CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES S. c. stomias (?) LOCALITY Nunn Crk

COLLECTED BY Behnke - Hickman - Miller DATE Sept. 10, 77

Cat. # _____ Measurements by Hickman DATE Sept. 77

Specimen # 11

	1	2	3	4	5	6	7	8
Total L.	163	183	156	175	146	170	196	190
Standard L.	135	151	127	142	119	140	160	158
Body D	33	28	32	33	28	33	40	38
Head L	37	40	35	40	31	39	42	44
Oroit L								
Upper Jaw L	21	23	20	24	18	21	25	24
Dors. Orig. to Snt. tip	68	76	65	73	59	67	77	78
Dorsal fin basal L	20	22	17	20	17	20	22	22
Dorsal fin depressed L	30	37	31	34	27	35	38	37
Adip. fin depressed L	14	13	14	15	13	13	17	15
Caudal peduncle D	15	18	15	15	14	12	17	18
Caudal peduncle L	20	25	20	23	20	23	26	26
Vertebrae								
1st Arch gillrakers (up)	7	8	8	7	7	7	7	6
(lower)	11	12	10	12	12	12	11	11
(total)	18	20	18	19	19	19	18	17
Branchiostegal rays right	11	9	10	10	11	9	10	10
(left)	11	10	11	10	12	10	11	10
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	38	42	44	39	41	37	40	42
Scales 2 rows above lat.	168	166	177	176	185	170	186	189
Pelvic fin rays	9	9	9	9	9	9	9	9
Pyloric caeca	35	32	33	40	28	37	37	30
Dentition	0	0	5	4	4	0	0	5
Anal fin length	23	30	25	26	23	27	32	29

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES S. c. stomias (?) LOCALITY Nunn Crk

COLLECTED BY DATE Sept. 10, 77

Cat. # Measurements by Hickman DATE Sept. 77

Specimen #	9	10	11		Range	$\bar{X}$		
Total L.	207	218	196					
Standard L.	172	178	162					
Body D	44	45	42					
Head L	46	48	44					
Orbit L								
Upper Jaw L	27	26	26					
Dors. Orig. to Snt. tip	85	88	83					
Dorsal fin basal L	25	27	21					
Dorsal fin depressed L	40	44	38					
Adip. fin depressed L	16	20	18					
Caudal peduncle D	20	21	19					
Caudal peduncle L	28	32	27					
Vertebrae								
1st Arch gillrakers (up)	7	7	7		6-8	7.8		
(lower)	12	11	11		10-12	10.7		
(total)	19	18	18		17-20	18.5		
Branchiostegal rays right	11	10	9		9-11	10		
(left)	11	11	11		10-12	10.7		
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	43	37	39		37-44	39.3		
Scales 2 rows above lat.	167	175	185		166-189	176.7		
Pelvic fin rays	10	9	9		9-10	9.1		
Pyloric caeca	34	41	40		28-41	35		
Dentition	0	3	0		0-5	1.9	6 w/o teeth	
Anal fin Length	30	30	30					

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES S.c. Stonicus LOCALITY Nunn Creek

COLLECTED BY DATE

Cat. # ~~Measurements~~ Conversions by Culver DATE

Specimen #

	1	2	3	4	5	6	7	8
Total L.								
Standard L.								
Body D	244	185	252	232	235	236	250	241
Head L	274	265	276	282	251	279	263	278
Orbit L								
Upper Jaw L	156	152	157	169	151	150	156	152
Dors. Orig. to Snt. tip	504	503	512	514	496	479	481	494
Dorsal fin basal L	148	146	134	141	143	143	138	139
Dorsal fin depressed L	222	245	244	239	227	250	238	234
Adip. fin depressed L	104	086	110	105	109	093	106	095
Caudal peduncle D	148	119	118	105	118	086	106	114
Caudal peduncle L	148	166	157	162	168	164	163	165
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	170	199	197	183	193	193	200	184

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY _____

COLLECTED BY _____ DATE _____

Cat. # _____ Measurements by _____ DATE _____

Specimen #	9	10	11					
Total L.								
Standard L.								
Body D	256	253	259					
Head L	267	276	272					
Orbit L								
Upper Jaw L	157	146	160					
Dors. Orig. to Snt. tip	494	494	512					
Dorsal fin basal L	145	152	130					
Dorsal fin depressed L	233	247	236					
Adip. fin depressed L	093	112	111					
Caudal peduncle D	116	118	117					
Caudal peduncle L	163	180	167					
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition	174	169	185					

