



C O L O R A D O P A R K S A N D W I L D L I F E

2012 Colorado Angler Survey
Technical Report

2012 Colorado Angler Survey Report

Stacy A. Lischka,
Colorado Parks and Wildlife,
Research, Policy and Planning Branch

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OBJECTIVE

To determine the spatial distribution of angling pressure for various species, across Colorado and to collect data to help predict demand for sport fish species around the state over the next 40 years.

METHODS

A total of 713,641 resident and 346,683 non-resident fishing licenses were sold in Colorado in 2011. To survey resident and non-resident anglers, we mailed a self-administered, 12-page survey to a sample of 3,000 individuals who had purchased a fishing license in 2011. The sample was stratified by type of license purchased and state residence. Fifteen hundred surveys were sent to purchasers of resident fishing licenses, and 1,500 were sent to purchasers of non-resident fishing licenses. Within the resident sample, 75 (5%) were senior license purchasers, 180 (12%) were combination angling and small game hunting licenses, 750 (50%) were annual fishing licenses, 495 (33%) were 1-day fishing licenses. Within the non-resident sample, 1140 (76%) were annual licenses and 360 (24%) were 1-day or 5-day licenses. Because the survey was designed to understand the spatial distribution of angler effort across Colorado, it was important to include a resident and non-resident component to the sample.

Survey recipients were mailed a 12-page survey, cover letter and postage-paid return envelope on March 29, 2012. The survey contained questions about angling effort, preferred species, methods used and waters fished, as well as satisfaction with opportunities and regulations. A reminder postcard was sent to non-respondents on April 19, 2012. On May 3, 2012 a second mailing of the survey, cover letter and postage-paid return envelope were mailed to remaining non-respondents. A third survey mailing was sent to non-respondents on July 10, 2012. Recipients were given until August 10, 2012 to reply to the survey. Because of lower than desired response rates, a non-respondent survey was mailed on August 25, 2012 to assess any potential bias in the respondent pool. Non-respondents were asked a sample of 6 questions from the original survey for comparison to respondents. A similar survey was completed in 2008. Where possible, comparisons are drawn between these data and 2011 results.

Copies of all surveys and cover letters are included in Appendices A- E. Data from returned, completed surveys were entered into Microsoft Excel and analyzed using SPSS 15.0 (Chicago, IL). A summary of all respondent data is included in Appendix A and a summary of data collected through the non-respondent survey is included in Appendix E.

RESULTS AND DISCUSSION

Survey Response

Of the original 3,000 surveys mailed, 423 were returned as undeliverable. When these respondents were removed from the sample, we were left with a sample of 2,577 anglers. We received a total of 1,404 valid responses to the survey, for an adjusted response rate of 54%. Seven hundred sixty-eight (56%) respondents were residents and 598 (44%) were non-residents.

One hundred thirty-seven individuals responded to the non-respondent survey, from a total of 1,212 that were mailed to valid addresses. Results of the non-respondent survey did not show any significant differences between respondents to the full survey and the non-respondent survey; therefore, survey data were not corrected.

Angling Activity and Purchase History

Respondents to the 2012 survey were divided into categories based on their history of purchasing fishing licenses in Colorado. Anglers who reported purchasing a fishing license in each of the last 5 years and who fished for more than the mean number of days for resident anglers (>16 days in 2011) were classified as frequent anglers. Respondents who reported purchasing licenses in <5 of the last 5 years, but had fished between 5 and 16 days in 2011 were classified as moderate anglers. Respondents who purchased licenses in <5 of the last 5 years and also reported fishing for ≤5 days in 2011 were classified as infrequent anglers. Of the total 1368 respondents to the survey, 265 (19%) were classified as frequent anglers, 839 (61%) were classified as moderate and 263 (19%) were infrequent.

The moderate and frequent angler groups were comprised of nearly equal proportions of resident and non-resident respondents (Table 1). A majority of infrequent anglers were residents, even though residents and non-residents were represented equally in the original survey sample. Moderate anglers purchased Colorado fishing licenses more regularly than infrequent anglers, and a plurality of moderate anglers purchased a license every year (Table 2). Nearly all frequent anglers (82%) and a majority of moderate anglers (65%) purchased an annual fishing license, whereas only 35% of infrequent anglers purchased annual licenses (Table 3).

Table 1. Residence of anglers by frequency of angling category ($n_{\text{frequent}} = 265$; $n_{\text{moderate}} = 839$; $n_{\text{infrequent}} = 262$). Frequent anglers are those who reported purchasing a Colorado fishing license in each of the last 5 years and who fished for >16 days in 2011. Moderate anglers had purchased licenses in <5 of the previous 5 years and angled ≥5 days in 2011. Infrequent anglers purchased licenses in <5 of the previous 5 years and angled for <5 days in 2011. Residents and non-residents were represented equally within the initial sample.

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Colorado resident	134	51%	445	53%	188	72%
Non-resident	131	50%	394	47%	73	28%

Table 2. Frequency of purchasing a Colorado fishing license by frequency of angling category ($n_{\text{frequent}}= 265$; $n_{\text{moderate}}= 839$; $n_{\text{infrequent}}= 262$). Frequent anglers are those who reported purchasing a Colorado fishing license in each of the last 5 years and who fished for >16 days in 2011. Moderate anglers had purchased licenses in <5 of the previous 5 years and angled ≥ 5 days in 2011. Infrequent anglers purchased licenses in <5 of the previous 5 years and angled for <5 days in 2011.

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
All of the last 5 years	264	100%	379	46%	0	0%
4 of the last 5 years	0	0%	97	12%	34	13%
2 or 3 of the last 5 years	0	0%	255	30%	117	45%
Once in the last 5 years	0	0%	90	11%	101	38%
Never	0	0%	3	0.5%	11	4%

Table 3. Colorado fishing licenses purchased by frequency of angling category ($n_{\text{frequent}}= 265$; $n_{\text{moderate}}= 839$; $n_{\text{infrequent}}= 262$).

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Annual, resident	97	37%	232	28%	42	16%
One day, resident	0	0%	13	2%	47	18%
Senior, resident	7	3%	25	3%	7	3%
Combination fishing and small game, resident	15	6%	40	5%	7	3%
Annual, non-resident	120	45%	299	36%	49	19%
5 day, non-resident	0	0%	117	14%	86	33%
Multiple resident licenses	13	5%	33	4%	12	1%
Multiple non-resident licenses	8	3%	40	5%	6	5%
Multiple resident and non-resident licenses	5	2%	22	3%	2	2%

All 3 groups of respondents most commonly fished for rainbow trout, brown trout and cutthroat trout in 2011 (Table 4). Similarly, all 3 groups would prefer to have additional opportunity to fish for cutthroat trout, rainbow trout and brown trout over all other species and species groups (Table 5).

Table 4. Species fished for in Colorado in 2011 by frequency of angling category ($n_{\text{frequent}}= 1125$; $n_{\text{moderate}}= 2435$; $n_{\text{infrequent}}= 472$).

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	59	5%	101	4%	11	2%
Channel, flathead or blue catfish	27	2%	37	2%	6	1%
Wiper, white or striped bass	23	2%	34	1%	4	1%
Walleye or sauger	44	4%	71	3%	10	2%
Bluegill or sunfish	25	2%	36	1%	4	1%
Yellow perch	24	2%	26	1%	6	1%
Crappie	30	3%	33	1%	6	1%
Brown trout	224	20%	534	22%	97	21%
Cutthroat trout	172	15%	379	16%	55	12%
Lake trout	98	9%	224	9%	41	9%
Rainbow trout	253	22%	717	29%	165	35%
Kokanee	64	6%	71	3%	10	2%
Northern pike or tiger musky	42	4%	44	2%	7	1%
Carp	11	1%	19	1%	1	0%
Other species	23	2%	50	2%	14	3%
No preferred species	6	1%	59	2%	35	7%

Table 5. Species for which respondents would prefer additional angling opportunity in Colorado by frequency of angling category ($n_{\text{frequent}}=795$; $n_{\text{moderate}}=2167$; $n_{\text{infrequent}}=564$).

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	46	6%	119	5%	32	6%
Channel, flathead or blue catfish	21	3%	57	3%	12	2%
Wiper, white or striped bass	20	3%	48	2%	12	2%
Walleye or sauger	47	6%	111	5%	28	5%
Bluegill or sunfish	10	1%	35	2%	9	2%
Yellow perch	13	2%	29	1%	7	1%
Crappie	23	3%	58	3%	13	2%
Brown trout	134	17%	397	18%	87	15%
Cutthroat trout	148	19%	368	17%	80	14%
Lake trout	62	8%	177	8%	57	10%
Rainbow trout	147	18%	440	20%	105	19%
Kokanee	51	6%	112	5%	20	4%
Northern pike or tiger musky	34	4%	77	4%	13	2%
Carp	4	1%	6	0%	3	1%
Other species	16	2%	40	2%	8	1%
Not sure	19	2%	93	4%	78	14%

Overall, Colorado anglers were satisfied with their experiences in 2011 (Table 6). Frequent anglers reported the highest levels of satisfaction, with infrequent anglers slightly less satisfied. Among all frequency groups, the variety of fish and types of water available for fishing, as well as angler's ability to eat the fish they catch, were the most satisfactory aspects of their Colorado fishing experience (Table 7). Across the board, all groups reported high levels of satisfaction with the characteristics we queried. Frequent anglers reported the highest levels of dissatisfaction with the number and size of fish caught and with the availability of wild fish. Moderate anglers were also least satisfied with the number and size of fish caught and availability of wild fish, as well as the complexity of fishing regulations. Infrequent anglers reported the highest levels of dissatisfaction, and were most dissatisfied with the number and size of fish caught, as well as the complexity of fishing regulations. In all 3 groups of respondents, a large portion of respondents reported being unsure whether they were satisfied with the availability of harvest restricted, fly-only and fly and lure waters. This may be due to limited awareness of the locations of these waters.

High levels of satisfaction with the overall fishing experience in Colorado and specific aspects of the fishing experience are likely causes for a plurality of respondents anticipating sustained fishing days in Colorado in 2012 (Table 8). Only infrequent anglers reported being likely to decrease the days they spent fishing in 2012, which is likely a derivative of their infrequent participation and license purchase patterns.

Table 6. Overall satisfaction with angling experiences in Colorado by frequency of angling category ($n_{\text{frequent}} = 257$; $n_{\text{moderate}} = 797$; $n_{\text{infrequent}} = 246$).

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Very satisfied	112	44%	322	41%	78	32%
Somewhat satisfied	84	33%	274	34%	68	28%
Neither satisfied, nor dissatisfied	23	9%	73	9%	29	12%
Somewhat dissatisfied	23	9%	73	9%	22	9%
Very dissatisfied	14	5%	44	6%	23	9%
Not sure	0	0%	2	0%	5	2%
No opinion	1	0%	9	1%	21	9%

Table 7. Satisfaction with various aspects of fishing experiences in Colorado. Table a reports data for frequent anglers; Table b reports data for moderate anglers; Table c reports data for infrequent anglers.

a) Frequent anglers

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	255	47%	38%	10%	2%	2%	1%
The number of fish you caught	254	30%	41%	13%	11%	4%	0%
The size of fish you caught	254	22%	41%	19%	16%	3%	0%
The types of water available to you to fish	251	39%	40%	14%	4%	2%	1%
The availability of fly only waters	243	20%	26%	26%	9%	3%	17%
The availability of fly and lure only waters	246	17%	25%	29%	7%	3%	19%
The availability of waters where bait can be used	239	20%	23%	31%	5%	2%	19%
The availability of harvest restricted areas	244	15%	21%	37%	7%	3%	16%
The availability of stocked fish	247	15%	27%	34%	11%	2%	11%
The availability of wild fish	240	19%	38%	23%	16%	3%	0%
Your ability to eat the fish you caught	241	37%	23%	27%	3%	1%	9%
The complexity of fishing regulations	249	19%	25%	37%	10%	3%	6%

b) Moderate anglers

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	785	39%	39%	14%	5%	1%	3%
The number of fish you caught	788	26%	37%	16%	14%	6%	1%
The size of fish you caught	779	21%	39%	21%	14%	4%	2%
The types of water available to you to fish	788	41%	35%	13%	7%	4%	2%
The availability of fly only waters	742	21%	23%	28%	6%	2%	21%
The availability of fly and lure only waters	751	18%	25%	30%	4%	2%	21%
The availability of waters where bait can be used	747	19%	23%	26%	7%	3%	22%
The availability of harvest restricted areas	738	15%	17%	31%	4%	3%	30%
The availability of stocked fish	759	15%	29%	28%	11%	4%	13%
The availability of wild fish	687	20%	37%	25%	12%	6%	0%
Your ability to eat the fish you caught	781	34%	26%	20%	5%	1%	13%
The complexity of fishing regulations	764	13%	21%	38%	13%	6%	9%

c) Infrequent anglers

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	225	32%	27%	24%	4%	1%	13%
The number of fish you caught	229	18%	30%	17%	13%	14%	7%
The size of fish you caught	224	14%	29%	27%	13%	8%	9%
The types of water available to you to fish	228	40%	30%	14%	4%	4%	9%
The availability of fly only waters	218	17%	18%	28%	4%	2%	32%
The availability of fly and lure only waters	218	13%	15%	30%	3%	2%	37%
The availability of waters where bait can be used	216	11%	19%	29%	7%	4%	29%
The availability of harvest restricted areas	218	9%	16%	34%	2%	2%	37%
The availability of stocked fish	221	8%	24%	31%	6%	4%	28%
The availability of wild fish	175	18%	31%	35%	11%	4%	0%
Your ability to eat the fish you caught	223	27%	20%	24%	6%	5%	18%
The complexity of fishing regulations	226	7%	22%	30%	16%	6%	20%

Table 8. Anticipated change in days spent fishing in 2012 in Colorado by frequency of angling category ($n_{\text{frequent}} = 265$; $n_{\text{moderate}} = 814$; $n_{\text{infrequent}} = 241$).

