

# Statewide Fisheries Assessments and Surveys

Federal Aid Project F-86-R-32



Federal Aid in Fish and Wildlife Restoration

Job Progress Report

Colorado Parks & Wildlife

Aquatic Research Section

Fort Collins, Colorado

August 2019

**STATE OF COLORADO**

Jared Polis, Governor

**COLORADO DEPARTMENT OF NATURAL RESOURCES**

Dan Gibbs, Executive Director

**COLORADO PARKS & WILDLIFE**

Dan Prenzlow, Director

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Date: \_\_\_\_\_

8/22/19

## ANNUAL PERFORMANCE REPORT

**State:** COLORADO

**Project#:** F-86-R-32

**Project Title:** Statewide Fisheries Inventory and Surveys

**Period Covered:** *January 1, 2018 – December 31, 2018*

**Project Objective:**

To conduct monitoring and creel surveys on recreational fisheries to track fish population status and angler use on lakes and streams across Colorado.

**Relationship with Other Grants:**

This project is strongly tied to Federal Aid Grant F-239 – Aquatic Data Analysis. While the F-86 grant provides the funding for the fieldwork and data entry to be completed (sportfish only), the data collected from those and other efforts are stored in CPW's aquatic data management system (ADAMAS) and covered under the F-239 grant. The statistics for this report are generated from data stored within the ADAMAS database. Additional sources of data (aquatic species conservation surveys, aquatic research data and scientific collection permit data) are also held in ADAMAS, but are not included in this report.

**Job No. 1. Statewide Stream and lake inventory and data collection**

Inventory fish populations on selected public lakes and streams. Compilation of this data allows Colorado Parks and Wildlife (CPW) to assess and evaluate the success of fisheries management activities including fish stocking, special regulations and fish removal on selected lakes and streams.

**Job Objective:** The development, implementation, and evaluation of management strategies for those fish populations and waters managed to provide recreational sport fishing, or those waters having the potential for enhancement based on an evaluation of results of inventory and data collection.

**Need:** Management of the state's vast aquatic resources requires standardized data collection and analysis procedures, as well as a centralized data source that is easily accessible to biologists, managers, and researchers.

**Specific Objectives:**

1. Gather population and biomass estimates of recreational fish species by conducting backpack, barge and shore-based electrofishing surveys on select stream reaches
2. Collect vital population statistics of recreational fish species using Catch Per Unit Effort surveys (involving boat electrofishing, gill nets, and trap nets) on select lakes and reservoirs

**Approach:**

Action #1- Maintain current and accurate data from aquatic biological surveys statewide

- Level 1 Action Category – Data Collection and Analysis
- Level 2 Action Strategy – Research, Survey or monitoring-fish & wildlife populations
- Level 3 Action Activity – N/A

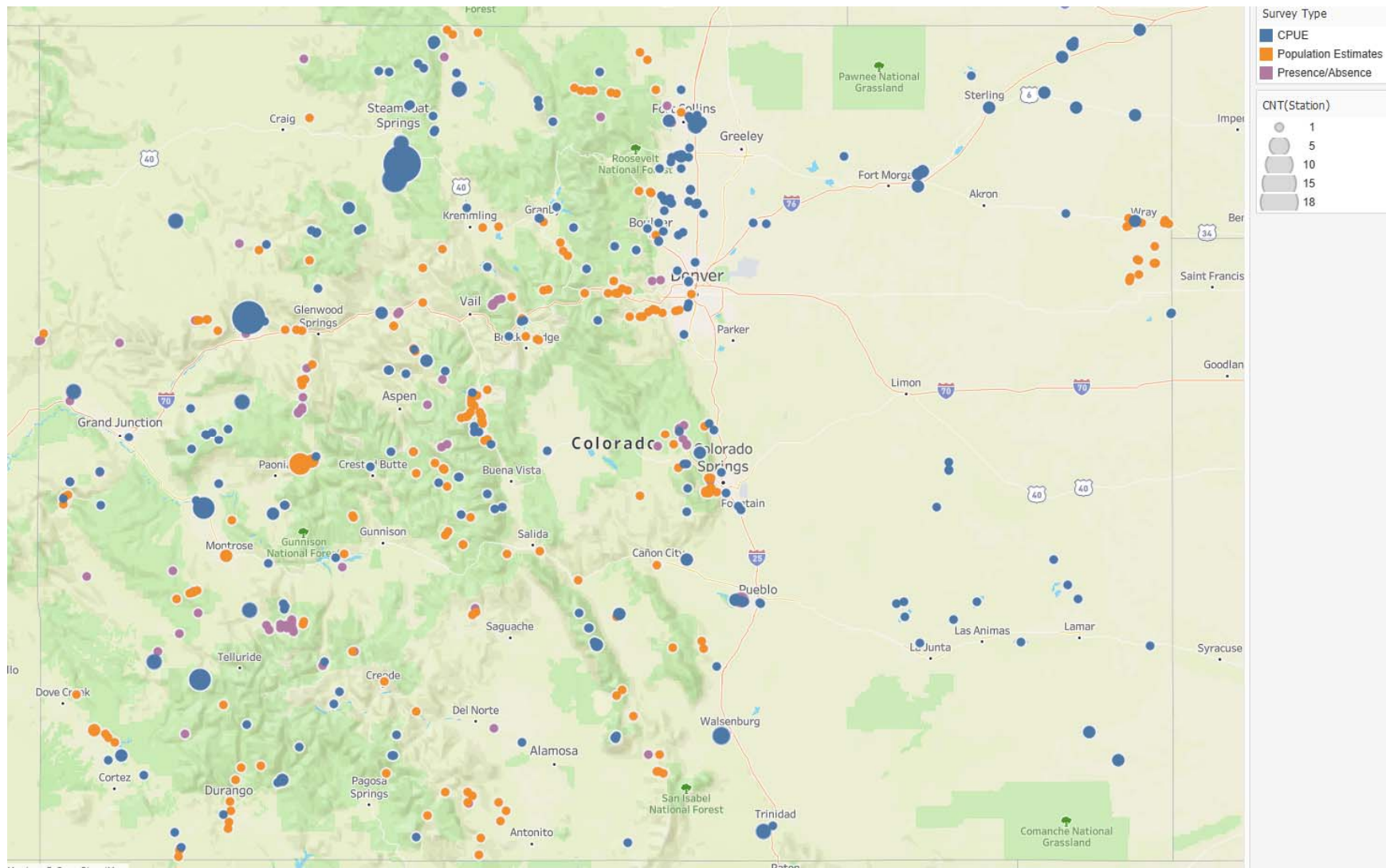
A total of 667 surveys were conducted on 218 lakes and 154 stream segments during the grant period. A breakdown of these surveys by region and water type is provided in Table 1. A total of 148,645 fish were enumerated and 116,188 were individually measured in these surveys. These surveys can be divided into three general categories; 32% generated a population estimate for at least some of the species captured in the survey, 53% provided a Catch Per Unit Effort (CPUE) index and 13% just looked at what species were present at the specific site (two percent of surveys were defined as ‘other’). A spatial summary of this work is provided in Figures 1 and 2. This level of effort is on par with that which has been performed in previous years in Colorado (Table 2).

