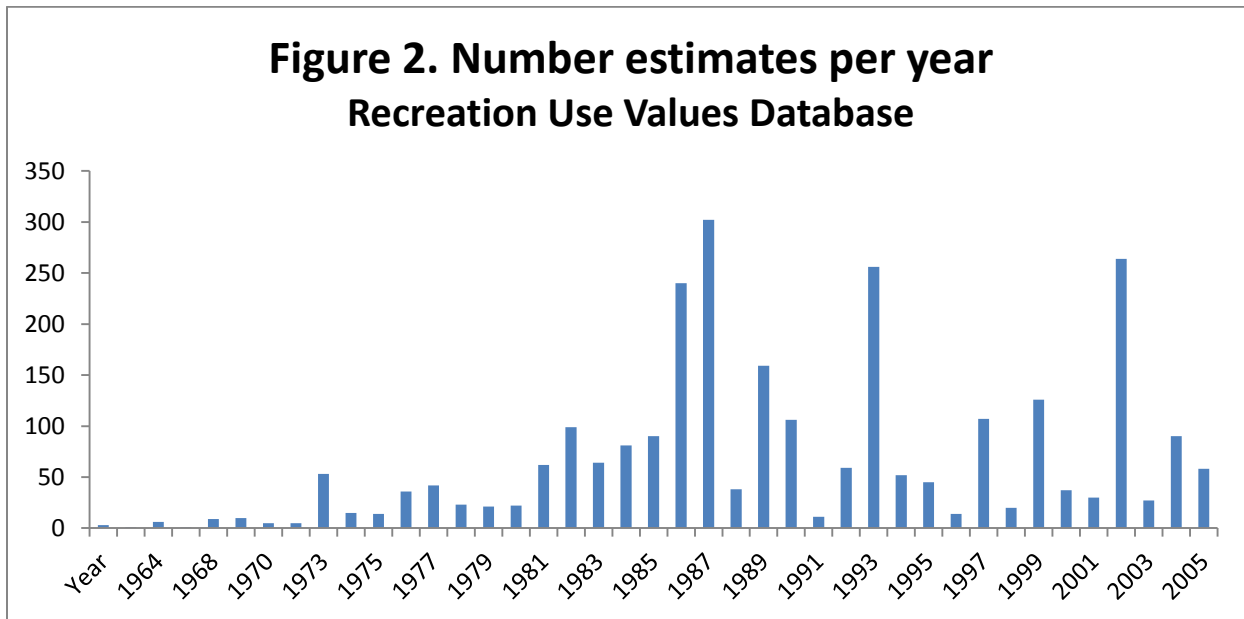
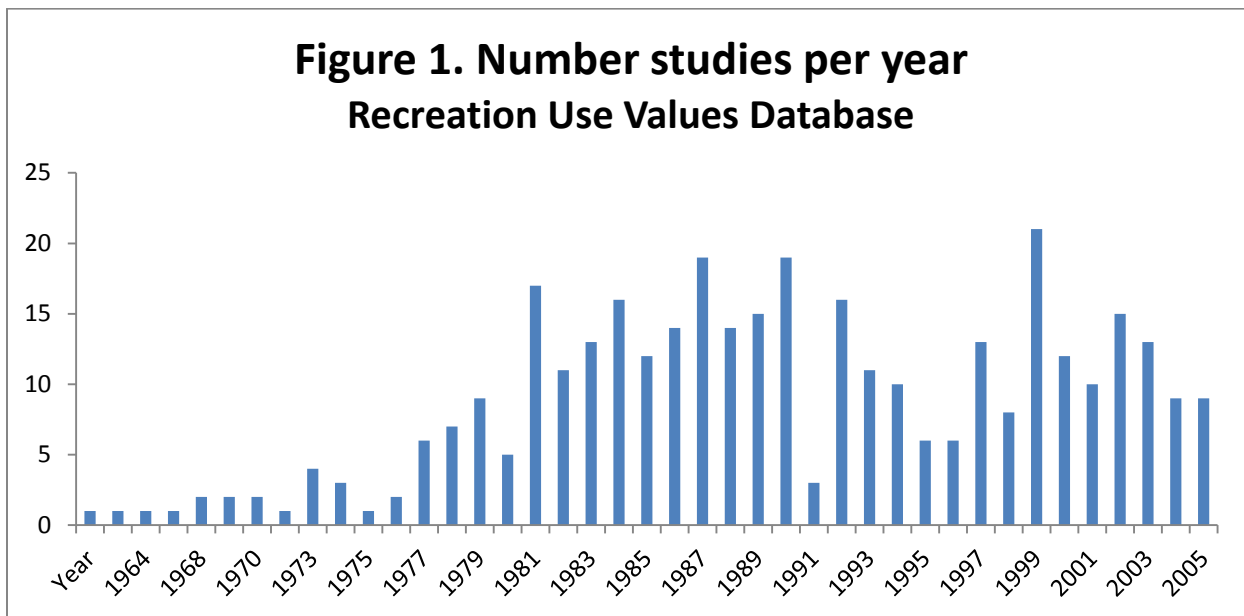