Sawmill

Fish are only about 15-20/mile
Pools are very deep (some 4.5 ft.)
One brown trout was collected
in this mile section
Fish were in good condition,
Adipose deposit prevellant during
Pyloric caeca examination
Good area for intro., must build
barrier

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES S.c. stomias ? LOCALITY Sawmill

COLLECTED BY Hickman, Culver & Corarrino DATE Sept. 1977

Cat. # _____ Measurements by Hickman DATE Oct. 1977

Specimen # 9

	1	2	3	4	5	6	7	8
Total L.	220	230	230	193	210	170	165	171
Standard L.	185	193	191	158	170	140	134	140
Body D	40	48	52	45	53	34	33	32
Head L	50	50	54	44	48	35	36	37
Oroit L								
Upper Jaw L	29	31	32	26	29	20	22	20
Dors. Orig. to Snt. tip	93	96	94	82	88	68	68	69
Dorsal fin basal L	24	26	26	21	27	18	20	20
Dorsal fin depressed L	38	38	36	31	41	29	31	29
Adip. fin depressed L	16	19	22	14	20	15	14	16
Caudal peduncle D	20	22	24	19	23	16	16	15
Caudal peduncle L	28	30	29	24	28	15	21	22
Vertebrae								
1st Arch gillrakers (up)	6	8	7	8	7	7	7	7
(lower)	12	13	12	12	12	13	13	12
(total)	18	21	19	20	19	20	20	19
Branchiostegal rays right	9	10	10	10	10	10	10	9
(left)	10	10	11	10	9	10	11	10
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	47	43	44	40	46	45	44	45
Scales 2 rows above lat.	195	206	200	170	191	203	184	206
Pelvic fin rays	9	9	9	9	9	9	9	9
Pyloric caeca	30	34	38	36	34	30	36	34
Dentition	10	2	16	0	13	8	6	4
Anal fin Length	36	32	38	30	33	23	25	25

hyoid plate appears to have sockets it is not smooth as in Rainbow.

♂ ♂

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES S. c. stomias ? LOCALITY Sawmill crk.

COLLECTED BY Hickman, Culver, Corarrino DATE Sept. 77

Cat. # _____ Measurements by Hickman DATE Oct. 77

Specimen # 9

	9		Range	$\bar{X}$				
Total L.	122							
Standard L.	110							
Body D	24							
Head L	27							
Oroit L								
Upper Jaw L	16							
Dors. Orig. to Snt. tip	50							
Dorsal fin basal L	14							
Dorsal fin depressed L	22							
Adip. fin depressed L	10							
Caudal peduncle D	11							
Caudal peduncle L	16							
Vertebrae								
1st Arch gillrakers (up)	8		6-8	7.2				
(lower)	14		12-14	12.5				
(total)	22		18-22	19.7				
Branchiostegal rays right	10		9-10	9.7				
(left)	10		10-11	10.1				
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	44		40-47	44.2				
Scales 2 rows above lat.	185		170-206	193.3				
Pelvic fin rays	9			9				
Pyloric caeca	36		30-38	34.2				
Dentition	2		0-16	6.7	1	w/o teeth		
Anal fin Length	28							

♂

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Sawmill

COLLECTED BY _____ DATE _____

Cat. # _____ ~~Measurements~~ Conv. by Culver DATE _____

Specimen #

	1	2	3	4	5	6	7	8	9
Total L.									
Standard L.									
Body D	216	249	272	285	312	243	246	229	218
Head L	270	259	283	278	282	256	269	264	245
Oroit L									
Upper Jaw L	157	161	168	165	171	143	164	148	145
Dors. Orig. to Snt. tip	503	497	492	519	518	486	507	493	455
Dorsal fin basal L	130	135	136	133	159	129	149	143	127
Dorsal fin depressed L	205	197	188	196	241	207	231	207	200
Adip. fin depressed L	096	098	115	089	118	107	104	114	091
Caudal peduncle D	108	114	126	120	135	114	119	107	100
Caudal peduncle L	151	155	152	152	165	107	157	152	145
Vertebrae									
1st Arch gillrakers (up)									
(lower)									
(total)									
Branchiostegal rays right									
(left)									
Dorsal rays									
Anal rays									
Pectoral fin rays									
Scales in lateral line									
Scales above lateral line									
Scales 2 rows above lat.									
Pelvic fin rays									
Pyloric caeca									
Dentition									
	185	166	199	190	194	164	187	179	255