**Table 1.** Breakdown by region of fisheries surveys conducted by CPW in 2018.

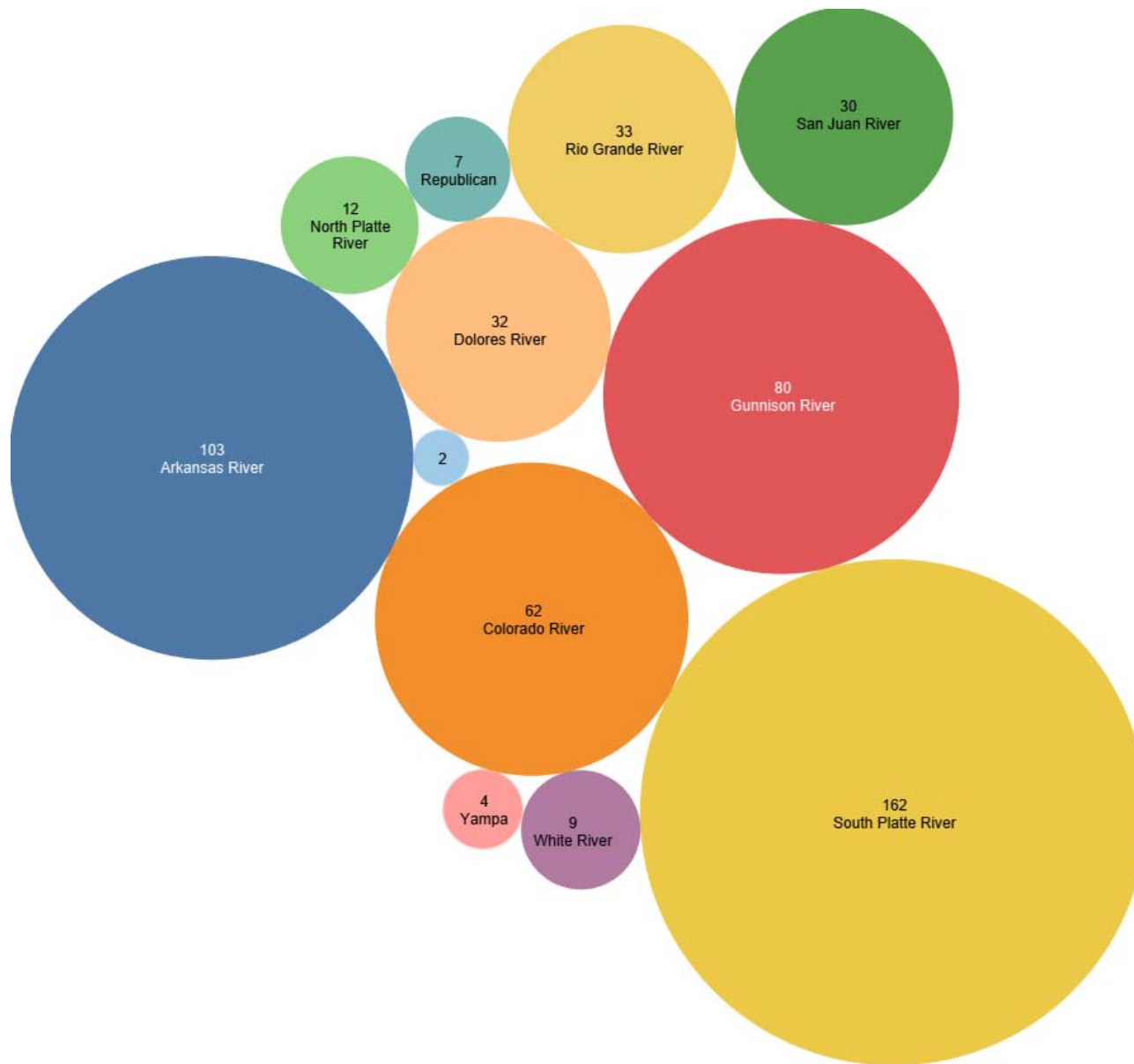
<b>Year</b>	<b>Region</b>	<b>WaterType</b>	<b>#Surveys</b>	<b>#Creels</b>
2018	Northeast	Lake	114	2
2018	Northeast	Stream	86	1
2018	Northwest	Ditch	1	
2018	Northwest	Lake	88	
2018	Northwest	Stream	79	
2018	Southeast	Lake	61	
2018	Southeast	Stream	52	
2018	Southwest	Ditch	1	
2018	Southwest	Lake	61	
2018	Southwest	Stream	124	1