	Frequent anglers		Moderate anglers		Infrequent anglers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Increase greatly	22	8%	62	8%	18	8%
Increase somewhat	82	31%	250	31%	80	33%
Stay the same	141	53%	415	51%	96	40%
Decrease somewhat	14	5%	49	6%	16	7%
Decrease greatly	6	2%	38	5%	31	13%

Characterization of Anglers by Type of License Purchased

Respondents to the 2012 Angler Survey were classified based on the type of fishing license they reported purchasing in Colorado in 2011. Three hundred and seventy-one respondents (28%) had purchased an annual, resident license; 60 (5%) had purchased a 1-day, resident license; 39 (3%) had purchased a senior resident license; 63 (5%) had purchased a combination small game and annual resident license; 468 (35%) had purchased an annual, non-resident license; and 203 (15%) had purchased a 5-day, non-resident license. Because of small sample sizes in the senior, 1-day, resident and combination categories, data reported by members of these groups may not be reliably generalized to those populations of license purchasers.

Resident license purchasers reported lower levels of household income than non-resident, with 37-80% falling below the median annual income for Colorado (\$58,000 in 2011; Table 9). The Colorado angling population is dominated by white individuals, at a rate higher than the Colorado average (70% white in 2011; Table 10). This is especially true for non-resident license purchasers. Majorities of all license groups currently reside in urban or suburban areas, rather than rural areas (Table 11). A plurality of all license groups, except combination license purchasers, reside in a metropolitan area of greater than 100,000 residents.

Majorities of Colorado resident license purchasers are native to Colorado (Table 12). Of resident purchasers who are not native to Colorado, most grew up in California and Iowa. Of resident license purchasers who emigrated to Colorado from a different state, the largest number lived last in California, Texas and Nebraska (Table 13).

Table 9. Approximate annual income of respondents by license type ($n_{\text{annual resident}} = 332$; $n_{\text{1day resident}} = 50$; $n_{\text{senior resident}} = 30$; $n_{\text{combo resident}} = 56$; $n_{\text{annual non-resident}} = 394$; $n_{\text{5day non-resident}} = 175$).

	Annual Resident		1 day Resident		Senior Resident		Combo Resident		Annual Non-resident		5 day Non-resident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Less than \$20,000	31	9%	10	20%	2	7%	4	7%	14	4%	5	3%
\$20,000 to \$39,999	45	12%	8	16%	15	50%	11	20%	36	9%	16	9%
\$40,000 to \$59,999	59	16%	8	16%	7	23%	9	16%	59	15%	21	12%
\$60,000 to \$79,999	61	16%	8	16%	2	7%	7	13%	61	16%	23	13%
\$80,000 to \$99,999	34	9%	2	4%	0	0%	7	13%	49	12%	27	16%
\$100,000 to \$149,999	62	17%	8	16%	2	7%	11	20%	66	17%	43	25%
More than \$150,000	40	11%	6	12%	2	7%	7	13%	109	28%	40	23%

Table 10. Race of respondents by license type ($n_{\text{annual resident}} = 347$; $n_{\text{1day resident}} = 55$; $n_{\text{senior resident}} = 38$; $n_{\text{combo resident}} = 62$; $n_{\text{annual non-resident}} = 452$; $n_{\text{5day non-resident}} = 191$).

	Annual Resident		1 day Resident		Senior Resident		Combo Resident		Annual Non-resident		5 day Non-resident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
White, non-Hispanic/Latino	294	85%	39	71%	34	90%	54	87%	426	94%	184	94%
Hispanic/Latino	29	8%	11	20%	2	5%	2	3%	9	2%	4	2%
Black or African American	3	1%	0	0%	0	0%	0	0%	0	0%	0	0%
American Indian or Native Alaskan	3	1%	0	0%	0	0%	1	2%	5	1%	0	0%
Native Hawaiian or other Pacific Islander	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Asian	9	2%	1	2%	1	3%	1	2%	0	0%	1	1%
Other	9	2%	4	7%	1	3%	4	7%	12	3%	2	1%

Table 11. Settings in which respondents currently live by license type ($n_{\text{annual resident}} = 350$; $n_{\text{1day resident}} = 54$; $n_{\text{senior resident}} = 36$; $n_{\text{combo resident}} = 61$; $n_{\text{annual non-resident}} = 435$; $n_{\text{5day non-resident}} = 192$).

	Annual Resident		1 day Resident		Senior Resident		Combo Resident		Annual Non-resident		5 day Non-resident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Rural setting, on a farm/ranch	30	9%	5	9%	1	3%	4	7%	47	11%	29	15%
Rural setting, not on a farm/ranch	33	9%	4	7%	6	17%	12	20%	56	13%	28	15%
Rural Subdivision	41	12%	3	6%	3	8%	3	5%	35	8%	9	5%
Within a village (<5,000 residents)	7	2%	0	0%	0	0%	3	5%	28	6%	5	3%
Suburban area on the edge of a town or city	53	15%	12	22%	6	17%	11	18%	53	12%	30	16%
Within a small town (Between 5,001 and 25,000 residents)	48	14%	4	7%	6	17%	9	15%	44	10%	17	9%
Within an urban area (Between 25,000 and 100,000 residents)	68	18%	8	15%	2	6%	9	15%	53	12%	18	9%
Within a metropolitan area (>100,000 residents)	70	19%	18	33%	12	33%	10	16%	119	27%	56	29%

Table 12. Top states that Colorado residents grew up in by license type ($n_{\text{annual resident}}=356$; $n_{\text{1day resident}}=56$; $n_{\text{senior resident}}=37$; $n_{\text{combo resident}}=60$).

Annual Resident			1 Day Resident			Senior Resident			Combo Resident		
State	<i>n</i>	%	State	<i>n</i>	%	State	<i>n</i>	%	State	<i>n</i>	%
Colorado	162	46%	Colorado	28	50%	Colorado	12	32%	Colorado	39	65%
California	20	6%	California	2	4%	California	3	8%	California	2	3%
Texas	15	4%	Connecticut	2	4%	Kansas	3	8%	Iowa	2	3%
Iowa	13	4%	Iowa	2	4%	Missouri	2	5%	Nebraska	2	3%
Illinois	9	3%	Michigan	2	4%	Texas	2	5%	New Mexico	2	3%
Michigan	9	3%	Minnesota	2	4%				Pennsylvania	2	3%
New York	9	3%	North Dakota	2	4%						
New Mexico	8	2%	Foreign Country	2	4%						
Pennsylvania	8	2%									
Florida	7	2%									

Table 13. Top states that Colorado residents emigrated from by license type ($n_{\text{annual resident}}=217$; $n_{\text{1day resident}}=36$; $n_{\text{senior resident}}=25$; $n_{\text{combo resident}}=29$).

Annual Resident			1 Day Resident			Senior Resident			Combo Resident		
State	<i>n</i>	%	State	<i>n</i>	%	State	<i>n</i>	%	State	<i>n</i>	%
California	22	10%	Texas	4	11%	California	4	16%	Iowa	3	10%
Texas	13	6%	California	3	8%	Nebraska	3	12%	South Dakota	3	10%
Florida	11	5%	Connecticut	3	8%	Foreign Country	3	12%	California	2	7%
Arizona	9	4%	Kansas	3	8%	Arizona	2	8%	Nebraska	2	7%
Illinois	9	4%	Minnesota	3	8%	Kansas	2	8%	New Mexico	2	7%
Iowa	8	4%	Arizona	2	6%				Texas	2	7%
New Mexico	8	4%	Iowa	2	6%						
Washington	8	4%	Nebraska	2	6%						
Wyoming	8	4%	North Dakota	2	6%						
Alaska	7	3%	Virginia	2	6%						
Kansas	7	3%									
Virginia	7	3%									

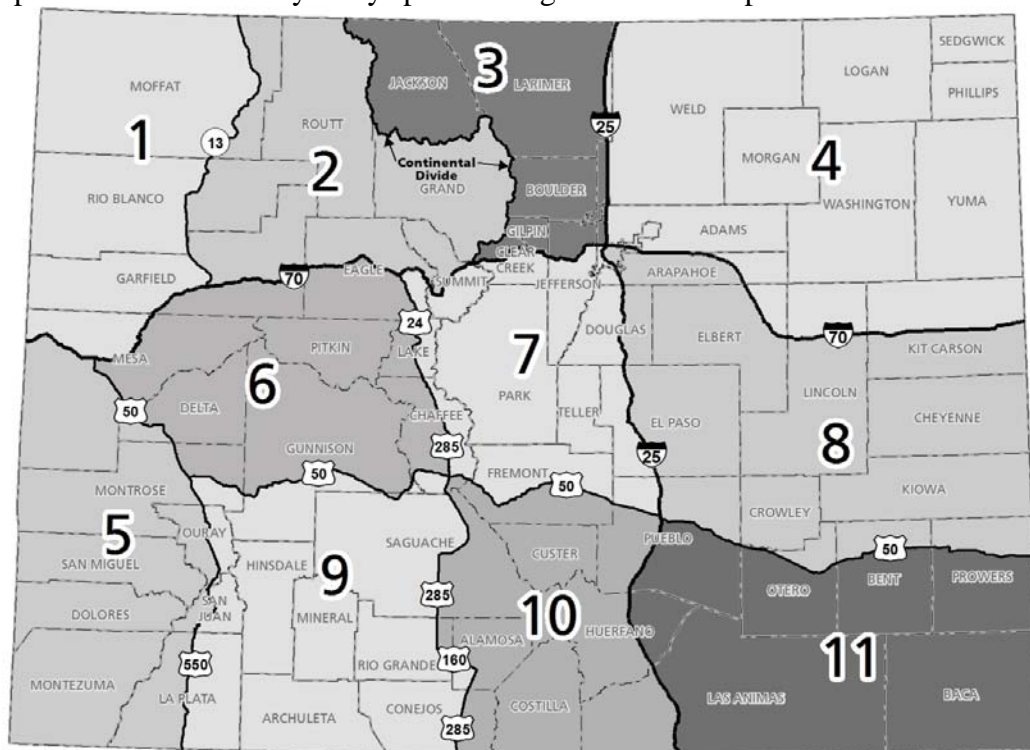
Overall, annual, resident license purchasers spent the greatest number of days fishing in Colorado in 2011 ($\bar{x}=24$ days), while 1-day, resident license purchasers fished for the fewest days ($\bar{x}=4$ days; Table 14). In comparison, Colorado resident annual license purchasers spent 24 days fishing in 2008 (Holsman, 2010). Purchasers of combination licenses reported many fewer days fishing in 2011 than in 2008 ($\bar{x}_{2008}=25$ days, $\bar{x}_{2011}=15$ days), as did senior license purchasers ($\bar{x}_{2008}=20$ days, $\bar{x}_{2011}=13$ days). Annual, resident license purchasers fished for the most days in Areas 4, 11, 1 and 3 (Figure 1). One-day, resident license purchasers fished for the most days in Areas 6 and 7, whereas senior resident license holders fished in areas 9, 7 and 11

(Table 14). Combination license holders fished for the most days in areas 3, 10 and 5. Annual, non-resident license purchasers fished in areas 9, 1, 6 and 10 most often. Five-day, non-resident license holders fished in areas 9 and 4 most often.

Table 14. Mean number of days fished in each region of Colorado by license type (*n* annual resident= 332; *n* 1day resident= 50; *n* senior resident= 30; *n* combo resident= 56; *n* annual non-resident= 394; *n* 5day non-resident= 175).

	Annual Resident			1 day Resident			Senior Resident			Combo Resident			Annual Non-resident			5 day Non-resident		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Statewide	351	24	0-300	58	4	1-75	35	13	0-65	61	15	0-60	450	17	1-156	197	5	0-14
Area 1	23	14	1-110	1	1	1	2	4	3-5	5	5	1-10	20	12	1-50	9	4	1-10
Area 2	91	9	1-100	10	1	1-3	7	8	2-25	14	6	1-15	63	7	1-30	25	3	1-5
Area 3	109	14	1-135	9	2	1-3	10	6	1-15	15	13	1-37	60	9	1-30	24	4	1-7
Area 4	38	18	1-200	1	1	1	2	6	1-10	8	3	1-8	13	7	1-35	2	5	5
Area 5	31	8	1-40	2	1	1-8	3	6	2-10	6	10	1-25	68	9	1-60	18	3	1-7
Area 6	129	11	1-100	9	5	1-75	13	7	1-30	12	9	2-30	137	12	1-120	46	4	1-10
Area 7	166	12	1-200	26	10	1-10	13	9	1-45	20	8	1-50	82	10	1-40	24	3	1-6
Area 8	37	7	1-20	2	2	1-3	1	2	2	10	4	1-8	8	5	2-15	5	3	1-5
Area 9	39	9	1-55	4	2	1-2	3	11	4-25	8	9	2-20	163	17	1-140	55	5	1-45
Area 10	54	8	1-77	0	0	0	4	5	1-10	5	11	2-30	41	10	1-60	15	3	1-9
Area 11	30	17	1-200	1	1	1	2	9	2-15	4	6	1-20	15	6	1-20	3	3	2-5

Figure 1. Areas of Colorado, as printed in 2012 Colorado Angler Survey. Respondents were asked to report the number of days they spent fishing in each of the pictured areas in 2011.