Figure 3 segregates the number of estimates by primary activity type. The spikes in number of estimates for freshwater fishing, big game hunting, and wildlife viewing coincide with the U.S. Fish and Wildlife's National Survey.

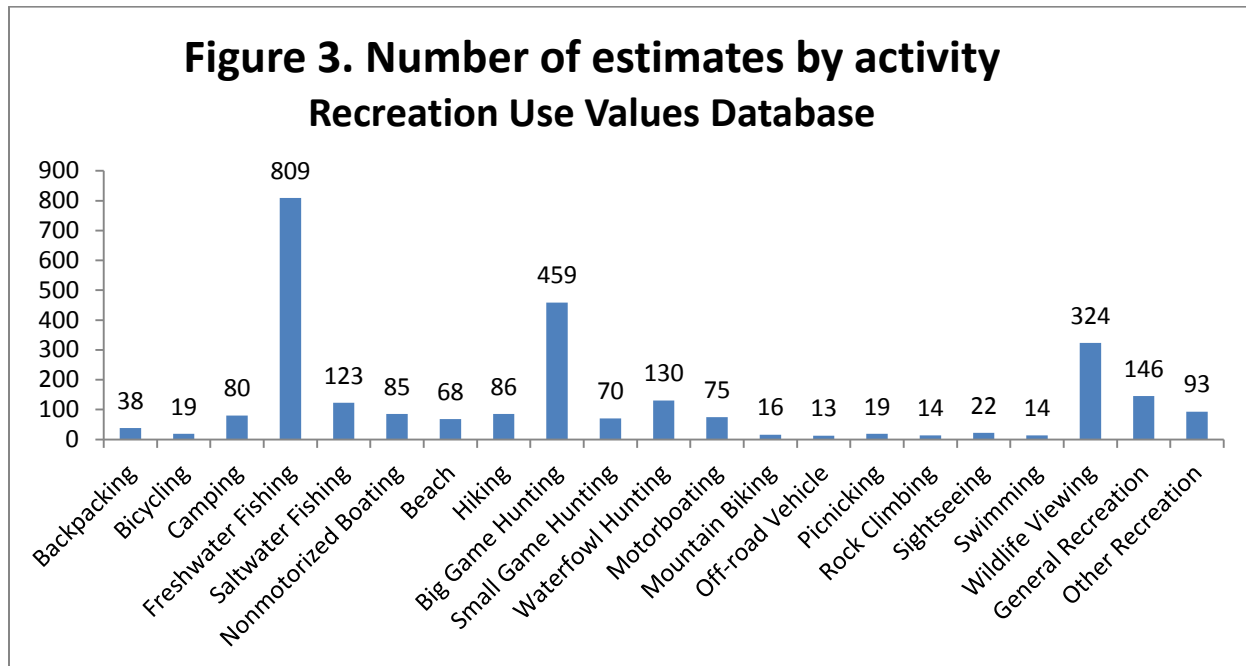


Figure 4 shows the distribution of consumer surplus estimates (\$CS per person per activity day in 2010 USD) (mean = \$59.60 per person per day; se = 1.3; n = 2703).