**Table 2.** Comparison of fisheries assessment effort by CPW in recent years.

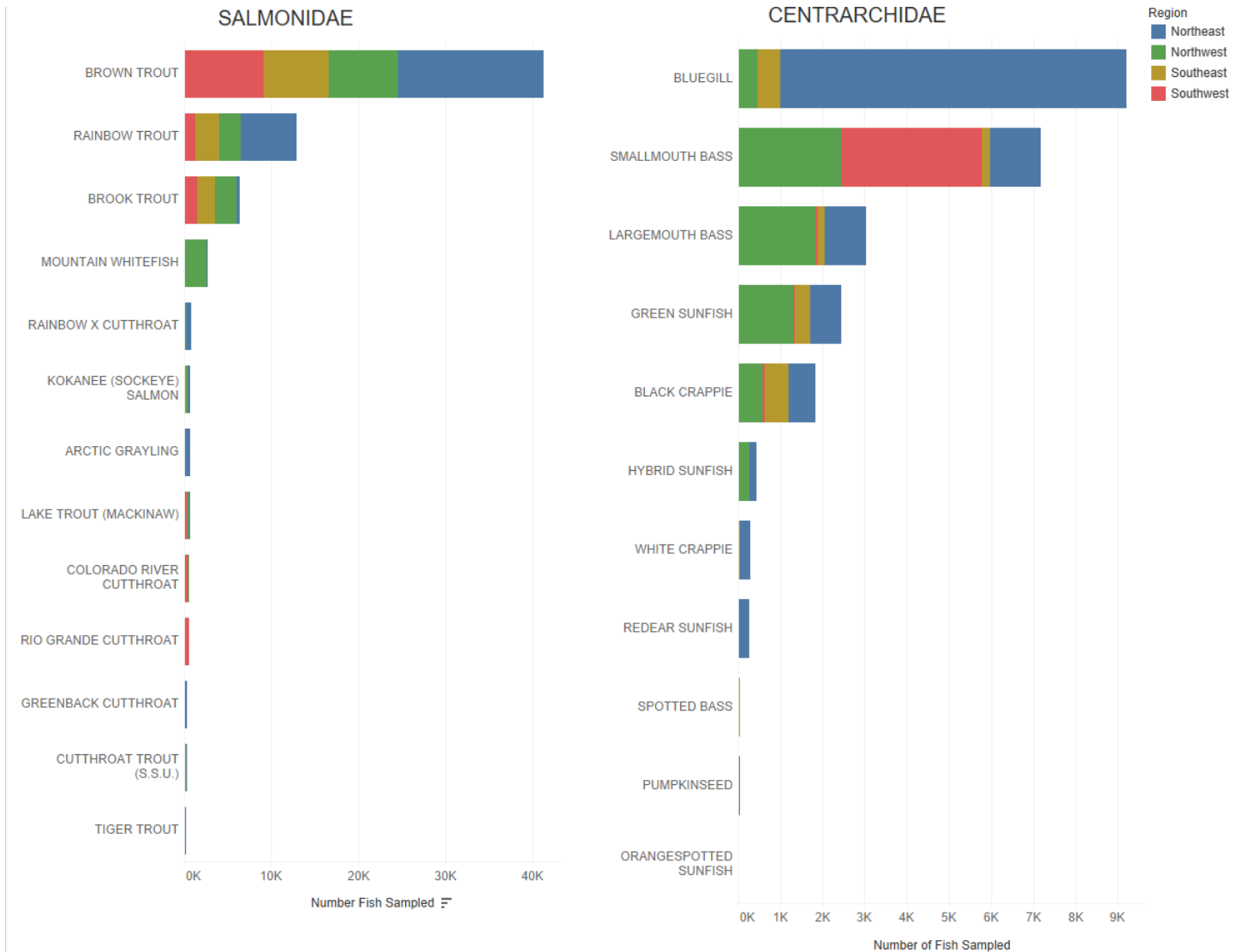
<b>Year</b>	<b>#Surveys</b>	<b>#Fish Enumerated</b>	<b>#Creels</b>
2012	598	123,433	19
2013	625	150,012	22
2014	638	114,062	4
2015	611	137,713	10
2016	578	130,205	4
2017	593	124,953	8
2018	667	148,548	4



**Figure 1.** Location and type of surveys conducted by CPW biologists in 2018. A summary of catch for the two most popular recreational sport fish families is provided in Figure 3.



**Figure 2.** Number of surveys conducted by CPW staff in 2018 by drainage basin. Note the light blue bubble without a drainage basin specified is for the Cimmaron River.



**Figure 3.** Catch of fish from the two most popular recreational sportfish families during 2018 CPW fisheries assessment surveys.

Fisheries data from across the state is maintained by the collecting biologist within each of the regional CPW offices, but is also submitted to the centralized Aquatic Data Management System (ADAMAS), managed by the Aquatic Research Section of CPW in Fort Collins, CO. This data is integrated with data from the aquatic species conservation program, the aquatic research program, CPW’s water quality program, as well as data submitted from external scientific collection permit holders.

CPW explains the rationale for conducting fishery surveys and publishes results of these surveys on our website:

<http://cpw.state.co.us/thingstodo/Pages/FisheryManagementSurveys.aspx>

**Job No. 2. Angler harvest and effort statistics (Creel)**

Survey anglers at select lakes and streams across Colorado. Obtain counts of shore fisherman and boat fisherman, counts and measurements of fish species harvested and estimates of those released. Conduct interviews with anglers to find out how long they fished, what they were fishing with, what their preferred species is, and what level of satisfaction they would assign to their trip.

**Job Objective:** Estimate angler effort and harvest

**Need:** Historic trends and current status of fish populations only provide half of the information needed to effectively manage recreational fisheries in Colorado. Accurate estimates of angler harvest and effort are needed to ensure both sustainable fisheries and satisfied anglers.

**Specific Objectives:**

1. Efficient and accurate estimation of angler harvest and effort on select lakes and rivers across Colorado.
2. Collection of information on angler demographics and preferred species being targeted by different

**Approach:**

Action #1- Maintain current and accurate data from aquatic biological surveys statewide

- Level 1 Action Category – Data Collection and Analysis
- Level 2 Action Strategy – Research, Survey or monitoring-fish & wildlife populations
- Level 3 Action Activity – N/A

Budget cutbacks in 2015 reduced the number of creel surveys that CPW performs across the state. Five creels were conducted in 2018; three stream surveys and two lake/reservoir surveys. A summary of creel effort across the state over the past seven years is provided in Table 3. A breakdown of where the creel surveys were conducted in 2018 is provided in Table 4.