In 2008, resident and non-resident anglers most often fished for rainbow trout, brown trout and brook trout (Holsman, 2010). In 2011, resident and non-resident anglers most often fished for rainbow trout, brown trout and cutthroat trout. (In 2008, cutthroat trout were not provided as a response option, and in 2011, brook trout were not provided as a response option.) The consistency in demand between resident and non-resident anglers, and over time, indicates that priority for conservation and stocking efforts should be focused on these cold-water species.

Among all license groups, the species for which anglers would prefer more opportunity were rainbow trout, brown trout and cutthroat trout (Table 15). Only individuals who purchased resident, 1-day licenses exhibited a different pattern, with the largest proportion of that group reporting that they were not sure which species they would like more opportunity to fish. They also preferred increased opportunity for large- and small-mouth bass at a rate higher than any other license group.

Table 15. Species for which respondents would prefer additional angling opportunity in Colorado by license type ($n_{\text{annual resident}} = 1037$; $n_{\text{1day resident}} = 154$; $n_{\text{senior resident}} = 88$; $n_{\text{combo resident}} = 174$; $n_{\text{annual non-resident}} = 1137$; $n_{\text{5day non-resident}} = 501$).

	Annual Resident		1 day Resident		Senior Resident		Combo Resident		Annual Non-resident		5 day Non-resident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	87	8%	14	9%	1	1%	14	8%	33	3%	20	4%
Channel, flathead or blue catfish	40	4%	5	3%	4	5%	6	3%	13	1%	9	2%
Wiper, white or striped bass	35	3%	7	5%	1	1%	9	5%	10	1%	6	1%
Walleye or sauger	79	8%	13	8%	5	6%	14	8%	35	3%	16	3%
Bluegill or sunfish	22	2%	4	3%	1	1%	4	2%	11	1%	6	1%
Yellow perch	23	2%	4	3%	0	0%	5	3%	7	1%	5	1%
Crappie	39	4%	6	4%	0	0%	8	5%	19	2%	11	2%
Brown trout	146	14%	13	8%	19	22%	21	12%	244	21%	100	20%
Cutthroat trout	134	13%	14	9%	14	16%	22	13%	251	22%	97	19%
Lake trout	80	8%	13	8%	9	10%	14	8%	92	8%	44	9%
Rainbow trout	161	16%	21	14%	24	27%	25	14%	266	23%	113	23%
Kokanee	56	5%	6	4%	6	7%	11	6%	57	5%	19	4%
Northern pike or tiger musky	54	5%	7	5%	0	0%	8	5%	22	2%	13	3%
Carp	3	0%	2	1%	0	0%	2	1%	3	0%	3	1%
Other species	19	2%	4	3%	0	0%	3	2%	27	2%	8	2%
Not sure	59	6%	21	14%	4	5%	8	5%	47	4%	31	6%

Resident anglers were very satisfied with the variety of fish they were able to fish for in Colorado, as well as the types of water available to them to fish and their ability to eat the fish that they caught here (Table 16a-c). Resident anglers reported their highest levels of dissatisfaction with the number and size of fish they caught, as well as the availability of wild fish. Resident combination license purchasers were less satisfied with many aspects of their

fishing experience than other resident anglers, especially the size and number of fish they caught and the availability of wild fish.

Non-resident anglers were also satisfied with the variety of species and waters available to them to fish, and their ability to eat fish caught in Colorado (Table 16e-f). In comparison to resident anglers, non-resident anglers reported higher levels of satisfaction and lower levels of dissatisfaction across all aspects measured. Five-day non-resident license purchasers reported higher levels of dissatisfaction with the number and size of fish they caught than annual non-resident license purchasers, but similar levels to annual resident license purchasers. In all, non-residents were more satisfied with aspects of their fishing experience in Colorado than were residents, however, their perception of differences between their home states and Colorado likely led them to be less satisfied with some aspects of fishing in Colorado.

In 2008, 60% of resident anglers reported being very or somewhat satisfied with the size of fish they caught and 54% were very or somewhat satisfied with the number of fish they caught (Holsman, 2010). In 2011, many fewer residents were satisfied with the size of fish they caught (50%), but the same percent were satisfied with the number of fish they caught (54%; Table 16a and 16e). More non-residents were satisfied with the number of fish they caught in 2011 over 2008 (72% in 2011 vs. 65% in 2008), but fewer were satisfied with the size of fish they caught in 2008 (66% in 2001 vs. 71% in 2008).

Table 16. Satisfaction with various aspects of fishing experiences in Colorado.

Table a reports data for annual resident license purchasers; Table b reports data for 1 day resident license purchasers; Table c reports data for senior resident license purchasers; Table d reports data for combo resident license purchasers; Table e reports data for annual non-resident license purchasers; and Table f reports data for 5 day non-resident license purchasers.

a) Annual Resident License

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	352	30%	44%	15%	5%	3%	4%
The number of fish you caught	352	22%	34%	21%	16%	6%	2%
The size of fish you caught	346	13%	37%	27%	17%	4%	2%
The types of water available to you to fish	346	33%	38%	17%	7%	4%	2%
The availability of fly only waters	335	14%	21%	29%	7%	2%	27%
The availability of fly and lure only waters	344	13%	24%	31%	6%	2%	24%
The availability of waters where bait can be used	336	16%	30%	27%	9%	2%	16%
The availability of harvest restricted areas	337	12%	17%	37%	6%	2%	25%
The availability of stocked fish	344	14%	30%	32%	11%	4%	9%
The availability of wild fish	320	15%	35%	27%	15%	7%	0%
Your ability to eat the fish you caught	340	30%	29%	24%	5%	2%	9%
The complexity of fishing regulations	344	13%	22%	41%	10%	7%	7%

b) 1 Day Resident License

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	52	33%	25%	25%	4%	6%	8%
The number of fish you caught	53	21%	26%	21%	6%	23%	4%
The size of fish you caught	49	14%	33%	18%	10%	20%	4%
The types of water available to you to fish	52	35%	27%	17%	6%	8%	8%
The availability of fly only waters	48	10%	8%	35%	4%	4%	38%
The availability of fly and lure only waters	48	6%	8%	33%	2%	6%	44%
The availability of waters where bait can be used	49	16%	22%	22%	6%	10%	22%
The availability of harvest restricted areas	50	6%	12%	28%	6%	8%	40%
The availability of stocked fish	50	8%	30%	20%	14%	8%	20%
The availability of wild fish	39	13%	33%	26%	18%	10%	0%
Your ability to eat the fish you caught	51	24%	16%	22%	12%	10%	18%
The complexity of fishing regulations	52	6%	14%	25%	18%	15%	23%

c) Senior Resident License

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	32	38%	31%	16%	13%	0%	3%
The number of fish you caught	32	16%	34%	16%	22%	9%	3%
The size of fish you caught	31	13%	32%	26%	19%	7%	3%
The types of water available to you to fish	31	32%	36%	13%	7%	7%	7%
The availability of fly only waters	26	12%	31%	31%	4%	8%	15%
The availability of fly and lure only waters	27	11%	30%	37%	0%	7%	15%
The availability of waters where bait can be used	30	17%	43%	20%	7%	0%	13%
The availability of harvest restricted areas	27	4%	22%	33%	7%	7%	26%
The availability of stocked fish	30	7%	33%	27%	17%	3%	13%
The availability of wild fish	24	17%	38%	29%	13%	4%	0%
Your ability to eat the fish you caught	30	33%	33%	13%	7%	0%	13%
The complexity of fishing regulations	30	13%	30%	23%	7%	10%	17%

d) Combo Resident License

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	59	10%	37%	34%	10%	0%	9%
The number of fish you caught	59	7%	37%	24%	19%	7%	7%
The size of fish you caught	57	5%	30%	25%	25%	5%	11%
The types of water available to you to fish	59	17%	42%	22%	10%	0%	9%
The availability of fly only waters	55	13%	15%	36%	0%	4%	33%
The availability of fly and lure only waters	53	17%	19%	28%	0%	4%	32%
The availability of waters where bait can be used	57	14%	19%	35%	7%	2%	23%
The availability of harvest restricted areas	55	11%	13%	42%	4%	6%	26%
The availability of stocked fish	57	11%	19%	42%	14%	2%	12%
The availability of wild fish	50	6%	30%	36%	22%	6%	0%
Your ability to eat the fish you caught	57	26%	30%	25%	5%	2%	12%
The complexity of fishing regulations	57	7%	14%	47%	18%	4%	11%

e) Annual Non-resident License

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	436	51%	34%	11%	2%	1%	3%
The number of fish you caught	436	33%	39%	12%	10%	6%	1%
The size of fish you caught	439	29%	37%	19%	10%	3%	2%
The types of water available to you to fish	439	46%	35%	10%	4%	3%	2%
The availability of fly only waters	411	25%	24%	24%	8%	2%	16%
The availability of fly and lure only waters	413	21%	24%	27%	5%	2%	22%
The availability of waters where bait can be used	407	22%	16%	28%	3%	3%	28%
The availability of harvest restricted areas	406	19%	18%	28%	3%	2%	30%
The availability of stocked fish	417	15%	28%	27%	8%	4%	19%
The availability of wild fish	377	26%	39%	23%	9%	4%	0%
Your ability to eat the fish you caught	419	39%	18%	23%	3%	1%	16%
The complexity of fishing regulations	426	15%	24%	34%	13%	4%	11%

f) 5-day Non-resident License

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor dissatisfied	Somewhat dissatisfied	Very dissatisfied	I am not sure.
The variety of fish you could fish for	190	39%	34%	16%	4%	1%	6%
The number of fish you caught	195	23%	40%	12%	15%	8%	3%
The size of fish you caught	193	18%	45%	17%	14%	4%	3%
The types of water available to you to fish	195	46%	34%	10%	5%	3%	3%
The availability of fly only waters	186	25%	26%	24%	4%	2%	19%
The availability of fly and lure only waters	191	22%	25%	28%	3%	2%	21%
The availability of waters where bait can be used	183	14%	18%	27%	9%	3%	29%
The availability of harvest restricted areas	187	17%	19%	30%	3%	3%	28%
The availability of stocked fish	186	15%	28%	27%	8%	4%	19%
The availability of wild fish	167	21%	40%	25%	13%	2%	0%
Your ability to eat the fish you caught	188	33%	28%	19%	5%	1%	14%
The complexity of fishing regulations	189	14%	26%	32%	14%	4%	11%

Angling Activity by Species Targeted

Colorado anglers spent the highest mean number of days fishing for carp ($\bar{x}=49$), wiper and striped bass ($\bar{x}=44$), and bluegill ($\bar{x}=38$) in 2011 (Table 17). Whereas these were some of the least commonly targeted species, anglers who did fish for them appear to fish frequently. The three most commonly targeted species (brown trout, cutthroat trout and rainbow trout) averaged among the fewest days spent angling in 2011 ($\bar{x}=17$, 18 and 16, respectively). Anglers fished for brown and cutthroat trout most often in areas 9 and 3, and rainbow trout most often in areas 9 and 11 (Figure 1).

Table 17. Mean number of days fished in each region of Colorado in 2011 by species

targeted ($n_{\text{bass}}=171$; $n_{\text{catfish}}=70$; $n_{\text{wiper}}=61$; $n_{\text{walleye}}=125$; $n_{\text{bluegill}}=65$; $n_{\text{yellow perch}}=56$; $n_{\text{crappie}}=69$; $n_{\text{brown trout}}=855$; $n_{\text{cutthroat trout}}=606$; $n_{\text{lake trout}}=364$; $n_{\text{rainbow trout}}=1136$; $n_{\text{kokanee}}=145$; $n_{\text{pike}}=93$; $n_{\text{carp}}=31$; $n_{\text{no preference}}=100$; $n_{\text{other}}=87$).

	Bass			Catfish			Wiper, Striped Bass			Walleye			Bluegill		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Statewide	171	30	1-237	70	37	1-200	61	44	2-237	125	31	1-237	65	38	0-210
Area 1	12	15	1-110	5	23	1-110	4	31	2-110	6	26	1-110	5	27	2-110
Area 2	32	7	1-45	18	6	1-30	16	5	1-25	40	7	1-45	12	10	1-45
Area 3	63	16	1-135	21	26	1-135	17	31	2-135	46	19	1-135	24	19	1-135
Area 4	29	15	1-100	21	10	1-30	19	18	1-100	27	16	1-100	12	22	1-100
Area 5	29	10	1-40	4	5	1-10	5	11	3-40	12	9	2-24	5	6	2-10
Area 6	42	11	1-100	20	11	1-50	16	9	1-40	30	10	1-100	13	10	1-40
Area 7	77	15	1-200	31	21	1-200	30	18	1-200	57	17	1-200	33	22	1-200
Area 8	29	5	1-20	15	8	2-20	16	6	1-25	22	6	1-25	7	10	1-20
Area 9	24	8	1-25	7	5	1-10	7	8	2-25	11	8	1-285	11	9	1-25
Area 10	39	12	1-100	20	9	1-30	19	13	2-100	27	8	1-30	15	13	1-100
Area 11	21	21	1-200	15	24	1-200	15	29	1-200	18	21	1-200	7	34	1-200

Table 17 (continued).