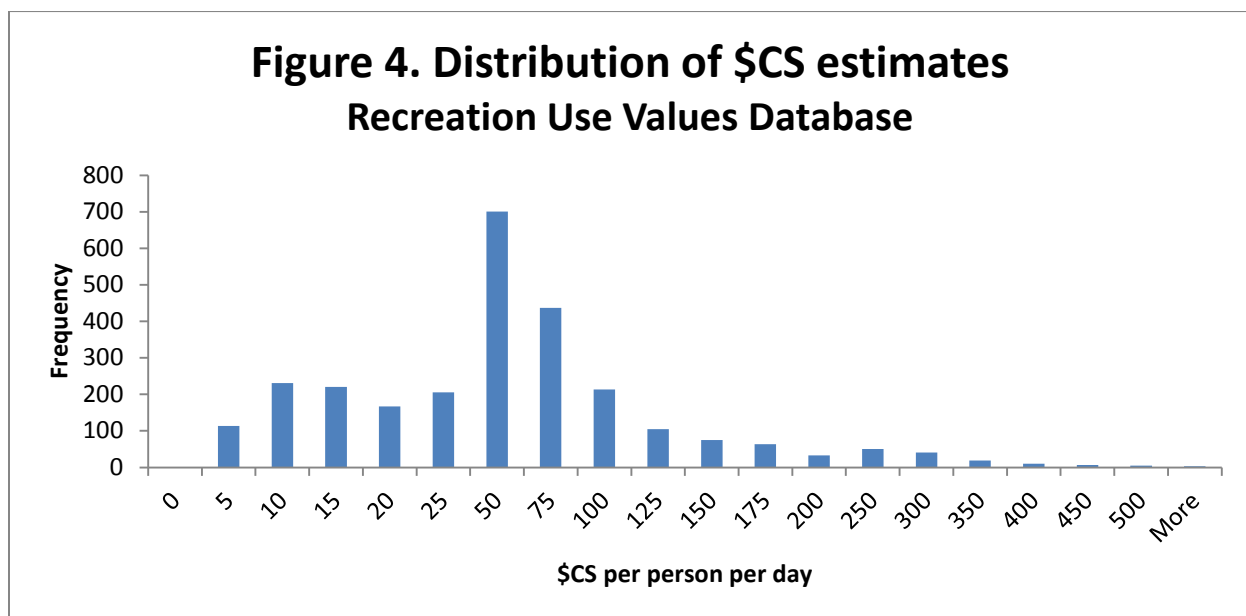


Figure 5 shows the mean consumer surplus (\$CS) per person per day by primary activity type (aggregate mean = \$59.60 per person per day, 2010 USD). The high mean value for mountain biking may be due to limited research on high profile mountain biking sites, along with the largest standard error among activity types reported (see Table 1). Saltwater fishing and nonmotorized boating have higher mean estimates than other activities; although with relatively larger standard errors (see Table 1). Backpacking and camping have lower mean estimates per person per day, but are similar when aggregated up to multiple day trips typical of overnight recreation activities.