**Table 3.** Summary of creel survey effort in Colorado

<u>Year</u>	<u>#Creels</u>
2012	19
2013	22
2014	4
2015	10
2016	4
2017	8
2018	5



**Table 4.** Waters on which creel surveys were performed by CPW in 2018

<b>Year</b>	<b>WaterType</b>	<b>WaterCode</b>	<b>WaterName</b>
2018	Lake	53328	North Sterling Reservoir
2018	Lake	53037	Jackson Reservoir
2018	River		Cache La Poudre River (3 reaches)
2018	River		Piedra River (all reaches) <sup>2</sup>
2018	River		Fraser River

<sup>1</sup> standard creel

<sup>2</sup> voluntary creel card

<sup>3</sup> Passive Creel

Creel data is currently analyzed using an aging software package (C-SAP) programmed by CPW, as well as Computer Science and Statistics staff at Colorado State University. Individual creel surveys are housed on the area biologist's computers, scattered across the state. A project to develop a new centralized creel data storage and analysis program is currently in testing and should be deployed in the coming year. This new software will improve CPW's ability to analyze current and historic trends in fisheries usage.

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**APPENDIX 1. CPW AQUATIC SENIOR AND AREA BIOLOGISTS:**

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ATKINSON, Billy (Area 10 Mgmt. Biologist)	Upper Yampa River drainage	(970) 871-2868 (Office) (970) 871-2853 (FAX) (970) 846-9381 (Cell)	Steamboat Springs SC 925 Weiss Dr. Steamboat Sprgs. 80477
BAKICH, Kendall (Area 8 Mgmt. Biologist)	Eagle, Roaring Fork, Fryingpan, and middle Colorado river drainages	(970) 947-2924 (Office) (970) 947-2936 (FAX) (970) 355-4771 (Cell)	Glenwood Springs SC 0088 Wildlife Way Glenwood Spgs. 81601
EWERT, Jon (Area 9 Mgmt. Biologist)	Upper Colorado and Blue river drainages	(970) 725-6214 (Office) (970) 725-6217 (FAX) (970) 509-9150 (Cell)	Hot Sulphur Springs SC 346 Grand Co. Rd. 362 Hot Sulphur Spgs. 80451
EYRE, Tory (Area 6 Mgmt. Biologist)	Lower Yampa, White, and Green river drainages	(970) 878-6074 (Office) (970) 878-6077 (FAX) (970) 942-3053 (Cell)	Meeker SC 73485 Hwy.64 Meeker 81641
FELT, Ben (Area 7 Mgmt. Biologist)	Lower Colorado & Gunnison R. drainages; Grand Mesa (Grand Cnty)	(970) 255-6126 (Office) (970) 255-6111 (FAX) (970) 778-2481 (Cell)	Grand Junction Office 711 Independent Ave. Grand Junction 81505
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RAMSAY, Jim (Area 12 Mgmt. Biologist)	Lower Arkansas	(719) 336-6607 (Office) (719) 336-6623 (FAX) (719) 940-0263 (Cell)	Lamar Service Center 2500 S. Main St. Lamar, CO 81052
NOBLE, Cory (Area 14 Mgmt. Biologist)	Upper Ark, Front Range & Plains	(719) 227-5222 (Office) (719) 227-5297 (FAX) (719) 396-4235 (Cell)	Colorado Springs SC 4255 Sinton Rd. Colorado Springs, CO 80907
TUCKER, Carrie (Area 11 Mgmt. Biologist)	Middle Ark, Huerfano, Purgatoire	(719) 561-5312 (Office) (719) 561-5321 (FAX) (719) 940-6352 (Cell)	Pueblo Service Center 600 Reservoir Rd. Pueblo, CO 81005
ATWOOD, Michael (Area 13 Mgmt. Biologist)	Upper Arkansas Headwaters	(719) 530-5525 (Office) (719) 530-5554 (FAX) (719) 539-5805 (Cell)	Salida Service Center 7405 Hwy 50 Salida, CO 81201
FOUTZ, Paul (Region Native Species Biologist)	SE Region (Areas 11-14)	(719) 227-5217 (Office) (719) 227-5297 (FAX) (719) 482-5697 (Cell)	Colorado Springs SC 4255 Sinton Rd. Colorado Springs, CO 80907

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NAME	AREA	TELEPHONE / FAX	ADDRESS
WINKLE, Paul (Area 5 Mgmt. Biologist)	All aquatic resources in Denver area including Clear Creek and Bear Creek drainages.	(303) 291-7232 (Office) (303) 291-7114 (FAX) (303) 916-1043 (Cell)	Denver Headquarters 6060 Broadway Denver, CO 80216
SWARR, Tyler (Area 1 Mgmt. Biologist)	All aquatic resources in South Platte River drainage from Park County downstream to Chatfield Reservoir including the North Fork of the South Platte River drainage.	(303) 838-5305 (Office) (303) 291-7114 (FAX) (303) 981-3634 (Cell)	Denver Headquarters 6060 Broadway Denver, CO 80216
SWIGLE, Ben (Area 2 Mgmt. Biologist)	All aquatic resources in the St. Vrain, Big Thompson and Boulder Creek Drainages.	(970) 472-4364 (970) 472-4458 (FAX) (970) 227-4892 (Cell)	Northeast Service Center 317 West Prospect Ft. Collins, CO 80526
BRANDT, Mandi (Area 3 Mgmt. Biologist)	All aquatic resources in lower South Platte drainage and the North Fork of the Republican River, including waters in CPW Area 3.	(970) 842-6330 (Office) (970) 842-6329 (FAX) (970) 768-9649 (Cell)	Brush Service Center 122 East Edison Brush, CO 80723
BATTIGE, Kyle (Area 4,10 Mgmt. Biologist)	All aquatic resources- North Platte, Poudre and Laramie River Drainages.	(970) 472-4396 (Office) (970) 472-4457 (FAX) (970) 217-9513 (Cell)	Northeast Service Center 317 West Prospect Ft. Collins, CO 80526
WRIGHT, Boyd (Region Native Species Biologist)	NE Region (Areas 1-5)	(970) 472-4366 (office) (970) 472-4458 (FAX) (970) 261-4366 (Cell)	Northeast Service Center 317 West Prospect Ft. Collins, CO 80526