	Yellow Perch			Crappie			Brown Trout			Cutthroat Trout			Lake Trout		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Statewide	56	37	0-200	69	35	0-210	855	17	0-237	606	18	0-200	364	21	0-237
Area 1	7	24	2-110	5	10	2-26	45	10	1-110	43	8	1-50	19	6	1-26
Area 2	21	8	1-45	19	7	1-25	168	7	1-100	133	7	1-45	84	8	1-100
Area 3	20	24	2-135	27	20	2-135	172	11	1-135	125	11	1-135	80	14	1-135
Area 4	14	13	1-41	20	15	1-100	44	10	1-100	30	8	1-41	32	13	1-100
Area 5	4	8	2-24	6	7	2-19	101	9	1-60	79	8	1-60	46	9	1-60
Area 6	18	13	1-100	21	7	1-20	290	10	1-120	229	10	1-120	109	10	1-100
Area 7	24	15	1-50	36	13	1-50	261	10	1-200	190	10	1-200	130	11	1-200
Area 8	7	8	1-20	16	7	1-20	45	6	1-25	35	5	1-25	30	6	1-25
Area 9	11	8	1-20	9	11	1-25	137	13	1-140	173	13	1-98	89	14	1-140
Area 10	10	11	1-30	18	10	1-30	96	10	1-100	73	9	1-77	54	12	1-100
Area 11	4	56	2-200	9	37	2-200	33	6	1-60	19	7	1-60	24	7	1-60

Table 17 (continued).

	Rainbow Trout			Kokanee			Pike, Tiger Musky			Carp			No Preference		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Statewide	1136	16	0-237	145	27	0-237	93	28	1-237	31	49	1-237	100	9	0-145
Area 1	59	10	1-110	10	8	1-50	6	21	1-110	4	35	2-110	5	15	3-40
Area 2	217	7	1-100	34	12	1-100	34	10	1-45	9	7	2-30	10	4	1-20
Area 3	217	10	1-135	25	12	1-100	33	15	1-100	12	33	1-135	19	5	1-20
Area 4	64	13	1-200	9	19	1-100	10	19	2-100	6	26	2-100	7	4	1-10
Area 5	136	8	1-60	24	10	1-40	11	10	2-30	4	8	1-25	11	6	1-14
Area 6	352	10	1-120	63	14	1-100	30	10	1-50	11	12	1-50	21	12	1-100
Area 7	341	10	1-200	54	16	1-200	44	15	1-50	18	14	1-50	29	5	1-30
Area 8	66	5	1-25	14	8	2-25	15	7	2-25	4	2	1-4	8	3	1-6
Area 9	284	13	1-140	39	10	1-30	13	6	2-20	7	4	1-15	17	6	1-30
Area 10	119	10	1-100	26	15	1-77	18	9	1-30	4	8	2-15	13	5	1-15
Area 11	48	11	1-200	11	4	1-12	6	4	1-6	5	59	1-200	4	6	1-9

Table 17 (continued).

	Other		
	<i>n</i>	\bar{x}	Range
Statewide	87	17	0-156
Area 1	7	5	1-26
Area 2	16	9	1-50
Area 3	15	8	1-25
Area 4	4	11	2-30
Area 5	12	3	1-10
Area 6	32	14	1-120
Area 7	18	7	1-30
Area 8	1	3	3
Area 9	27	17	1-140
Area 10	8	5	1-16
Area 11	1	2	2

Using Forecasted Population Changes in Colorado to Predict Changes in Angling Pressure

Colorado's population is forecasted to change dramatically over the next 40 years, because of an aging and diversifying population and continuing immigration from other states. A changing population may affect the species of fish that anglers desire to fish for and the fishing experiences that most satisfy them. Changes to stocking rates and increased access for fishing will take time and capital investment to alter in response to any changes in demand. As a result, aquatic managers in Colorado would like to assess the likely pattern of demand in the immediate and longer-term future in Colorado. Using projections from the Colorado State Demographer's Office, it appears that the number of Colorado residents between the age of 51 and 70 will decrease between now and 2040 and the number of residents between 71 and 90 will increase (Figure 1). In addition, the proportion of the population that is white, non-Hispanic will decrease, while the Hispanic population will increase (Figure 2). In 2010, the top 3 states from which new migrants to Colorado originated were California, Texas and Arizona (Table 18). Comparing the angling experiences of these groups may help to identify differences and help CPW prepare for changes in demand in the future.

Figure 1. Change in the age of the Colorado population (2000-2040). Data provided by the Colorado State Demographer’s Office.

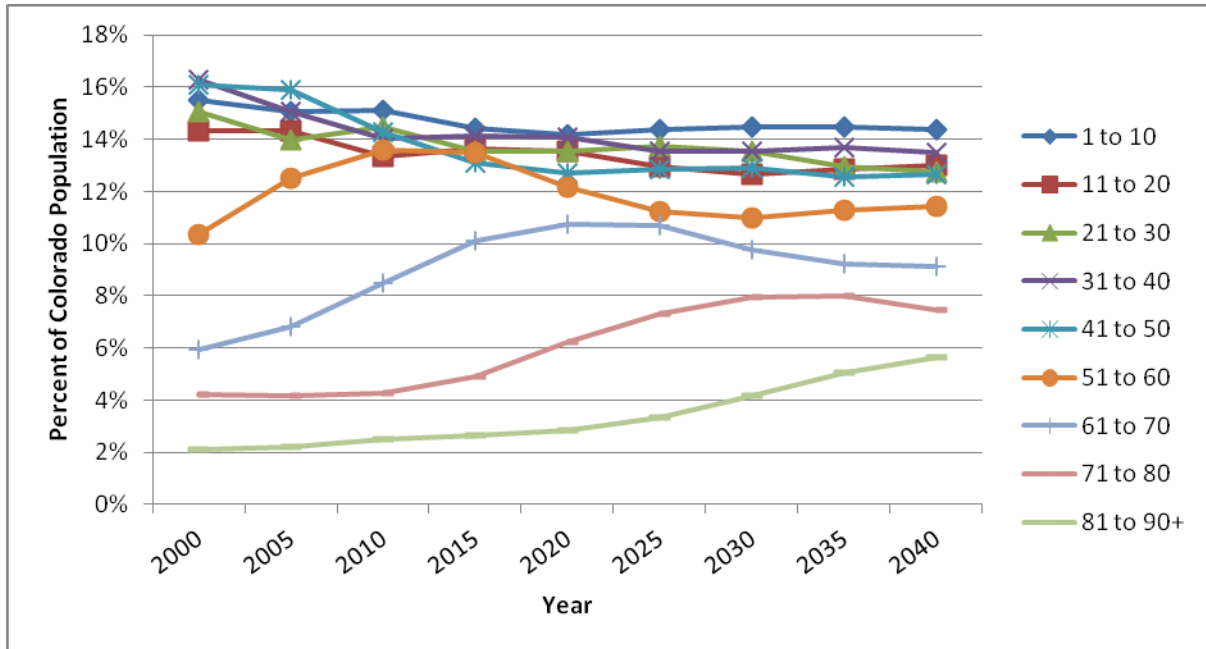


Figure 2. Change in the racial background of the Colorado population (2000-2040). Data provided by the Colorado State Demographer’s Office.

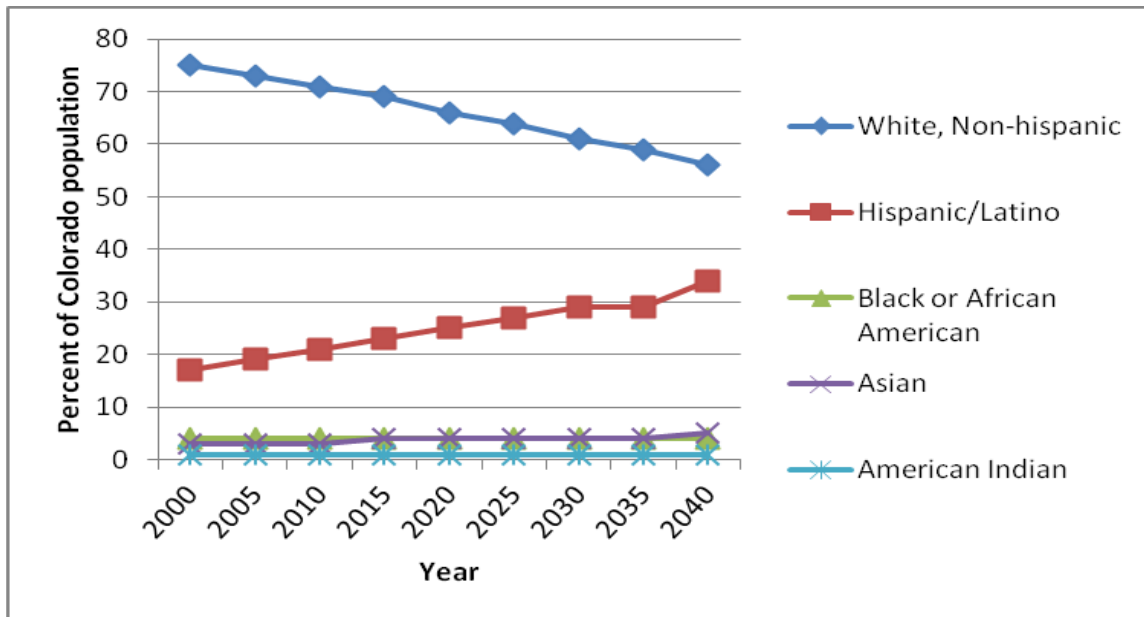


Table 18. Top 10 states from which new Colorado residents emigrated in 2010. Data provided by the Colorado State Demographer’s Office.

State	%
California	12.4%
Texas	11.1%
Arizona	5.5%
Florida	5.2%
Illinois	3.2%
New Mexico	3.1%
Washington	2.8%
New York	2.7%
Kansas	2.6%
Virginia	2.6%
Georgia	2.6%

An Aging Colorado Population

The portion of the Colorado population between 51 and 70 years old will decrease over the next 30 years and the proportion of the population between 71 and 90 years old will increase. These groups appear to purchase licenses at the same frequency, with most reporting purchasing every year (Table 19). These older age groups purchase licenses on a more regular basis than respondents who were under 50 years of age. Both of the changing age groups fish most often in lakes and reservoirs in the mountains and smaller streams and rivers in the mountains, but respondents between 71 and 90 years old fish more frequently in streams and smaller rivers in the mountains than 51 to 70 year olds (Table 20). Fifty-one to 70 year old anglers had fished for fewer years in Colorado, but fished for more days, on average, than 71 to 90 year olds (Table 21). Both groups fished for fewer days than respondents who were under 50 years old. Both groups took similar numbers of trips per year ($n=6$) and traveled similar distances to fish (>200 miles). They took fewer trips per year, on average, than respondents under 50, but traveled farther to take those trips.

Table 19. Frequency of fishing license purchase in Colorado by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<51} = 356$; $n_{51-70} = 329$; $n_{71-90} = 45$).

	18-50 year olds		51-70 year olds		71-90 year olds	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Each of the last 5 years	131	37%	173	53%	26	58%
4 of the last 5 years	29	8%	35	11%	4	9%
2 or 3 of the last 5 years	119	33%	78	24%	11	24%
Once in the last 5 years	71	20%	37	11%	4	9%
Never	6	2%	6	2%	0	0%

Table 20. Types of water most often fished in Colorado by under 50, 51 to70 year old and 71 to 90 year old respondents ($n_{<51}= 331$; $n_{51-70}= 294$; $n_{71-90}= 40$).

	18-51 year olds		51-70 year olds		71-90 year olds	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Lakes or rivers at low elevations	60	18%	48	16%	9	23%
Lakes or reservoirs in the mountains	153	46%	135	46%	15	38%
Large rivers	20	6%	37	13%	3	8%
Smaller rivers or streams at low elevations	10	3%	10	3%	1	3%
Smaller rivers or streams in the mountains	75	23%	57	19%	11	28%
Farm, irrigation or other small ponds	13	4%	7	2%	1	3%

Table 21. Mean values for days fished in 2011, fishing trips in 2011, miles traveled to fish in 2011 and number of years fishing in Colorado by under 50, 51 to70 year old and 71 to 90 year old respondents.

	18-50 year olds			51-70 year olds			71-90 year olds		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Days Fished in 2011	347	19	1-300	314	14	0-225	42	11	0-65
Number of fishing trips in 2011	348	9	0-200	315	7	0-150	43	6	0-25
Average miles traveled to fish in 2011	340	190	0-2600	309	212	0-2147	42	232	0-900
Number of years fishing in Colorado	350	15	0-50	316	26	0-67	45	31	1-60

All 3 groups fished most often for rainbow trout, brown trout and cutthroat trout, similar to the total respondent population (Table 22). Fifty-one to 70 year old anglers fished most often with flies, live bait and lures, in order of preference, whereas older anglers preferred flies and artificial bait (Table 23). The oldest anglers fished with flies at a rate much higher than the other, younger age classes. All 3 groups fished most often from shore or the bank or by wading (Table 24) and release nearly all of the fish they catch back into the water from which they came (Table 25.)

Table 22. Species fished for in Colorado in 2011 by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}$ = 1245; n_{51-70} = 924 ; n_{71-90} = 110).