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Stomias (?) LOCALITY Roaring Creek

COLLECTED BY Hickman - Miller DATE Sept 1977

Cat. # Measurements by Miller - Hickman DATE Sept. 1977

Specimen # 8

	1	2	3	4	5	6	7	8
Total L.	127	130	138	141	128	156	140	116
Standard L.	105	108	114	117	115	129	116	93
x Body D	24	26	26	26	25	30	28	21
x Head L	28	28	30	30	28	36	30	25
Orbit L								
x Upper Jaw L	15	15	15	17	15	21	14	14
x Dors. Orig. to Snt. tip	54	53	55	57	53	63	55	46
x Dorsal fin basal L	14	16	16	16	15	20	18	13
x Dorsal fin depressed L	22	26	27	25	25	32	29	21
x Adip. fin depressed L	10	14	12	12	11	16	11	10
x Caudal peduncle D	13	14	14	13	13	15	14	10
x Caudal peduncle L	15	17	17	19	16	19	20	15
Vertebrae								
1st Arch gillrakers (up)	6	7	6	8	7	7	7	7
(lower)	12	11	11	12	12	13	12	12
(total)	18	18	17	20	19	20	19	19
Branchiostegal rays right	10	10	10	10	10	11	10	10
(left)	11	11	11	11	11	11	10	11
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	44	46	43	49	46	43	48	44 x
Scales 2 rows above lat.	201	199	197	207	195	196	182	189 x
Pelvic fin rays	9	9	9	9	9	9	9	9
Pyloric caeca	38	36	41	37	37	38	30	36
Dentition	2	4	0	5	3	3	6	6
Anal fin length	13	13	11	15	13	15	14	10

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Stomias (?) LOCALITY Roaring Crk.

COLLECTED BY Hickman - Miller DATE Sept. 10 77

Cat. # Measurements by Miller - Hickman DATE Sept. 77

Specimen # 8

Total L.								
Standard L.								
Body D								
Head L								
Oroit L								
Upper Jaw L								
Dors. Orig. to Snt. tip								
Dorsal fin basal L								
Dorsal fin depressed L								
Adip. fin depressed L								
Caudal peduncle D								
Caudal peduncle L								
Vertebrae								
1st Arch gillrakers (up)	6-8	6.9						
(lower)	11-13	11.8						
(total)	17-20	18.7						
Branchiostegal rays right	10-11	10.1						
(left)	10-11	10.8						
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	43-49	45.3						
Scales 2 rows above lat.	182-207	195.7						
Pelvic fin rays		9						
Pyloric caeca	30-41	36.6						
Dentition	0-6	3.6	1 w/o teeth					

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Salmo clarki X Rainbow LOCALITY N. Apache Cr.

COLLECTED BY Miller-Hickman DATE Aug. 1977

Cat. # _____ Measurements by Hickman-Miller DATE Sept. 1977

Specimen # 8

	1	2	3	4	5	6	7	8
Total L.	190	201	225	192	176	228	200	160
* Standard L.	160	167	185	160	147	192	165	133
Body D	38	44	48	36	34	51	43	33
Head L	39	46	51	41	37	54	44	35
Oroit L								
Upper Jaw L	23	27	30	24	20	32	25	19
Dors. Orig. to Snt. tip	80	85	97	81	68	104	84	67
Dorsal fin basal L	25	26	30	24	25	26	27	21
Dorsal fin depressed L	40	38	44	38	35	43	42	32
Adip. fin depressed L	16	20	22	15	14	22	20	14
Caudal peduncle D	19	21	22	19	15	24	20	15
Caudal peduncle L	27	26	30	26	24	29	26	23
Vertebrae								
1st Arch gillrakers (up)	8	7	8	7	8	8	8	7
(lower)	12	13	13	12	12	14	12	12
(total)	20	20	21	19	20	22	20	19
* Branchiostegal rays right	12	10	13	9	11	10	12	10
(left)	13	11	13	11	11	11	13	11
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
* Scales above lateral line								
* Scales 2 rows above lat.								
* Pelvic fin rays	9	9	9	9	10	9	10	9
* Pyloric caeca	31	35	38	28	46	36	38	37
Dentition	2	9	0	11	0	0	0	0
Anal fin length	20	20	20	19	17	20	21	15