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VIGIL, Estevan (Area 17 Mgmt. Biologist)	Rio Grande River	(719) 587-6908 (Office) (719) 587-6934 (FAX) 719-588-3204 (CELL)	Monte Vista Service Center 0722 S. Road 1E Monte Vista, CO 81144
BRAUCH, Dan (Area 16 Mgmt. Biologist)	Upper Gunnison River	(970) 641-7070 (Office) (970) 641-7883 (FAX) 970-497-9722 (CELL)	Gunnison Service Center 300 W. New York Ave. Gunnison, CO 81230
WHITE, Jim (Area 15 Mgmt. Biologist)	San Juan Basin, Upper Dolores River Basin	(970) 375-6712 (Office) (970) 382-6672 (FAX) 970-903-1073 (CELL)	Durango Service Center 151 E. 16 <sup>th</sup> St. Durango, CO 81301
GARDUNIO, Eric (Area 18 Mgmt. Biologist)	Lower Gunnison, Uncompahgre, San Miguel, Lower Dolores Rivers	(970) 252-6017 (Office) (970) 252-6053 (FAX) (970) 596-2901 (Cell)	Montrose Service Center 2300 South Townsend Montrose, CO 81401
CAMMACK, Dan (Region Native Species Biologist)	SW Region (Areas 15- 18)	(970) 641-7073 (Office) (970) 641-7883 (FAX) (970) 903-1073 (Cell)	Gunnison Service Center 300 W. New York Ave. Gunnison, CO 81230

## Appendix 2. List of fisheries surveys conducted in 2018 by CPW employees

<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
<b>Northeast Region - North Platte River</b>					
<b>North Platte Headwaters</b>					
Headwaters North Platte River	Lake	CPUE	7	5	2,740
Michigan River	Lake	CPUE	2	2	115
North Fork North Platte River	Lake	CPUE	1	3	144
<b>Upper Laramie</b>					
Laramie River-Grace Creek	Lake	CPUE	1	3	6
<b>Upper North Platte</b>					
Big Creek	Lake	CPUE	1	6	66
<b>Northeast Region - Republican River</b>					
<b>Frenchman</b>					
Sand Creek	Lake	CPUE	2	7	1,559
Upper Frenchman Creek	Lake	CPUE	4	6	1,577
<b>North Fork Republican</b>					
Chief Creek	Lake	CPUE	1	6	618
<b>Northeast Region - South Platte River</b>					
<b>Beaver</b>					
Lower Beaver Creek	Lake	CPUE	2	4	2,926
<b>Big Thompson</b>					
Dry Creek-Little Thompson River	Lake	CPUE	1	4	25
Headwaters Big Thompson River	Stream	THREE-PASS REMOVAL	1	3	339
Headwaters Big Thompson River	Stream	TWO-PASS REMOVAL	5	6	1,453
Outlet Big Thompson River	Lake	CPUE	7	22	902
Outlet Big Thompson River	Stream	THREE-PASS REMOVAL	1	3	129
Outlet Big Thompson River	Stream	TWO-PASS REMOVAL	6	8	881
<b>Cache La Poudre</b>					
City of Greeley-Cache La Poudre River	Lake	CPUE	4	9	201
Gordon Creek-Cache La Poudre River	Stream	TWO-PASS REMOVAL	1	4	101
Headwaters Cache La Poudre River	Lake	CPUE	5	7	631
Headwaters Cache La Poudre River	Stream	CPUE	1	1	370
Headwaters Cache La Poudre River	Stream	PRESENCE/ABSENCE	5	2	91
Headwaters Cache La Poudre River	Stream	TWO-PASS REMOVAL	6	7	1,521
Horsetooth Reservoir-Cache La Poudre	Lake	CPUE	6	21	2,117
Horsetooth Reservoir-Cache La Poudre	Stream	FULL HABITAT	2	10	1,046
Horsetooth Reservoir-Cache La Poudre	Stream	PRESENCE/ABSENCE	10	1	93
Horsetooth Reservoir-Cache La Poudre	Stream	TWO-PASS REMOVAL	5	9	1,776
Rabbit Creek-North Fork Cache La Poudre	Lake	CPUE	1	6	466
Rabbit Creek-North Fork Cache La Poudre	Stream	OTHER	2	2	29
Rabbit Creek-North Fork Cache La Poudre	Stream	PRESENCE/ABSENCE	1	4	121
Rabbit Creek-North Fork Cache La Poudre	Stream	TWO-PASS REMOVAL	2	10	482
South Fork Cache La Poudre River	Lake	CPUE	2	1	12
South Fork Cache La Poudre River	Stream	PRESENCE/ABSENCE	1	0	0

<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
South Fork Cache La Poudre River	Stream	TWO-PASS REMOVAL	2	1	59
<b>Clear Creek</b>					
Middle Clear Creek	Stream	PRESENCE/ABSENCE	1	4	71
Middle Clear Creek	Stream	TWO-PASS REMOVAL	4	4	445
Upper Clear Creek	Stream	TWO-PASS REMOVAL	1	4	97
<b>Lower South Platte</b>					
Hartley Draw-South Platte River	Lake	CPUE	2	12	1,262
<b>Middle South Platte-Cherry Creek</b>					
Cherry Creek-South Platte River	Lake	CPUE	1	9	318
Cottonwood Draw-South Platte River	Lake	CPUE	1	12	380
Sand Creek	Lake	CPUE	2	0	0
<b>Middle South Platte-Sterling</b>					
Cedar Creek	Lake	CPUE	1	11	202
City of Sterling-South Platte River	Lake	CPUE	2	14	892
Cottonwood Creek-South Platte River	Lake	CPUE	5	19	7,488
Cottonwood Creek-South Platte River	Lake	OTHER	8	2	517
Dead Horse Draw-South Platte River	Lake	CPUE	4	15	1,418
Prewitt Reservoir-South Platte River	Lake	CPUE	1	16	545
<b>South Platte Headwater</b>					
Elevenmile Canyon-South Platte River	Stream	TWO-PASS REMOVAL	2	8	1,916
Elevenmile Reservoir-South Platte River	Lake	CPUE	2	8	425
Elevenmile Reservoir-South Platte River	Stream	TWO-PASS REMOVAL	5	11	6,720
Middle Fork South Platte River	Lake	CPUE	4	2	50
Middle Fork South Platte River	Stream	CPUE	1	3	24
Middle Fork South Platte River	Stream	PRESENCE/ABSENCE	2	4	105
Middle Fork South Platte River	Stream	TWO-PASS REMOVAL	1	8	828
Ruby Gulch-Tarryall Creek	Stream	MARK/RECAPTURE	2	2	113
Ruby Gulch-Tarryall Creek	Stream	PRESENCE/ABSENCE	7	2	33
South Fork South Platte River	Lake	CPUE	5	9	1,664
South Fork South Platte River	Lake	PRESENCE/ABSENCE	1	0	0
South Fork South Platte River	Stream	PRESENCE/ABSENCE	1	2	96
<b>St. Vrain</b>					
Boulder Creek-Saint Vrain Creek	Lake	CPUE	9	18	991
Coal Creek-Boulder Creek	Lake	CPUE	3	9	382
Headwaters Boulder Creek	Lake	CPUE	1	10	342
South Boulder Creek	Lake	CPUE	3	10	283
<b>Upper South Platte</b>					
Bear Creek	Lake	CPUE	1	0	0
Chatfield Reservoir-South Platte River	Lake	CPUE	1	7	165
Chatfield Reservoir-South Platte River	Stream	TWO-PASS REMOVAL	1	5	739
City of Lakewood-South Platte River	Stream	MARK/RECAPTURE	1	6	280
City of Lakewood-South Platte River	Stream	PRESENCE/ABSENCE	1	5	292
Headwaters North Fork South Platte River	Lake	CPUE	9	0	0
Lost Creek-South Platte River	Lake	CPUE	1	6	291
Lost Creek-South Platte River	Stream	TWO-PASS REMOVAL	5	6	6,177
<b>Northwest Region - Colorado River</b>					
<b>Blue</b>					
Dillon Reservoir	Lake	CPUE	1	5	640
Lower Blue River	Stream	MARK/RECAPTURE	1	6	1,105