	18-50 year olds		51-70 years old		71-90 years old	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	84	7%	42	5%	2	2%
Channel, flathead or blue catfish	37	3%	22	2%	2	2%
Wiper, white or striped bass	32	3%	17	2%	1	1%
Walleye or sauger	55	4%	34	4%	5	5%
Bluegill or sunfish	32	3%	20	2%	0	0%
Yellow perch	22	2%	20	2%	1	1%
Crappie	28	2%	25	3%	2	2%
Brown trout	207	17%	186	20%	23	21%
Cutthroat trout	148	12%	127	14%	17	15%
Lake trout	134	11%	89	10%	9	8%
Rainbow trout	292	23%	265	29%	35	32%
Kokanee	43	3%	31	3%	7	6%
Northern pike or tiger musky	34	3%	22	2%	1	1%
Carp	25	2%	3	0%	0	0%
Other species	28	2%	2	0%	3	3%
No preferred species	44	4%	19	2%	2	2%

Table 23. Methods of fishing most often used in Colorado by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}$ = 324; n_{51-70} = 298 ; n_{71-90} = 41).

	18-50 year olds		51-70 year olds		71-90 year olds	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Lures	88	27%	78	26%	7	17%
Flies	95	29%	99	33%	19	46%
Live bait	75	23%	80	27%	6	15%
Artificial bait	64	20%	41	14%	9	22%
Snagging	2	1%	0	0%	0	0%
Spearfishing	0	0%	0	0%	0	0%
Archery	0	0%	0	0%	0	0%

Table 24. Ways of fishing most often used in Colorado by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}= 595$; $n_{51-70}= 485$; $n_{71-90}= 60$).

	18-51 year olds		51-70 year olds		71-90 year olds	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
From shore or the bank	295	50%	245	51%	33	55%
From a pier or dock	58	10%	31	6%	2	3%
By wading	128	22%	113	23%	16	27%
In a motorized boat or other watercraft	73	12%	61	13%	5	8%
In a non-motorized boat or other watercraft	41	7%	35	7%	4	7%

Table 25. Proportion of fish caught that are kept by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}= 346$; $n_{51-70}= 312$; $n_{71-90}= 43$).

	18-50 year olds		51-70 year olds		71 – 90 year olds	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I keep all or most of the fish I catch.	47	14%	49	16%	7	16%
I release less than half of the fish I catch.	58	17%	49	16%	7	16%
I release more than half of the fish I catch.	55	16%	53	17%	6	14%
I release all or nearly all of the fish I catch.	186	54%	161	52%	23	54%

Overall, older anglers are slightly more satisfied with their fishing experience in Colorado (76% report being satisfied vs. 68% of 51-70 year old and 64% of under 50 year old respondents; Table 26), though pluralities of all 3 groups expect their angling participation to stay the same in the coming year (Table 27). All 3 groups indicated that they would like to see more opportunity for rainbow trout, brown trout and cutthroat trout in Colorado in the future (Table 28); however the oldest respondents indicated higher levels of support for these species. This may indicate a growing demand for these species, as this segment of the population increases.

These results indicate that changes in the age of the angling population will not likely affect demand for species or types of access in a considerable way. These groups are very similar to each other and the overall angler population, and likely will continue to be satisfied if angling conditions continue in Colorado as they exist now. There may be increased participating in fly angling and demand for trout species as the 71 to 90 year old age class increases in size, but this increase is likely to be moderated by the decreased number of anglers taking part in the activity at that age.

Table 26. Overall satisfaction with fishing experiences in Colorado in 2011 by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}$ = 349; n_{51-70} = 314 ; n_{71-90} = 44).

	18-51 year olds		51-70 years old		71-90 years old	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Very satisfied	118	34%	109	35%	13	30%
Somewhat satisfied	104	30%	103	33%	20	46%
Neither satisfied, nor unsatisfied	44	13%	42	13%	5	11%
Somewhat unsatisfied	39	11%	29	9%	3	7%
Very unsatisfied	32	9%	17	5%	2	5%
Not sure	2	1%	2	1%	0	0%
No opinion	10	3%	12	4%	1	2%

Table 27. Anticipated change in fishing participation in 2012 in Colorado by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}$ = 350; n_{51-70} = 323 ; n_{71-90} = 44).

	18-50 year olds		51-70 years old		71-90 years old	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Increase greatly	44	13%	27	8%	0	0%
Increase somewhat	120	34%	108	33%	14	32%
Stay the same	145	41%	157	49%	24	55%
Decrease somewhat	22	6%	18	6%	4	9%
Decrease greatly	19	5%	13	4%	2	5%

Table 28. Species for which respondents desire more opportunity in the future, as reported by under 50, 51 to 70 year old and 71 to 90 year old respondents ($n_{<50}=1007$; $n_{51-70}=873$; $n_{71-90}=118$).

	18-50 year olds		51-70 years old		71-90 years old	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	81	8%	60	7%	1	1%
Channel, flathead or blue catfish	41	4%	29	3%	3	3%
Wiper, white or striped bass	40	4%	27	3%	1	1%
Walleye or sauger	73	7%	56	6%	6	5%
Bluegill or sunfish	19	2%	21	2%	1	1%
Yellow perch	20	2%	20	2%	0	0%
Crappie	30	3%	32	4%	2	2%
Brown trout	128	13%	138	16%	29	25%
Cutthroat trout	127	13%	126	14%	21	18%
Lake trout	90	9%	66	8%	11	9%
Rainbow trout	146	14%	163	19%	32	27%
Kokanee	56	6%	44	5%	10	8%
Northern pike or tiger musky	61	6%	25	3%	0	0%
Carp	6	1%	3	0%	0	0%
Other species	19	2%	13	1%	0	0%
No preferred species	70	7%	50	6%	1	1%

A Diversifying Colorado Population

Demographers predict that the proportion of the Colorado population made up of white, non-Hispanic individuals will decrease, while the Hispanic population will increase in the next 30 years. This trend may affect demand for angling resources and access as well as an aging population.

A plurality of white and Hispanic anglers in Colorado purchased licenses each of the last 5 years (Table 29). White anglers fished most often in lakes and reservoirs in the mountains and smaller rivers and streams in the mountains (Table 30). Hispanic anglers preferred the same locations to fish in Colorado. White and Hispanic anglers fished for similar numbers of days ($n=16-18$) in 2011 and took similar numbers of fishing trips ($n=7-8$; Table 31). White anglers traveled much farther to fish ($\bar{x}=218$ miles), on average, than did Hispanic anglers ($\bar{x}=73$ miles). Both groups had fished for an average of >20 years in Colorado.

Table 29. Frequency of fishing license purchase in Colorado by white and Hispanic respondents ($n_{\text{white}}= 615$; $n_{\text{Hispanic}}= 58$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Each of the last 5 years	275	45%	29	50%
4 of the last 5 years	59	10%	7	12%
2 or 3 of the last 5 years	184	30%	8	14%
Once in the last 5 years	86	14%	13	22%
Never	11	2%	1	2%

Table 30. Types of water most often fished in Colorado by white and Hispanic respondents ($n_{\text{white}}= 568$; $n_{\text{Hispanic}}= 51$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Lakes or rivers at low elevations	90	16%	12	24%
Lakes or reservoirs in the mountains	257	45%	29	57%
Large rivers	54	10%	2	4%
Smaller rivers or streams at low elevations	17	3%	1	2%
Smaller rivers or streams in the mountains	131	23%	7	14%
Farm, irrigation or other small ponds	19	3%	0	0%

Table 31. Mean values for days fished in 2011, fishing trips in 2011, miles traveled to fish in 2011 and number of years fishing in Colorado by white and Hispanic respondents.

	White			Hispanic/Latino		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Days Fished in 2011	591	16	0-300	54	18	0-120
Number of fishing trips in 2011	596	8	0-200	56	7	0-50
Average miles traveled to fish in 2011	585	218	0-2600	53	73	0-400
Number of years fishing in Colorado	601	21	0-67	58	19	0-55

Hispanic and white anglers most often fished for rainbow trout and cutthroat trout, however, Hispanics targeted lake trout more often than white anglers (Table 32). White anglers most often used flies, lures and live bait to fish in Colorado, while Hispanic anglers used live bait, artificial bait and lures most often (Table 33). A large majority (67%) of Hispanic anglers fished from shore or the bank, and a small proportion by wading (14%). White anglers fished by wading (37%) and from the shore or bank (22%; Table 34). A majority of white anglers released nearly all of the fish they caught in Colorado, whereas 31% of Hispanic anglers released <50% of their catch (Table 35). An additional 27% released nearly all of their catch, and 24% kept nearly all of their catch. Only 14% of white anglers kept nearly all of their catch.

Table 32. Species fished for in Colorado in 2011 by white and Hispanic/Latino respondents ($n_{\text{white}}=1938$; $n_{\text{Hispanic}}=180$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	103	5%	12	7%
Channel, flathead or blue catfish	46	2%	8	4%
Wiper, white or striped bass	34	2%	4	2%
Walleye or sauger	74	4%	9	5%
Bluegill or sunfish	44	2%	3	2%
Yellow perch	38	2%	3	2%
Crappie	43	2%	3	2%
Brown trout	368	19%	26	14%
Cutthroat trout	256	13%	20	11%
Lake trout	190	10%	21	12%
Rainbow trout	505	26%	48	27%
Kokanee	70	4%	5	3%
Northern pike or tiger musky	55	3%	5	3%
Carp	19	1%	4	2%
Other species	43	2%	8	4%
No preferred species	50	3%	1	1%

Table 33. Methods of fishing most often used in Colorado by white and Hispanic respondents ($n_{\text{white}}=564$; $n_{\text{Hispanic}}=51$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Lures	152	27%	10	20%
Flies	195	35%	6	12%
Live bait	126	22%	18	35%
Artificial bait	88	16%	17	33%
Snagging	2	1%	0	0%
Spearfishing	0	0%	0	0%
Archery	0	0%	0	0%

Table 34. Ways of fishing most often used in Colorado by white and Hispanic respondents ($n_{\text{white}}= 641$; $n_{\text{Hispanic}}= 81$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
From shore or the bank	140	22%	54	67%
From a pier or dock	75	12%	8	10%
By wading	228	36%	11	14%
In a motorized boat or other watercraft	124	19%	7	9%
In a non-motorized boat or other watercraft	74	12%	1	1%

Table 35. Proportion of fish caught that are kept by white and Hispanic respondents ($n_{\text{white}}= 595$; $n_{\text{Hispanic}}= 55$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
I keep all or most of the fish I catch.	81	14%	13	24%
I release less than half of the fish I catch.	84	14%	17	31%
I release more than half of the fish I catch.	96	16%	10	18%
I release all or nearly all of the fish I catch.	334	56%	15	27%

A majority of both white (66%) and Hispanic (74%) respondents reported being satisfied with their overall fishing experiences in Colorado (Table 36). Many more Hispanic respondents (63%) reported that they thought their fishing effort would increase in 2012, over white respondents (42%; Table 37). Both groups would like to see an increase in opportunity for rainbow trout, brown trout, cutthroat trout and lake trout (Table 38).

Changes in the racial diversity of Colorado residents is likely to affect the types of fishing experiences desired by license purchasers. White and Hispanic anglers prefer similar species to target and locations in which to fish, but Hispanic anglers are less likely to travel far from home to fish for those species. They are also less likely to be fly anglers, instead preferring bait and lures. Hispanics are more likely to fish from shore, rather than by wading or in a boat. The biggest difference between white and Hispanic anglers is the likelihood of keeping their catch. Hispanic anglers are much more likely to keep their catch, which may lead to increased harvest pressure on stocked and wild trout stocks in Colorado in the future. In addition, Hispanic anglers anticipate spending more time fishing in the future, though they desire increased opportunity for the same set of species as white anglers. This fact, combined with the larger portion of the population that will be made up of Hispanics, may significantly alter the number of fish harvested in Colorado.

Table 36. Overall satisfaction with fishing experiences in Colorado in 2011 by white and Hispanic respondents ($n_{\text{white}}= 596$; $n_{\text{Hispanic}}= 57$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Very satisfied	204	34%	21	37%
Somewhat satisfied	192	32%	21	37%
Neither satisfied, nor unsatisfied	78	13%	5	9%
Somewhat unsatisfied	58	10%	3	5%
Very unsatisfied	43	7%	6	11%
Not sure	3	1%	0	0%
No opinion	18	3%	1	2%

Table 37. Anticipated change in fishing participation in 2012 in Colorado by white and Hispanic respondents ($n_{\text{white}}= 605$; $n_{\text{Hispanic}}= 57$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Increase greatly	46	8%	16	28%
Increase somewhat	208	34%	20	35%
Stay the same	280	46%	17	30%
Decrease somewhat	40	7%	3	5%
Decrease greatly	31	5%	1	2%

Table 38. Species for which respondents desire more opportunity in the future, as reported by white and Hispanic respondents ($n_{\text{white}}=1667$; $n_{\text{Hispanic}}=185$).