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Stomias X Rainbow LOCALITY North Apache Crk

COLLECTED BY Miller - Hickman DATE Aug. 1977

Cat. # _____ Measurements by Hickman - Miller DATE Sept. 1977

Specimen # 8

Total L.								
Standard L.								
Body D								
Head L								
Oroit L								
Upper Jaw L								
Dors. Orig. to Snt. tip								
Dorsal fin basal L								
Dorsal fin depressed L								
Adip. fin depressed L								
Caudal peduncle D								
Caudal peduncle L								
Vertebrae								
1st Arch gillrakers (up)	7-8	7.6						
(lower)	12-14	12.5						
(total)	19-22	20.1						
Branchiostegal rays right	9-13	10.8						
(left)	11-13	11.7						
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays	9-10	9.2						
Pyloric caeca	28-46	36						
Dentition	0-11	22	5 w/o teeth					
Anal fin length								

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Roaring Creek

COLLECTED BY _____ DATE _____

Cat. # _____ ~~Measurements~~ Comm. by Culver DATE _____

Specimen #

	1	2	3	4	5	6	7	8
Total L.								
Standard L.								
Body D	229	241	228	222	217	233	241	226
Head L	267	259	263	256	243	229	259	269
Orbit L								
Upper Jaw L	143	139	132	145	130	163	121	151
Dors. Orig. to Snt. tip	514	491	492	487	461	488	474	495
Dorsal fin basal L	133	148	140	137	130	155	155	140
Dorsal fin depressed L	210	241	237	214	217	248	250	226
Adip. fin depressed L	095	130	106	103	096	124	095	109
Caudal peduncle D	124	130	123	111	113	116	121	108
Caudal peduncle L	143	152	149	162	139	147	122	161
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	124	120	096	128	113	116	121	108

Rabbit Crk.

OFFICE MEMO

TO:

Date

FROM:

SUBJECT:

REMARKS:

Rabbit Crk. good greenbacks
- Phenotypically good greenbacks
- less than .5 CFS
- probably ony 20-40/mile
- trout habitat not over a mile goes underground above this. Maybe able to develope on Wildlife Refuge 1/4 below lower limits

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Rabbit Creek

COLLECTED BY Miller & Hickman DATE Sept. 16

Cat. # _____ Measurements by _____ DATE _____

Specimen #	1	2	3	4	5	6	Range	Mean
Total L.	187	167	175	186	163	208		
Standard L.	158	141	147	157	138	179		
Body D	33	30	32	33	28	40		
Head L	40	38	39	43	35	47		
Oroit L								
Upper Jaw L	21	20	20	25	19	25		
Dors. Orig. to Snt. tip	74	67	71	75	65	85		
Dorsal fin basal L	25	20	21	25	21	27		
Dorsal fin depressed L	36	33	33	37	31	38		
Adip. fin depressed L	17	14	15	17	14	17		
Caudal peduncle D	17	15	16	17	14	18		
Caudal peduncle L	27	23	25	26	25	29		
Vertebrae								
1st Arch gillrakers (up)	7	8	9	7	7	10	7-10	8
(lower)	12	11	11	11	11	12	11-12	11.3
(total)	19	19	20	18	18	22	18-22	19.3
Branchiostegal rays right	10	10	9	11	10	9	9-11	9.8
(left)	11	10	10	10	11	11	10-11	10.5
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	41	42	41	38	41	42	38-42	40.8
Scales 2 rows above lat.	182	165	169	184	183	164	164-184	174.5
Pelvic fin rays	8	9	8	9	8	8	8-9	8.3
Pyloric caeca	44	34	38	39	39	43	34-44	39.5
Dentition	0	0	0	0	0	0	0	0
Anal fin length	27	25	25	26	24	29		

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Rabbit Creek

COLLECTED BY Miller + Hickman DATE _____

Cat. # _____ Measurements by Culver DATE _____

cont.