<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
Snake River	Stream	TWO-PASS REMOVAL	2	2	140
Upper Blue River	Stream	TWO-PASS REMOVAL	2	2	901
<b>Colorado Headwaters</b>					
Big Alkali Creek-Colorado River	Stream	MARK/RECAPTURE	3	15	4,460
Fraser River	Lake	CPUE	1	4	293
Fraser River	Stream	TWO-PASS REMOVAL	5	6	1,781
Headwaters Colorado River	Lake	CPUE	4	8	947
Headwaters Colorado River	Stream	TWO-PASS REMOVAL	2	5	570
Muddy Creek	Lake	CPUE	3	9	964
Muddy Creek	Lake	OTHER	2	1	240
Troublesome Creek-Colorado River	Stream	MARK/RECAPTURE	2	6	2,627
Williams Fork	Lake	CPUE	1	5	104
<b>Colorado Headwaters-Plateau</b>					
Big Creek-Plateau Creek	Lake	CPUE	1	1	29
Big Salt Wash-Colorado River	Lake	CPUE	1	6	68
Clear Creek-Roan Creek	Stream	PRESENCE/ABSENCE	1	6	975
Clear Creek-Roan Creek	Stream	TWO-PASS REMOVAL	1	2	23
East Salt Creek	Lake	CPUE	5	13	1,255
East Salt Creek	Stream	PRESENCE/ABSENCE	2	12	380
Garfield Creek-Colorado River	Lake	CPUE	3	8	752
Parachute Creek	Stream	PRESENCE/ABSENCE	1	0	0
Rifle Creek	Lake	CPUE	11	9	780
Rifle Creek	Stream	PRESENCE/ABSENCE	3	12	679
Sink Creek-Colorado River	Stream	PRESENCE/ABSENCE	1	12	208
<b>Eagle</b>					
Brush Creek	Stream	TWO-PASS REMOVAL	2	5	507
Gore Creek	Stream	PRESENCE/ABSENCE	1	1	4
Gore Creek	Stream	TWO-PASS REMOVAL	1	1	11
Upper Eagle River	Stream	TWO-PASS REMOVAL	5	5	897
<b>Roaring Fork</b>					
Crystal River	Stream	PRESENCE/ABSENCE	1	2	118
Crystal River	Stream	TWO-PASS REMOVAL	3	7	1,464
Fryingpan River	Lake	CPUE	5	9	536
Fryingpan River	Stream	PRESENCE/ABSENCE	1	2	398
Snowmass Creek	Stream	TWO-PASS REMOVAL	1	0	0
Upper Roaring Fork River	Lake	CPUE	3	1	32
Upper Roaring Fork River	Stream	PRESENCE/ABSENCE	1	1	2
Upper Roaring Fork River	Stream	THREE-PASS REMOVAL	1	3	263
Upper Roaring Fork River	Stream	TWO-PASS REMOVAL	3	4	140
Woody Creek-Roaring Fork River	Stream	TWO-PASS REMOVAL	2	4	1,102

## Northwest Region - Dolores River

### Lower Dolores

West Creek	Lake	CPUE	1	1	12
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## Northwest Region - Gunnison River