	White, non-Hispanic		Hispanic/Latino	
	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	115	7%	15	8%
Channel, flathead or blue catfish	54	3%	10	5%
Wiper, white or striped bass	50	3%	8	4%
Walleye or sauger	110	7%	9	5%
Bluegill or sunfish	32	2%	4	2%
Yellow perch	35	2%	5	3%
Crappie	54	3%	3	2%
Brown trout	253	15%	27	15%
Cutthroat trout	242	15%	19	10%
Lake trout	135	8%	20	11%
Rainbow trout	291	17%	32	17%
Kokanee	93	6%	11	6%
Northern pike or tiger musky	73	4%	8	4%
Carp	6	0%	1	1%
Other species	24	1%	4	2%
No preferred species	100	6%	9	5%

Increasing Migration to Colorado

Colorado has attracted migrants from other states for many years, and that trend is predicted to continue over the coming 10-20 years. The states from which the largest proportion of new Colorado residents move are California, Texas and Arizona (Table 18). Looking at patterns in angling behavior in residents of these states that already come to Colorado to fish may give some insights into changing demand based on these predicted demographic changes. Because the majority of non-resident license purchasers travel to Colorado to fish only on vacation, some of the comparisons made with the age and racial change groups are not useful with residents of other states. Thus, comparisons will be limited to preferences and other characteristics that are likely to continue if individuals were to relocate to Colorado. Sample sizes are small in the immigrant groups reported, so care should be taken in generalizing to the population level.

California, Texas and Arizona residents who come to Colorado to fish are very similar to current Colorado residents in their preferences for locations, species and methods of angling. California, Texas and Arizona residents prefer to fish in lakes and reservoirs in the mountains and smaller streams and rivers in the mountains (Table 39) and the most often fish for rainbow trout, brown trout and cutthroat trout (Table 40). Californians most often use lures, flies and

artificial bait to fish in Colorado, while Texans prefer flies, artificial and live bait (Table 41). Arizonans use flies, artificial bait and lures most often. Residents of all 3 states fish most often from shore or the bank (Table 42) and release nearly all of the fish they catch (Table 43). A majority of residents of all 3 states are satisfied with their fishing experience in Colorado (Table 44). Californians and Texans who visited Colorado are more likely to desire an increase in fishing opportunity for brown trout, rainbow trout, cutthroat trout and walleye, while Arizonans desired an increase in rainbow trout, cutthroat trout, brown trout and lake trout (Table 45).

If residents from California, Texas and Arizona move to Colorado and continue to purchase fishing licenses and fish as residents, they are likely to desire many of the same experiences as current Colorado residents desire. There may be a slight increase in demand for warm-water game fish such as walleye, but this is likely to be overshadowed by desire for cold-water species found more commonly in Colorado. This type of in-migration to Colorado is unlikely to change demand for species or access in an appreciable way.

Table 39. Types of water most often fished in Colorado by California, Texas and Arizona resident respondents ($n_{CA}= 57$; $n_{TX}= 93$; $n_{AZ}= 37$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Lakes or rivers at low elevations	9	16%	12	13%	3	8%
Lakes or reservoirs in the mountains	23	40%	32	34%	11	30%
Large rivers	4	7%	12	13%	4	11%
Smaller rivers or streams at low elevations	2	4%	6	7%	3	8%
Smaller rivers or streams in the mountains	14	25%	28	30%	13	35%
Farm, irrigation or other small ponds	1	2%	0	0%	1	3%

Table 40. Species fished for in Colorado in 2011 by California, Texas and Arizona resident respondents ($n_{CA}= 189$; $n_{TX}= 255$; $n_{AZ}= 99$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	12	6%	10	4%	4	4%
Channel, flathead or blue catfish	5	3%	2	1%	1	1%
Wiper, white or striped bass	6	3%	3	1%	0	0%
Walleye or sauger	9	5%	5	2%	6	6%
Bluegill or sunfish	7	4%	3	1%	0	0%
Yellow perch	2	1%	3	1%	2	2%
Crappie	5	3%	2	1%	0	0%
Brown trout	30	16%	64	25%	22	22%
Cutthroat trout	22	12%	44	17%	13	13%
Lake trout	19	10%	22	9%	8	8%
Rainbow trout	48	25%	77	30%	29	29%
Kokanee	6	3%	7	3%	2	2%
Northern pike or tiger musky	2	1%	4	2%	5	5%
Carp	2	1%	1	0%	0	0%
Other species	6	3%	2	1%	5	5%
No preferred species	8	4%	6	2%	2	2%

Table 41. Methods of fishing most often used in Colorado by California, Texas and Arizona resident respondents ($n_{CA}= 57$; $n_{TX}= 93$; $n_{AZ}= 37$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Lures	18	32%	12	13%	8	22%
Flies	13	23%	42	45%	16	43%
Live bait	12	21%	17	18%	8	22%
Artificial bait	9	16%	17	18%	2	5%
Snagging	0	0%	0	0%	1	3%
Spearfishing	0	0%	0	0%	0	0%
Archery	0	0%	0	0%	0	0%

Table 42. Ways of fishing most often used in Colorado by California, Texas and Arizona resident respondents ($n_{CA}= 93$; $n_{TX}= 156$; $n_{AZ}= 57$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
From shore or the bank	48	52%	70	45%	23	40%
From a pier or dock	8	9%	7	4%	2	4%
By wading	17	18%	49	31%	19	33%
In a motorized boat or other watercraft	13	14%	18	12%	7	12%
In a non-motorized boat or other watercraft	7	8%	12	8%	6	11%

Table 43. Proportion of fish caught that are kept by California, Texas and Arizona resident respondents ($n_{CA}= 57$; $n_{TX}= 93$; $n_{AZ}= 37$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I keep all or most of the fish I catch.	11	19%	10	11%	3	8%
I release less than half of the fish I catch.	10	18%	11	12%	5	14%
I release more than half of the fish I catch.	9	16%	18	19%	5	14%
I release all or nearly all of the fish I catch.	25	44%	52	56%	21	57%

Table 44. Overall satisfaction with fishing experiences in Colorado in 2011 by California, Texas and Arizona resident respondents ($n_{CA}= 57$; $n_{TX}= 93$; $n_{AZ}= 37$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Very satisfied	17	30%	39	42%	12	32%
Somewhat satisfied	21	37%	29	31%	12	32%
Neither satisfied, nor unsatisfied	7	12%	10	11%	2	5%
Somewhat unsatisfied	4	7%	8	9%	6	16%
Very unsatisfied	5	9%	4	4%	2	5%
Not sure	0	0%	0	0%	1	3%
No opinion	1	2%	1	1%	0	0%

Table 45. Species for which respondents desire more opportunity in the future, as reported by California, Texas and Arizona resident respondents ($n_{CA}=164$; $n_{TX}=224$; $n_{AZ}= 81$).

	California		Texas		Arizona	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Large or smallmouth bass	11	7%	8	4%	3	4%
Channel, flathead or blue catfish	7	4%	3	1%	2	2%
Wiper, white or striped bass	7	4%	4	2%	3	4%
Walleye or sauger	13	8%	7	3%	9	11%
Bluegill or sunfish	4	2%	2	1%	2	2%
Yellow perch	5	3%	1	0%	1	1%
Crappie	5	3%	4	2%	3	4%
Brown trout	24	15%	45	20%	12	15%
Cutthroat trout	19	12%	44	20%	12	15%
Lake trout	13	8%	18	8%	7	9%
Rainbow trout	25	15%	55	25%	17	21%
Kokanee	13	8%	11	5%	2	2%
Northern pike or tiger musky	7	4%	6	3%	2	2%
Carp	1	1%	0	0%	0	0%
Other species	1	1%	3	1%	2	2%
No preferred species	9	5%	13	6%	4	5%

Appendix A. Angler Survey Instrument with percentage responses for all resident and non-resident respondents.



COLORADO PARKS & WILDLIFE

6060 Broadway • Denver, Colorado 80216
Phone (303) 297-1192 • FAX (303) 291-7109
wildlife.state.co.us • parks.state.co.us

**Colorado Angler Survey
RESULTS SUMMARY**



THANK YOU FOR YOUR COOPERATION!

All of your responses will be kept confidential.

Please return this survey in the postage-paid return envelope provided.

STATE OF COLORADO

John W. Hickenlooper, Governor • Mike King, Executive Director, Department of Natural Resources

Rick D. Cables, Director, Colorado Parks and Wildlife

Parks and Wildlife Commission: David R. Brougham • Gary Butterworth, Vice-Chair • Chris Castilian
Dorothea Farris • Tim Glenn, Chair • Allan Jones • Bill Kane • Gaspar Perricone • Jim Pribyl • John Singletary
Mark Smith, Secretary • Robert Streeter • Lenna Watson • Dean Wingfield

Ex Officio Members: Mike King and John Salazar

Colorado Angler Survey

This questionnaire is part of a study to help fisheries managers learn what anglers think about their experiences fishing in Colorado. This survey is your chance to tell Colorado Parks and Wildlife (CPW) how and where you fish and how you would like to see Colorado's fisheries managed. Results of this study will be used to help managers provide the type of fishing experience you seek while sustaining Colorado's sport fish populations. Your views are important and give us a better understanding of how anglers feel about these issues. Please keep in mind that we are interested in everyone's responses, not just frequent anglers or those from a certain area of the state.

You are part of a random sample of Colorado fishing license purchasers we have selected to provide opinions about our fishery management. Your input is crucial for this evaluation. Even if you do not fish regularly, we still need to hear from you. Please complete this survey as soon as possible. When you are finished, please return it in the postage-paid envelope provided, **no later than May 18, 2012**. The survey should take about 20 minutes to complete. The final question provides you with an opportunity to share with us any additional comments you may have about fishing in Colorado.

Your responses will remain confidential and at no time will your name be associated with any of your responses.

If you have any questions or comments about this study, please contact Stacy Lischka at 303/291-7279 or by email at stacy.lischka@state.co.us.

THANK YOU FOR YOUR ASSISTANCE!

If you choose not to complete the questionnaire, please make a note in question 42 and return the survey in the postage-paid envelope included.

Your Fishing Activities in Colorado. Colorado Parks and Wildlife (CPW) fisheries managers are interested in learning how important fishing, lakes and rivers are to Coloradans. Please answer the following questions to tell us about your time fishing in Colorado.

1. Did you fish in Colorado in 2011? *(Please check one.)*

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
706	92%	570	95%	Yes
62	8%	28	5%	No

2. In how many of the last 5 years have you purchased a fishing license in Colorado? *(Please check one.)*

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
340	45%	303	51%	Each of the last 5 years
70	9%	60	10%	4 of the last 5 years
215	28%	157	27%	2 or 3 of the last 5 years
120	16%	71	12%	Once in the last 5 years
13	2%	1	0%	Never

3. Which of the following types of fishing licenses did you purchase in Colorado in 2011? *(Check all that apply.)*

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
391	47%	50	8%	Annual, resident fishing license
106	13%	13	2%	One day, resident fishing license
39	5%	3	0%	Senior, annual resident fishing license
81	10%	0	0%	Resident, combination small game hunting and fishing license
29	4%	504	76%	Annual, non-resident fishing license
183	22%	94	14%	Five day, non-resident fishing license

4. For how many years have you fished in Colorado? *(Please indicate.)*

Resident: $n = 738$, $\bar{x} = 20.1$ years, Range: 0-67 years

Non-resident: $n = 577$, $\bar{x} = 17.8$ years, Range: 0-85 years

5. Compared to your other recreational activities, how important to you is fishing? *(Please check one.)*

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
105	14%	117	20%	My most important recreational activity
276	37%	281	48%	One of my more important recreational activities
213	28%	140	24%	Equally important to my other recreational activities
136	18%	49	8%	Less important than my other recreational activities
24	3%	3	1%	Not at all important as a recreational activity

6. For approximately how many days did you fish in Colorado in 2011? (*Please indicate.*)

Resident: $n=727$, $\bar{x}=16.2$ days, Range:0-300 days

Non-resident, 5-day: $n=176$, $\bar{x}=4.8$ days, Range:0-30 days

Non-resident, annual: $n=588$, $\bar{x}=15.9$ days, Range:0-156 days

7. Approximately how many fishing trips did you take in Colorado in 2011? (*Please indicate.*)

Resident: $n=730$, $\bar{x}=7.9$ trips, Range:0-200 trips

Non-resident, 5-day: $n=173$, $\bar{x}=1.5$ trips, Range:0-6 trips

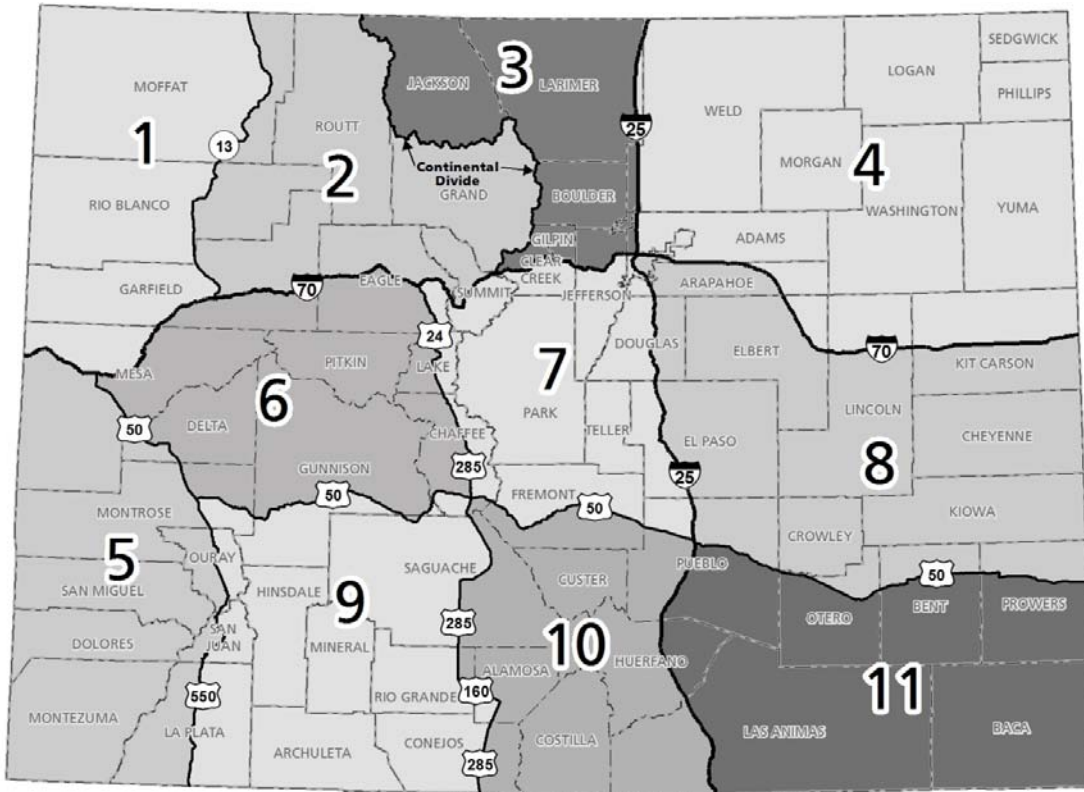
Non-resident, annual: $n=564$, $\bar{x}=7.0$ trips, Range:0-300 trips

8. On average, how far did you travel on each trip to go fishing in 2011 in Colorado? (*Please check one.*)

Resident: $n=715$, $\bar{x}=201.2$ miles, Range:0-2600 miles

Non-resident: $n=531$, $\bar{x}=350.1$ miles, Range:0-5000 miles

9. For how many days during 2011 did you fish in each of the following areas of the state? Please refer to the map below and fill in the blanks below the map.