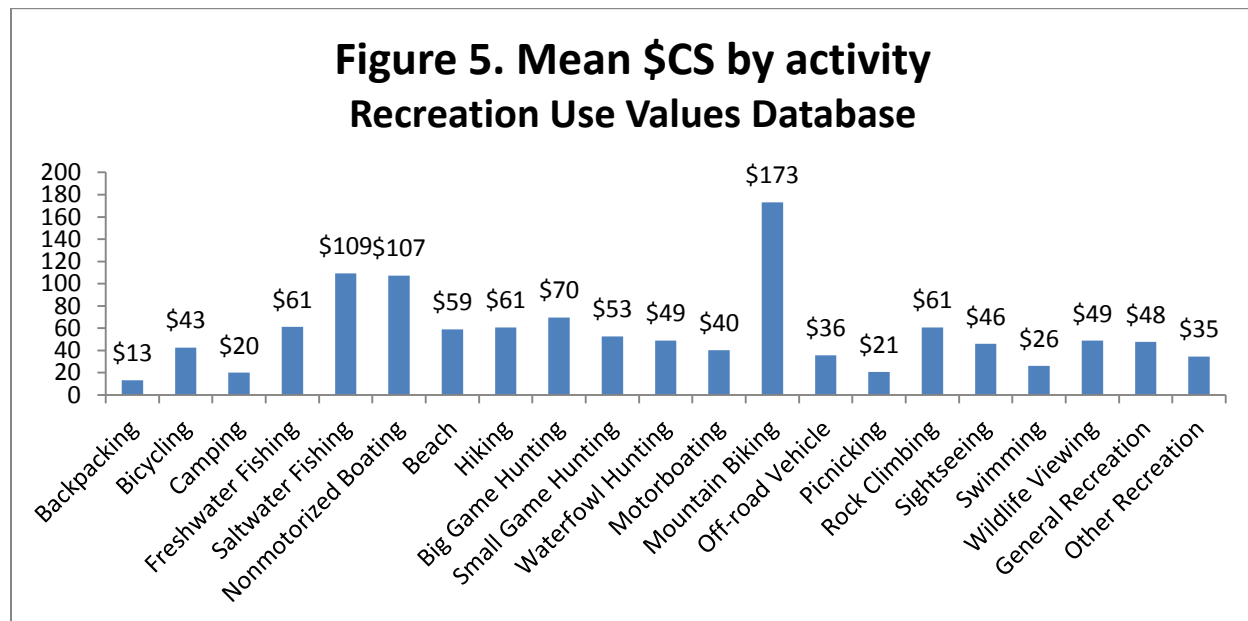


Table 1 reports mean consumer surplus (\$CS) per person per day by primary activity type and region. Reported are the number of estimates, mean \$CS, and standard error by cell. The bottom row aggregates by region whereas the last column aggregates by activity type. The overall aggregation for the database is reported in the lower right cell.

We hope you find this database useful in your work on recreation valuation in North America.

Sincerely,

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 15 August, 2011

TABLE 1. Recreation Use Values per Person per Day by Activity and Region, in 2010 USD^a.

Activity	Northeastern U.S. ^b			Midwestern U.S. ^b			Southern U.S. ^b			Western U.S. ^b			Multiple Regions, U.S. ^b			Canada			Total		
	n	Mean	se ^c	n	Mean	se	n	Mean	se	n	Mean	se	n	Mean	se	n	Mean	se	n	Mean	se
Backpacking	31	\$8.07	0.5	---	---	---	4	\$31.70	9.1	2	\$39.85	15.1	1	\$49.67	---	---	---	---	38	13.33	2.2
Bicycling	---	---	---	6	\$36.64	5.5	12	47.12	8.4	---	---	---	1	25.53	---	---	---	---	19	42.67	5.6
Camping	7	25.17	8.7	3	9.85	3.6	10	10.19	1.5	58	21.68	3.0	2	16.69	0.9	---	---	---	80	19.98	2.4
Freshwater Fishing^d	126	61.59	3.8	188	39.30	4.0	152	54.07	4.0	302	81.81	4.4	20	55.10	10.2	21	\$16.36	5.1	809	61.21	2.2
Saltwater Fishing^d	19	62.75	13.0	---	---	---	54	106.63	16.7	40	143.46	18.4	10	76.62	26.0	---	---	---	123	109.39	10.2
Nonmotorized Boating^e	4	39.55	3.4	4	18.09	7.1	26	134.84	26.0	45	112.12	18.0	3	41.08	8.6	3	73.42	0.5	85	107.36	12.8
Beach	12	52.22	13.8	10	13.08	4.4	26	80.66	15.0	20	57.81	15.7	---	---	---	---	---	---	68	58.98	8.1
Hiking	2	66.25	51.2	2	33.26	27.2	11	100.35	37.0	70	55.54	7.5	1	23.63	---	---	---	---	86	60.63	7.9
Big Game Hunting^f	57	73.11	7.4	90	55.81	3.5	77	66.47	5.2	171	78.91	5.0	7	184.98	42.3	57	50.70	8.4	459	69.69	2.8
Small Game Hunting^f	9	31.09	10.5	3	48.71	27.2	1	179.39	---	34	72.94	14.8	6	74.08	11.1	17	8.58	0.9	70	52.51	8.3
Waterfowl Hunting^f	17	39.45	6.0	26	31.76	3.3	30	60.95	8.8	31	58.10	10.4	7	131.20	6.6	19	16.33	0.8	130	48.88	4.0
Motorized Boating	7	95.20	19.5	32	30.84	6.3	15	24.3	4.6	20	48.55	20.3	1	31.32	---	---	---	---	75	40.27	6.7
Mountain Biking	---	---	---	---	---	---	1	57.05	---	15	180.67	36.2	---	---	---	---	---	---	16	172.95	34.7
Off-road Vehicle	---	---	---	---	---	---	6	30.39	6.0	6	42.02	5.7	1	28.91	---	---	---	---	13	35.64	4.0
Picnicking	5	5.79	0.9	1	10.86	---	4	44.55	12.6	8	19.06	1.9	1	22.74	---	---	---	---	19	20.70	4.1
Rock Climbing	1	60.36	---	---	---	---	3	177.70	33.8	6	34.63	4.0	4	11.50	0.8	---	---	---	14	60.52	18.5
Sightseeing	---	---	---	2	30.88	9.3	6	61.94	27.6	12	44.28	11.9	2	22.92	4.4	---	---	---	22	45.94	9.8
Swimming	2	30.16	17.9	1	20.09	---	2	13.75	3.4	8	28.88	7.2	1	28.45	---	---	---	---	14	26.24	4.7