### Lower Gunnison

Outlet Gunnison River	Lake	CPUE	1	2	1,404
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<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
<b>Northwest Region - White River</b>					
<b>Lower White</b>					
Red Wash-White River	Lake	CPUE	1	13	870
<b>Upper White</b>					
Coal Creek-White River	Ditch	PRESENCE/ABSENCE	1	6	558
Coal Creek-White River	Lake	CPUE	1	5	513
Coal Creek-White River	Stream	MARK/RECAPTURE	1	6	514
Crooked Wash-White River	Lake	CPUE	1	8	246
North Fork White River	Lake	CPUE	1	1	5
North Fork White River	Stream	TWO-PASS REMOVAL	1	5	248
South Fork White River	Lake	CPUE	1	0	0
South Fork White River	Stream	TWO-PASS REMOVAL	1	1	30
Strawberry Creek-White River	Stream	MARK/RECAPTURE	1	11	1,478
<b>Northwest Region - Yampa River</b>					
<b>Lower Yampa</b>					
Milk Creek	Lake	CPUE	3	2	7
<b>Upper Yampa</b>					
Dry Creek-Yampa River	Lake	CPUE	1	3	63
Elkhead Creek	Lake	CPUE	1	6	444
Elkhead Creek	Lake	MARK/RECAPTURE	1	3	2,314
Elkhead Creek	Stream	THREE-PASS REMOVAL	1	5	54
Elkhead Creek	Stream	TWO-PASS REMOVAL	9	4	1,258
Fortification Creek	Lake	CPUE	1	1	13
Headwaters Elk River	Lake	CPUE	4	8	501
Headwaters Yampa River	Lake	CPUE	5	6	271
Headwaters Yampa River	Stream	PRESENCE/ABSENCE	1	1	6
Headwaters Yampa River	Stream	TWO-PASS REMOVAL	2	2	27
Oak Creek-Yampa River	Lake	CPUE	20	5	5,307
Oak Creek-Yampa River	Stream	OTHER	1	3	14
Outlet Elk River	Stream	PRESENCE/ABSENCE	2	3	66
Outlet Elk River	Stream	TWO-PASS REMOVAL	1	3	50
Trout Creek-Yampa River	Lake	OTHER	3	2	69
<b>Southeast Region - Arkansas River</b>					
<b>Arkansas Headwaters</b>					
Big Cottonwood Creek-Arkansas River	Stream	MARK/RECAPTURE	1	2	1,759
Cottonwood Creek	Lake	CPUE	2	2	16
Cottonwood Creek	Stream	PRESENCE/ABSENCE	3	1	151
Headwaters Arkansas River	Stream	THREE-PASS REMOVAL	1	2	156
Headwaters Arkansas River	Stream	TWO-PASS REMOVAL	15	7	4,035
Headwaters Grape Creek	Lake	CPUE	8	8	104
Headwaters Grape Creek	Stream	TWO-PASS REMOVAL	1	8	232
Lake Creek	Lake	PRESENCE/ABSENCE	1	1	58
Outlet Grape Creek	Stream	TWO-PASS REMOVAL	2	4	175
Royal Gorge-Arkansas River	Stream	MARK/RECAPTURE	1	2	187
South Arkansas River	Lake	CPUE	2	1	15
South Arkansas River	Stream	PRESENCE/ABSENCE	1	1	6
South Arkansas River	Stream	TWO-PASS REMOVAL	1	1	30
Texas Creek	Lake	CPUE	2	2	14
Trout Creek-Arkansas River	Stream	MARK/RECAPTURE	1	2	1,549

<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
<b>Fountain</b>					
Middle Fountain Creek	Lake	CPUE	1	6	184
Middle Fountain Creek	Stream	PRESENCE/ABSENCE	3	2	29
Middle Fountain Creek	Stream	TWO-PASS REMOVAL	3	3	836
Monument Creek	Lake	CPUE	2	13	516
Monument Creek	Stream	PRESENCE/ABSENCE	1	0	0
Monument Creek	Stream	TWO-PASS REMOVAL	2	1	176
Upper Fountain Creek	Lake	CPUE	1	7	341
Upper Fountain Creek	Stream	PRESENCE/ABSENCE	1	1	1
Upper Fountain Creek	Stream	THREE-PASS REMOVAL	1	4	57
Upper Fountain Creek	Stream	TWO-PASS REMOVAL	2	2	98
<b>Huerfano</b>					
Upper Cucharas River	Lake	CPUE	6	18	2,049
<b>Purgatorie</b>					
Headwaters Purgatorie River	Lake	CPUE	2	7	312
Headwaters Purgatorie River	Stream	THREE-PASS REMOVAL	1	1	62
Trinidad Lake-Purgatorie River	Lake	CPUE	2	10	170
<b>Rush</b>					
Upper Rush Creek	Lake	CPUE	1	7	111
<b>Upper Arkansas</b>					
Beaver Creek	Lake	CPUE	1	4	208
Beaver Creek	Stream	TWO-PASS REMOVAL	1	1	84
Dry Creek-Arkansas River	Lake	CPUE	7	11	486
Dry Creek-Arkansas River	Stream	MARK/RECAPTURE	2	10	1,910
Dry Creek-Arkansas River	Stream	PRESENCE/ABSENCE	1	6	188
Eightmile Creek-Arkansas River	Lake	CPUE	1	2	2
Eightmile Creek-Arkansas River	Stream	MARK/RECAPTURE	1	2	101
Greenhorn Creek	Stream	TWO-PASS REMOVAL	1	1	53
Headwaters Four Mile Creek	Stream	PRESENCE/ABSENCE	3	0	0
Headwaters Saint Charles River	Lake	CPUE	2	7	226
Outlet Four Mile Creek	Stream	PRESENCE/ABSENCE	1	0	0
Pueblo Reservoir-Arkansas River	Lake	CPUE	5	16	1,888
Pueblo Reservoir-Arkansas River	Stream	MARK/RECAPTURE	1	5	668
<b>Upper Arkansas-John Martin Reservoir</b>					
Granada Creek-Arkansas River	Lake	CPUE	1	8	129
Headwaters Adobe Creek	Lake	CPUE	1	2	134
John Martin Reservoir	Lake	CPUE	1	10	446
Kiowa Creek	Lake	CPUE	1	9	401
Neenoshe Reservoir-Arkansas River	Lake	CPUE	6	15	538
Outlet Adobe Creek	Lake	CPUE	1	11	509
<b>Upper Arkansas-Lake Meredith</b>					
Lake Meredith	Lake	CPUE	2	11	816
<b>Southeast Region - Cimmaron River</b>					
<b>Bear</b>					
Horse Creek-Bear Creek	Lake	CPUE	2	10	314
<b>Southwest Region - Dolores River</b>					
<b>San Miguel</b>					
Naturita Creek	Lake	CPUE	1	5	16

<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
Upper San Miguel River	Lake	CPUE	15	1	343
Upper San Miguel River	Stream	PRESENCE/ABSENCE	4	1	84
Upper San Miguel River	Stream	THREE-PASS REMOVAL	1	5	74
Upper San Miguel River	Stream	TWO-PASS REMOVAL	3	4	207
<b>Upper Dolores</b>					
Headwaters Dolores River	Stream	PRESENCE/ABSENCE	1	3	82
Headwaters Dolores River	Stream	TWO-PASS REMOVAL	1	3	271
McPhee Reservoir-Dolores River	Lake	CPUE	3	14	1,050
Ponderosa Gorge-Dolores River	Stream	PRESENCE/ABSENCE	1	6	49
Ponderosa Gorge-Dolores River	Stream	TWO-PASS REMOVAL	5	8	1,313

## Southwest Region - Gunnison River

### East-Taylor

East River	Stream	TWO-PASS REMOVAL	5	7	1,346
Taylor River	Lake	CPUE	2	0	0
Taylor River	Stream	MARK/RECAPTURE	2	2	1,239
Taylor River	Stream	TWO-PASS REMOVAL	5	5	1,950