	Resident			Non-resident		
	<i>n</i>	\bar{x}	Range	<i>n</i>	\bar{x}	Range
Days in Area 1	43	9.9	1-110	25	10.1	1-50
Days in Area 2	154	6.8	1-100	83	6.4	1-30
Days in Area 3	183	10.9	1-135	73	8.0	1-36
Days in Area 4	60	13.3	1-200	15	6.7	1-35
Days in Area 5	65	7.0	1-40	84	8.2	1-60
Days in Area 6	209	8.8	1-100	176	10.9	1-120
Days in Area 7	274	9.1	1-200	109	9.5	1-40
Days in Area 8	65	5.7	1-25	13	2.9	1-6
Days in Area 9	107	7.6	1-45	202	14.8	1-140
Days in Area 10	81	7.2	1-77	54	11.7	1-100
Days in Area 11	41	13.4	1-200	15	6.4	1-20

10. In the table below, please enter the names of the 3 Colorado bodies of water on which you fished the most days during 2011. Please also estimate the number of days you fished on that body of water, in total, in 2011. If you fished on fewer than 3 bodies of water in 2011, please leave any extra spaces blank.

Resident

Body of water (river, lake, reservoir, etc.) <i>3 most commonly identified</i>	Number of days fished				
	<i>n</i>	%	<i>n</i>	\bar{x}	Range
Arkansas River	51	4%	51	9.4	1-65
Eleven Mile Canyon Reservoir	43	3%	42	5.6	1-29
Platte River	35	3%	33	7.8	1-60

Non-Resident

Body of water (river, lake, reservoir, etc.) <i>3 most commonly identified</i>	Number of days fished				
	<i>n</i>	%	<i>n</i>	\bar{x}	Range
Gunnison River	54	5%	50	7.7	1-60
Rio Grande River	54	5%	49	10.5	1-55
Arkansas River	37	3%	33	7.7	1-38

11. Did you fish in a Colorado State Park during 2011? (*Please check one.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
267	35%	103	17%	Yes (1)
401	52%	414	70%	No (0)
100	13%	79	13%	I am not sure. (3)

12. Please list the Colorado State Park in which you fished for the most days in 2011.

Resident

State Park		
<i>3 most commonly identified</i>	<i>n</i>	<i>%</i>
Chatfield State Park	27	12%
Eleven Mile State Park	20	9%
Cherry Creek State Park	11	5%

Non-Resident

State Park		
<i>3 most commonly identified</i>	<i>n</i>	<i>%</i>
Eleven Mile State Park	10	11%
Ridgway State Park and Stagecoach State Park	4	4%
Chatfield State Park	3	3%

13. Have you ever used the Colorado Fishing Report (produced by CPW) to learn about current fishing conditions in Colorado? **n=1368**

Resident		Non-resident		
<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	
198	26%	105	18%	Yes
570	74%	493	82%	No
0	0	0	0	I am not sure.

14. Where do you most often see the Colorado Fishing Report? (*Please check one.*)

Resident		Non-resident		
<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	
71	24%	25	14%	In the Newspaper
12	4%	10	5%	In a hard copy from a CPW office or service center
126	42%	71	38%	On the CPW website
2	1%	1	1%	In an email to me from CPW
88	29%	78	42%	I am not sure

15. How useful to you is the Colorado Fishing Report? (*Please circle one.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
35	11%	24	11%	Very useful
139	44%	85	40%	Somewhat useful
23	7%	7	3%	Neither useful, nor not useful
18	6%	7	3%	Somewhat not useful
17	5%	5	2%	Very not useful
27	9%	18	9%	Not sure
60	19%	65	31%	No opinion

16. Which of the following species or groups of species did you fish for in Colorado in 2011? (*Check all that apply.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
133	6%	38	2%	Largemouth or smallmouth bass
63	3%	7	0%	Channel, flathead or blue catfish
51	2%	10	1%	Wiper, white or striped bass
100	4%	25	2%	Walleye or sauger
54	2%	11	1%	Bluegill or sunfish
47	2%	9	1%	Yellow perch
58	2%	11	1%	Crappie
429	17%	426	26%	Brown Trout
302	13%	304	18%	Cutthroat Trout
238	11%	126	8%	Lake Trout
609	26%	526	32%	Rainbow Trout
81	3%	64	4%	Kokanee
69	3%	24	1%	Northern pike or tiger musky
28	1%	3	0%	Carp
68	3%	31	2%	I did not fish for a specific species.
50	2%	37	2%	Other

17. On which of the following types of water did you fish in Colorado in 2011? (*Check all that apply.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
249	18%	83	8%	Lakes or reservoirs at low elevations
477	35%	324	30%	Lakes or reservoirs in the mountains
163	12%	168	16%	Large rivers (e.g. Arkansas River, South Platte River)
91	7%	81	8%	Smaller rivers or streams at low elevations
324	24%	378	35%	Smaller rivers or streams in the mountains
56	4%	29	3%	Farm, irrigation or other small ponds

18. Of the types of water you checked in question 17, on which of them did you spend the most time fishing on in Colorado in 2011? (*Please check only one.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
123	18%	35	6%	Lakes or reservoirs at low elevations
312	46%	159	29%	Lakes or reservoirs in the mountains
62	9%	85	16%	Large rivers (e.g. Arkansas River, South Platte River)
21	3%	29	5%	Smaller rivers or streams at low elevations
147	21%	232	43%	Smaller rivers or streams in the mountains
21	3%	5	1%	Farm, irrigation or other small ponds

19. Which of the following methods did you use to fish in Colorado in 2011? (*Check all that apply.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
446	29%	240	25%	Lures
389	26%	418	43%	Flies
356	23%	154	16%	Live bait
310	20%	157	16%	Artificial bait
12	1%	2	0%	Snagging
1	0%	1	0%	Spearfishing
1	0%	1	0%	Archery

20. Which of the methods you checked in question 19 did you fish with most often in Colorado in 2011? (*Please check only one.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
181	26%	90	16%	Lures
219	32%	326	59%	Flies
165	24%	75	14%	Live bait
119	17%	64	12%	Artificial bait
2	0%	0	0%	Snagging
0	0%	0	0%	Spearfishing
0	0%	0	0%	Archery

21. Which of the following ways did you fish in Colorado in 2011? (*Check all that apply.*)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
592	50%	399	41%	From shore or the bank
95	8%	35	4%	From a pier or dock
264	22%	353	36%	By wading
146	12%	95	10%	In a motorized boat or other watercraft
83	7%	96	10%	In a non-motorized boat or other watercraft

22. Approximately what percent of the fish you catch in Colorado do you release back into the water where they were caught? (Please check one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
104	14%	49	9%	None; I keep all or almost all of the fish I catch.
117	16%	74	13%	I release less than half of the fish I catch.
119	16%	92	16%	I release more than half of the fish I catch.
384	50%	356	62%	I release all or nearly all of the fish I catch.

23. For how many days did you go ice fishing in Colorado in 2011? If you did not go ice fishing, please enter zero. (Please indicate.)

Resident: $n=762$, $\bar{x}=0.7$ days, Range: 0-35 days

Non-resident: $n=590$, $\bar{x}=0.2$ days, Range:0-20 days

The Quality of Fishing in Colorado. Many people in Colorado fish, and desire different experiences when they do so. We are interested in learning about what type of fishing experience you are after and how well we provide those experiences now.

24. Overall, how satisfied were you with your fishing experience in Colorado? (Please circle only one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
241	33%	271	48%	Very satisfied
241	33%	184	32%	Somewhat satisfied
94	13%	31	6%	Neither satisfied, nor unsatisfied
71	10%	47	8%	Somewhat unsatisfied
57	8%	24	4%	Very unsatisfied
4	1%	3	1%	Not sure
23	3%	8	1%	No opinion

25. For which of the following species would you prefer to see more fishing opportunities in Colorado in the future? (Check all that apply.) **n=3477**

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
151	7%	46	3%	Largemouth or smallmouth bass
76	4%	14	1%	Channel, flathead or blue catfish
69	3%	11	1%	Wiper, white or striped bass
140	7%	46	4%	Walleye or sauger
43	2%	11	1%	Bluegill or sunfish
42	2%	7	0%	Yellow perch
67	3%	27	2%	Crappie
304	15%	315	27%	Brown Trout
283	14%	314	26%	Cutthroat Trout
171	8%	126	11%	Lake Trout
351	17%	342	3%	Rainbow Trout
112	6%	72	6%	Kokanee
92	5%	32	3%	Northern pike or tiger musky
10	0%	3	0%	Carp
0	0%	0	0%	Other
125	6%	64	6%	I am not sure.

26. How satisfied were you with each of the following aspects of your fishing experience in Colorado in 2011? *(Please check one for each item.)*

Resident

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor unsatisfied	Somewhat unsatisfied	Very unsatisfied	I am not sure.
a. The variety of fish you could fish for	706	31%	38%	18%	5%	2%	5%
b. The number of fish you caught	710	20%	34%	19%	16%	8%	3%
c. The size of fish you caught	698	13%	37%	25%	17%	5%	3%
d. The type of water available to you to fish	709	36%	35%	16%	7%	3%	3%
e. The availability of fly only waters	674	15%	21%	31%	5%	3%	25%
f. The availability of fly and lure only waters	688	14%	23%	32%	4%	3%	24%
g. The availability of waters where bait can be used	684	16%	26%	27%	9%	3%	18%
e. The availability of special regulation (harvest restricted) areas	684	12%	17%	36%	5%	4%	27%
f. The availability of stocked fish	693	13%	26%	32%	12%	4%	13%
g. The availability of wild fish	626	15%	36%	28%	15%	6%	0%
h. Your ability to eat the fish you caught	692	30%	29%	22%	6%	2%	11%
i. The complexity of fishing regulations	699	12%	20%	38%	13%	7%	10%

Non-Resident

	<i>n</i>	Very satisfied	Somewhat satisfied	Neither satisfied, nor unsatisfied	Somewhat unsatisfied	Very unsatisfied	I am not sure.
a. The variety of fish you could fish for	558	31%	38%	18%	5%	2%	5%
b. The number of fish you caught	560	32%	39%	12%	10%	6%	1%
c. The size of fish you caught	559	28%	38%	18%	10%	3%	2%
d. The type of water available to you to fish	557	46%	35%	10%	4%	3%	2%
e. The availability of fly only waters	528	26%	24%	23%	7%	2%	17%
f. The availability of fly and lure only waters	526	21%	24%	27%	5%	2%	23%
g. The availability of waters where bait can be used	518	20%	17%	29%	3%	3%	29%
e. The availability of special regulation (harvest restricted) areas	517	17%	18%	28%	4%	2%	31%
f. The availability of stocked fish	534	15%	29%	28%	8%	3%	17%
g. The availability of wild fish	475	25%	37%	24%	10%	4%	0%
h. Your ability to eat the fish you caught	533	38%	20%	23%	3%	1%	16%
i. The complexity of fishing regulations	540	15%	24%	34%	13%	4%	11%

27. How much of a problem was crowding from the following groups on your fishing trips in 2011? (Please check one for each item.)