Activity	Northeastern U.S. ^b			Midwestern U.S. ^b			Southern U.S. ^b			Western U.S. ^b			Multiple Regions, U.S. ^b			Canada			Total		
	n	Mean	se ^c	n	Mean	se	n	Mean	se	n	Mean	se	n	Mean	se	n	Mean	se	n	Mean	se
Wildlife Viewing^g	47	54.12	6.4	50	39.06	2.6	80	55.26	6.4	91	63.99	6.3	14	38.30	8.1	42	12.15	2.4	324	48.72	2.8
General Recreation^h	---	---	---	14	154.26	25.7	36	56.96	12.6	83	31.97	4.2	---	---	---	13	8.05	0.5	146	47.73	5.5
Other Recreationⁱ	4	34.62	10.8	4	25.85	5.0	8	59.73	19.2	64	33.25	6.5	13	27.82	4.3	---	---	---	93	34.51	4.9
Total	350	54.04	2.5	436	44.03	2.4	564	66.08	3.1	1086	69.34	2.3	95	61.92	6.6	172	26.30	3.2	2703	59.60	1.3

^aUse value estimates are standardized to per person per day and adjusted to 2010 USD using U.S. consumer price index; Canadian estimates are adjusted to U.S. dollars using the current exchange rate at time of study. Use estimates measure access value and not marginal changes in site quality or condition. Estimates >\$500 per person per day or identified as bad estimates by the authors of primary studies were removed from the database.

^bRegions are defined as U.S. Census regions. Multiple regions or U.S. are studies with scope of multiple Census regions or national.

^cStandard errors may be used to calculate 95% confidence intervals about the mean values as approximately: mean +/- 2* se.

^dFreshwater and saltwater fishing values are not distinguished by resource type or primary species. See the database and study documents for more details regarding freshwater and saltwater fishing studies and values. See the database and study documents for more details regarding nonmotorized boating.

^eNonmotorized boating includes whitewater rafting/kayaking, canoeing, and rowing.

^fHunting values are not distinguished by resource type or primary species. See the database and study documents for more details regarding hunting values.

^gWildlife viewing values are not distinguished by resource type or primary species. See the database and study documents for more details regarding wildlife viewing values.

^hGeneral recreation is defined as primary studies that do not identify a primary activity.

ⁱOther recreation is defined as activities with few primary studies, including cross-country skiing, downhill skiing, snowmobiling, snowboarding, shellfishing, jet skiing, scuba diving, snorkeling, water skiing, windsurfing, family gathering, horseback riding, jogging/running, walking, nature study, photography, gathering forest products, visiting nature centers, visiting arboretums, visiting historic sites, visiting prehistoric sites, and visiting aquariums. See the database and study documents for more details regarding other recreation values.

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