### North Fork Gunnison

Anthracite Creek	Stream	THREE-PASS REMOVAL	1	6	111
East Muddy Creek	Stream	PRESENCE/ABSENCE	1	2	24
Hubbard Creek-North Fork Gunnison River	Lake	CPUE	2	2	20
Hubbard Creek-North Fork Gunnison River	Stream	PRESENCE/ABSENCE	1	1	19
Hubbard Creek-North Fork Gunnison River	Stream	THREE-PASS REMOVAL	5	8	791
Hubbard Creek-North Fork Gunnison River	Stream	TWO-PASS REMOVAL	1	5	141

### Tomichi

Cochetopa Creek	Stream	PRESENCE/ABSENCE	13	9	1,271
Cochetopa Creek	Stream	TWO-PASS REMOVAL	4	6	537
Lower Tomichi Creek	Stream	PRESENCE/ABSENCE	8	7	1,363
Lower Tomichi Creek	Stream	TWO-PASS REMOVAL	8	10	2,278
Quartz Creek	Stream	TWO-PASS REMOVAL	2	2	227
Razor Creek	Stream	TWO-PASS REMOVAL	1	1	137

### Uncompahgre

Cow Creek	Stream	PRESENCE/ABSENCE	2	1	11
Lower Uncompahgre River	Ditch	PRESENCE/ABSENCE	1	2	11
Lower Uncompahgre River	Lake	CPUE	1	2	8
Upper Uncompahgre River	Lake	CPUE	4	9	3,467

### Upper Gunnison

Black Canyon of the Gunnison	Stream	PRESENCE/ABSENCE	1	2	132
Blue Creek	Stream	TWO-PASS REMOVAL	1	1	4
Cimarron River	Lake	CPUE	2	2	193
Cimarron River	Stream	TWO-PASS REMOVAL	3	6	249
Lake Fork	Lake	CPUE	3	1	5
Ohio Creek	Lake	CPUE	2	0	0
Smith Fork-Gunnison River	Lake	CPUE	4	9	436
Soap Creek-Blue Mesa Reservoir	Lake	CPUE	1	7	783

## Southwest Region - Rio Grande River

### Alamosa-Trinchera

Alamosa River	Lake	CPUE	1	1	15
Alamosa River	Stream	TWO-PASS REMOVAL	1	1	13

<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
City of Alamosa-Rio Grande	Stream	MARK/RECAPTURE	1	4	643
City of Alamosa-Rio Grande	Stream	THREE-PASS REMOVAL	1	1	23
Sanchez Reservoir	Stream	THREE-PASS REMOVAL	1	1	24
Sanchez Reservoir	Stream	TWO-PASS REMOVAL	1	1	10
<b>Conejos</b>					
Conejos River Headwaters	Lake	CPUE	3	2	53
Conejos River Headwaters	Stream	PRESENCE/ABSENCE	1	2	59
Conejos River Headwaters	Stream	TWO-PASS REMOVAL	1	1	47
Outlet Conejos River	Lake	CPUE	1	2	48
Rio de Los Pinos	Stream	TWO-PASS REMOVAL	2	1	105
<b>Rio Grande Headwaters</b>					
Alder Creek-Rio Grande	Stream	TWO-PASS REMOVAL	2	1	149
Clear Creek	Lake	CPUE	1	1	27
Shallow Creek-Rio Grande	Lake	CPUE	1	1	12
South Fork Rio Grande	Lake	CPUE	1	1	33
Spring Creek-Rio Grande	Lake	CPUE	2	2	46
<b>Saguache</b>					
Ford Creek-Saguache Creek	Stream	TWO-PASS REMOVAL	1	4	183
Headwaters Saguache Creek	Lake	CPUE	1	1	7
Headwaters Saguache Creek	Stream	TWO-PASS REMOVAL	1	1	22
Middle Creek-Saguache Creek	Stream	TWO-PASS REMOVAL	2	3	121
<b>San Luis</b>					
Deadman Creek-San Luis Creek	Lake	CPUE	3	1	85
San Isabel Creek-San Luis Creek	Lake	CPUE	1	1	18
Sand Creek-San Luis Creek	Stream	TWO-PASS REMOVAL	1	2	62
<b>Upper Rio Grande</b>					
Costillo Creek	Stream	PRESENCE/ABSENCE	1	0	0
Costillo Creek	Stream	TWO-PASS REMOVAL	3	1	69
<b>Southwest Region - San Juan River</b>					
<b>Animas</b>					
Animas River Canyon	Stream	PRESENCE/ABSENCE	1	2	4
Animas River Canyon	Stream	TWO-PASS REMOVAL	1	2	69
Headwaters Animas River	Stream	PRESENCE/ABSENCE	1	1	2
Headwaters Animas River	Stream	TWO-PASS REMOVAL	1	1	601
Lightner Creek-Animas River	Stream	OTHER	1	4	14
Lightner Creek-Animas River	Stream	PRESENCE/ABSENCE	1	4	17
Middle Animas Valley	Lake	CPUE	1	6	164
Middle Animas Valley	Stream	PRESENCE/ABSENCE	1	4	12
<b>Mancos</b>					
Lower Mancos River	Stream	CPUE	1	2	256
Lower Mancos River	Stream	PRESENCE/ABSENCE	1	1	12
Middle Mancos River	Stream	PRESENCE/ABSENCE	2	4	226
Upper Mancos River	Stream	PRESENCE/ABSENCE	4	8	728
<b>McElmo</b>					
Middle McElmo Creek	Stream	PRESENCE/ABSENCE	3	9	50
Upper McElmo Creek	Lake	CPUE	1	4	17
Yellow Jacket Canyon	Stream	PRESENCE/ABSENCE	4	14	470

<u>Huc10</u>	<u>WaterType</u>	<u>Protocol</u>	<u>#Surveys</u>	<u>#Species</u>	<u>#Fish</u>
<b>Middle San Juan</b>					
Headwaters La Plata River	Stream	PRESENCE/ABSENCE	1	6	127
Headwaters La Plata River	Stream	TWO-PASS REMOVAL	1	5	188
<b>Piedra</b>					
Upper Piedra River	Lake	CPUE	1	4	61
<b>Upper San Juan</b>					
Navajo River	Lake	CPUE	2	2	84
Vallecito Creek	Lake	CPUE	1	5	69