Resident

	<i>n</i>	A large problem	Somewhat of a problem	A slight problem	Not a problem at all	I am not sure.
a. Other anglers	718	5%	17%	27%	49%	2%
b. Boaters who are not fishing	696	5%	14%	15%	58%	9%
c. Other recreationists that are not boating or fishing	702	3%	12%	16%	63%	7%

Non-Resident

	<i>n</i>	A large problem	Somewhat of a problem	A slight problem	Not a problem at all	I am not sure.
a. Other anglers	560	4%	15%	28%	51%	2%
b. Boaters who are not fishing	531	4%	6%	12%	68%	9%
c. Other recreationists that are not boating or fishing	539	2%	7%	17%	69%	6%

28. In comparison to the number of days you spent fishing in 2011, how do you think your fishing participation will change in 2012? (Please check only one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
74	10%	28	5%	Increase greatly
247	34%	166	29%	Increase somewhat
333	45%	319	55%	Stay the same
47	6%	31	5%	Decrease somewhat
36	5%	38	7%	Decrease greatly

29. If you feel that you will go fishing more often in 2012 than you did in 2011, please mark the reason why you think this will happen. (Please check only one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
118	35%	101	47%	I will have more leisure or vacation time.
22	7%	27	12%	I will be retired.
120	36%	39	18%	My family and friends would like to fish more often.
10	3%	10	5%	I have access to new fishing areas.
20	6%	12	6%	I have new fishing equipment to use.
48	14%	28	13%	Other

30. If you feel that you will go fishing less often in 2012, please mark the reason why you think this will happen. (Please check only one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
30	24%	26	28%	I will have less leisure or vacation time.
19	15%	8	9%	My work obligations will increase.
8	6%	7	8%	My family obligations will increase.
6	5%	3	3%	I have lost access to fishing areas.
8	6%	1	1%	I have lost interest in fishing.
4	3%	2	2%	I do not have anyone to fish with.
8	6%	8	9%	I am no longer healthy enough or physically able to fish.
43	34%	38	41%	Other

31. Have you been checked by a Wildlife Officer while fishing in Colorado in the past 5 years? (Please check one.) **n=1367**

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
330	43%	213	36%	Yes
437	57%	385	64%	No

32. If you have been checked by a Wildlife Officer while fishing in Colorado, in what setting were you fishing? (Please check all that apply.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
137	35%	49	21%	A Colorado State Park
73	19%	53	22%	A State Wildlife Area
128	33%	107	45%	Other public or private land
50	13%	30	13%	I am not sure

Background Information. The following questions will help us understand more about the people who fish in Colorado. All responses are confidential.

33. Are you a resident of Colorado? (Please check one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
541	71%	13	2%	Yes
226	29%	585	98%	No

34. For how many years have you lived in Colorado? (Please indicate.)

Resident: $n=550$, $\bar{x}=29.7$ years, Range: 0-81 years
Non-resident: $n=48$, $\bar{x}=7.9$ years, Range: 0-35 years

35. Are you male or female? (Please check one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
561	76%	511	88%	Male
182	24%	73	12%	Female

36. In what year were you born? (Please indicate.)

Resident: $n=736$, $\bar{x}=1962$, Range: 1920-1996
Non-resident: $n=574$, $\bar{x}=1953$, Range: 1921-1995

37. How would you describe your racial or ethnic background? (Please check one.)

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
620	86%	536	94%	White, non-Hispanic/Latino
58	8%	11	2%	Hispanic/Latino
3	0%	6	1%	Black or African American
4	1%	2	0%	American Indian or Native Alaskan
1	0%	18	3%	Native Hawaiian or other Pacific Islander
13	2%	0	0%	Asian
23	3%	0	0%	Other

38. In which U.S. state did you grow up? If you didn't grow up in the U.S., please indicate the country in which you grew up.

Resident

U.S. State or Country		
<i>3 most commonly identified</i>	<i>n</i>	<i>%</i>
Colorado	286	40%
Texas	53	7%
California	36	5%

Non-Resident

U.S. State or Country		
<i>3 most commonly identified</i>	<i>n</i>	<i>%</i>
Texas	107	18%
Colorado	50	8%
New Mexico	49	8%

39. If you have not lived in Colorado for your entire life, please tell us the last state or country that you lived in before moving to Colorado. If you have lived in Colorado your entire life, please leave this question blank.

Resident

U.S. State or Country		
<i>3 most commonly identified</i>		
	<i>n</i>	<i>%</i>
California	37	9%
Texas	33	8%
Arizona	20	5%

Non-Resident

U.S. State or Country		
<i>3 most commonly identified</i>		
	<i>n</i>	<i>%</i>
Texas	60	17%
New Mexico	28	8%
California	20	6%

40. How would you describe the area where you currently live? (*Please check one.*)

Resident		Non-resident		
<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	
66	9%	69	13%	Rural setting, on a farm/ranch
84	12%	66	12%	Rural setting, <u>not</u> on a farm/ranch
66	9%	43	8%	Rural subdivision
18	2%	30	5%	Within a village (Population less than 5,000)
113	16%	69	13%	Suburban area on the edge of a town or city
85	12%	61	11%	Within a small town (Population between 5,000 and 25,000)
109	15%	64	12%	Within an urban area (Population between 25,000 and 100,000)
180	25%	148	27%	Within a metropolitan area (Population more than 100,000)

41. What is your approximate annual household income? (*Please check one.*) **n=1164**

Resident		Non-resident		
<i>n</i>	%	<i>n</i>	%	
56	8%	19	4%	Less than \$20,000 per year
103	16%	45	9%	\$20,000 to \$39,999 per year
117	18%	67	14%	\$40,000 to \$59,999 per year
104	16%	76	15%	\$60,000 to \$79,999 per year
69	10%	57	11%	\$80,000 to \$99,999 per year
124	19%	88	18%	\$100,000 to \$149,999 per year
92	14%	146	29%	Over \$150,000 per year

42. Please use the space below to provide any additional comments you may have about fishing in Colorado.

THANK YOU FOR YOUR TIME AND ASSISTANCE!
Please return this survey in the postage-paid envelope provided.

Appendix B. Cover letter that accompanied first mailing of 2011 Colorado Angler Survey.

March 23, 2012

Dear Colorado angler,

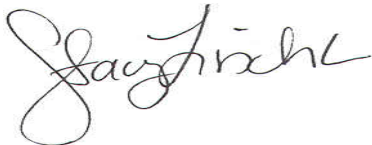
I am writing to ask for your help in a study of individuals who have purchased a Colorado fishing license. This study, conducted by Colorado Parks and Wildlife, is an effort to learn what you think about the fishing opportunities in Colorado. Results of this study will help fisheries managers provide the type of recreation anglers desire, while sustaining Colorado's sport fish populations.

You are part of a sample of fishing license purchasers we have selected to provide your opinions about your experiences in Colorado. Please take a few minutes to complete the enclosed questionnaire, even if you did not fish in Colorado recently. **Please complete and return this questionnaire as soon as possible, but no later than May 18, 2012.** Your responses are confidential and will not be associated with your name or address in published reports. While your response to this questionnaire and any of the questions is completely voluntary, you can help us effectively manage sport fish in Colorado by sharing your experiences and views. You may skip any questions you do not feel comfortable answering. We look forward to hearing from you soon.

If you have any questions or comments about this study, please contact me, Stacy Lischka, at (303) 291-7279 or email me at stacy.lischka@state.co.us.

Results of this study will be available at wildlife.state.co.us/Research/SocialScience/. You may find more information about Colorado Parks and Wildlife management programs and wildlife in Colorado at wildlife.state.co.us.

Sincerely,



Stacy A. Lischka
Human Dimensions Specialist
Colorado Parks and Wildlife

Appendix C. Cover letter that accompanied second mailing of the 2011 Colorado Angler Survey.

April 20, 2012

Dear Colorado angler,

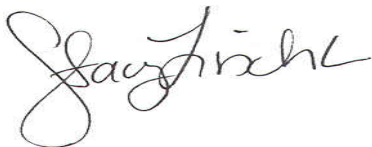
A few weeks ago, we sent you a questionnaire asking your opinions about your experiences fishing in Colorado. To the best of our knowledge, the questionnaire has not yet been returned. If this letter and your completed questionnaire have crossed in the mail, please accept our sincere thanks for your participation in this study.

Your views are crucially important, even if you do not fish often. The comments of people who have already responded show that they desire a variety of experiences fishing in Colorado. The results of this study will help Colorado Parks and Wildlife biologists make informed decisions about how to manage sport fish populations to benefit fish populations and recreationists.

If you have not already done so, please take a few minutes to complete the enclosed questionnaire. The enclosed questionnaire is a duplicate copy of the one you received earlier. **Please complete and return this questionnaire as soon as possible, but no later than May 18, 2012.** Your responses are completely confidential and will not be associated with your name or address in any printed reports. While your response to this questionnaire and any of the questions is completely voluntary, you can help us effectively manage sport fish in Colorado by sharing your experiences and views. You may skip any questions you do not feel comfortable answering. We look forward to hearing from you soon.

If you have any questions or comments about this study, please contact me, Stacy Lischka, at (303) 291-7279 or email me at stacy.lischka@state.co.us.

Sincerely,



Stacy A. Lischka
Human Dimensions Specialist
Colorado Parks and Wildlife

Appendix D. Cover letter that accompanied third mailing of the 2011 Colorado Angler Survey.

June 29, 2012

Dear Colorado angler,

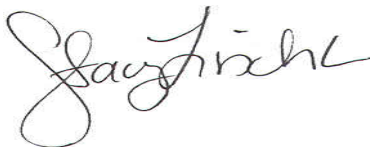
Over the past several months, we have mailed you several copies of a questionnaire asking your opinions about your experiences fishing in Colorado. To the best of our knowledge, the questionnaire has not yet been returned

We are sending this mailing because we are concerned that people who had not responded have different opinions about the use of state resources to manage fish and fishing opportunities than those who have responded. Your views are crucially important, even if you do not fish often. The results of this study will help Colorado Parks and Wildlife biologists determine how to best manage sport fish populations to benefit fish populations and recreationists.

We have enclosed an additional copy of the questionnaire in case you have misplaced the copy you received earlier. Your views are crucially important, regardless of how much you know about deer in your area. **Please take a few minutes to complete the questionnaire**, seal it in the postage-paid envelope provided, and drop in the mail. Your responses are completely confidential and will not be associated with your name or address in any printed reports. While your response to this questionnaire and any of the questions is completely voluntary, you can help us effectively manage sport fish in Colorado by sharing your experiences and views. You may skip any questions you do not feel comfortable answering. We look forward to hearing from you soon.

If you have any questions or comments about this study, please contact me, Stacy Lischka, at (303) 291-7279 or email me at stacy.lischka@state.co.us.

Sincerely,



Stacy A. Lischka
Human Dimensions Specialist
Colorado Parks and Wildlife

Appendix E. Non-respondent Survey for the 2011 Colorado Angler Survey.

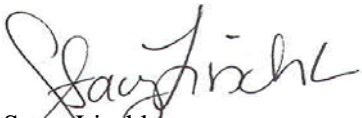
July 30, 2012

Recently you were mailed a questionnaire seeking your views about your fishing experiences in Colorado. Our response rate to this survey was lower than we needed to be meaningful. We would like to ask you a few questions so we can understand the nature of this non-response.

We are not asking you to fill out anything like the survey we previously sent you. Rather, we have attached a postage-paid, addressed postcard for you to fill out, detach, and drop in the mail. It should take no more than a minute or two to fill out the postcard. We would sincerely appreciate your taking the time to get this back to us soon, as it will provide valuable information for our study.

As before, your response to this is voluntary. Nevertheless, your input is important to ensuring fish managers have the very best information on which to base decisions. You may be assured of complete confidentiality. The postcard has an identification number for mailing purposes only. Your name will never be linked to your responses. Your cooperation is greatly appreciated. Thank you in advance for taking the time to help us in this matter.

Sincerely,



Stacy Lischka
Human Dimensions Specialist
Colorado Parks and Wildlife

↓ Tear here and return the bottom half. ↓



Colorado Parks and Wildlife
Public Involvement Unit
6060 Broadway
Denver, CO 80216

DIVISION OF CENTRAL
SERVICES
1001 E 62nd Ave
DENVER, CO 80216-9914



Colorado Parks and Wildlife
Public Involvement Unit
6060 Broadway
Denver, CO 80216

1. Did you fish in Colorado in 2011? (*Please check one.*) **n=132**

- 89% Yes
- 11% No (*Please skip to question 4.*)

2. Which of the following species or groups of species did you fish for in Colorado in 2011? (*Check all that apply.*) **n=323**

- 6% Largemouth or smallmouth bass
- 1% Channel, flathead or blue catfish
- 2% Wiper, white or striped bass
- 3% Walleye or sauger
- 2% Bluegill or sunfish
- 1% Yellow perch
- 2% Crappie
- 19% Brown Trout
- 15% Cutthroat Trout
- 8% Lake Trout
- 30% Rainbow Trout
- 3% Kokanee
- 1% Northern pike or tiger musky
- 1% Carp
- 5% I did not fish for a specific species.

3. On which of types of water did you fish in Colorado in 2011? (*Check all that apply.*) **n=240**

- 21% Lakes or reservoirs at low elevations
- 30% Lakes or reservoirs in the mountains
- 10% Large rivers (e.g. Arkansas River, South Platte River)
- 8% Smaller rivers or streams at low elevations
- 28% Smaller rivers or streams in the mountains
- 4% Farm, irrigation or other small ponds

4. How would you describe your racial or ethnic background? (*Please check one.*) **n=127**

- 84% White, non-Hispanic/Latino
- 10% Hispanic/Latino
- 1% Black or African American
- 1% American Indian or Native Alaskan
- 1% Native Hawaiian or Pacific Islander
- 1% Asian
- 2% Other (*Please indicate.*_____)

5. In what year were you born? **n=131**

Mean = 1967, Range = 1936-1995

6. Are you male or female? **n=131**

- 72% Male
- 28% Female