Specimen #

	1	2	3	4	5	6		
Total L.								
Standard L.								
Body D	209	213	218	210	203	223		
Head L	253	270	265	274	254	263		
Orbit L								
Upper Jaw L	133	142	136	159	138	140		
Dors. Orig. to Snt. tip	468	475	483	478	471	475		
Dorsal fin basal L	158	142	143	159	152	151		
Dorsal fin depressed L	228	234	224	236	225	212		
Adip. fin depressed L	108	099	102	108	101	095		
Caudal peduncle D	108	106	109	108	101	101		
Caudal peduncle L	171	163	170	165	181	162		
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	171	172	170	165	174	162		

Glacier Crk

OFFICE MEMO

TO:

Date

FROM:

SUBJECT:

REMARKS:

Yellowstone Cutts
both phenotypic & genotypic
indicate these are a yellowstone
stock.

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Yellowstone LOCALITY Glacier Crk

COLLECTED BY _____ DATE _____

Cat. # _____ Measurements by Miller-Hickman DATE Sept. 1977

Specimen # 10

	1	2	3	4	5	6	7	8
Total L.	294	316	301	300	178	291	320	233
Standard L.	248	277	254	255	148	247	275	195
Body D	50	66	56	65	36	51	64	46
Head L	60	68	66	70	38	62	66	52
Oroit L								
Upper Jaw L	31	39	35	40	20	34	38	29
Dors. Orig. to Snt. tip	115	136	123	124	73	114	130	96
Dorsal fin basal L	35	40	36	38	26	41	43	32
Dorsal fin depressed L	53	63	56	60	38	60	62	48
Adip. fin depressed L	25	29	27	20	15	28	30	24
Caudal peduncle D	26	32	28	30	16	27	29	22
Caudal peduncle L	45	43	42	43	24	40	39	31
Vertebrae								
1st Arch gillrakers (up)	7	8	8	8	8	8	8	8
(lower)	13	12	12	11	12	12	12	12
(total)	20	20	20	19	20	20	20	20
Branchiostegal rays right	10	10	11	12	11	11	12	10
(left)	10	10	11	11	10	10	11	10
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	39	40	37	38	39	39	40	39
Scales 2 rows above lat.	170	168	166	171	165	165	178	168
Pelvic fin rays	9	9	8	9	9	9	9	9
Pyloric caeca	37	40	44	33	36	38	36	43
Dentition	12	17	14	10	11	18	3	11
Anal fin length	38	46	42	41	24	40	43	32

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Yellowstone LOCALITY Glacier Crk

COLLECTED BY _____ DATE _____

Cat. # _____ Measurements by Miller-Hickman DATE Sept. 1977

Specimen #	9	10			$\bar{X}$	Range		
Total L.	305	272						
Standard L.	262	234						
Body D	64	55						
Head L	69	64						
Orbit L								
Upper Jaw L	37	39						
Dors. Orig. to Snt. tip	122	110						
Dorsal fin basal L	35	37						
Dorsal fin depressed L	59	55						
Adip. fin depressed L	26	24						
Caudal peduncle D	29	27						
Caudal peduncle L	43	39						
Vertebrae								
1st Arch gillrakers (up)	8	8			7.9	7-8		
(lower)	12	12			12	11-13		
(total)	20	20			19.9	19-20		
Branchiostegal rays right	11	11			10.9	10-12		
(left)	10	10			10.3	10-11		
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	38	37			37-40	38.6		
Scales 2 rows above lat.	175	163			163-175	168.9		
Pelvic fin rays	9	9			8.9	8-9		
Pyloric caeca	39	40			38.6	33-44		
Dentition	11	14			12.1	3-18		
Anal fin length	40	40						

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Okanogan Cnty.

COLLECTED BY _____ DATE _____

Cat. # _____ Measurements by M. Culver DATE _____

Conv.

Specimen #

	1	2	3	4	5	6	7	8
Total L.								
Standard L.								
Body D	202	238	226	255	243	206	233	236
Head L	242	245	260	275	257	251	240	267
Oroit L								
Upper Jaw L	125	141	138	157	135	138	138	149
Dors. Orig. to Snt. tip	464	491	484	486	493	462	473	482
Dorsal fin basal L	141	144	142	149	176	166	156	164
Dorsal fin depressed L	214	227	220	235	257	243	225	246
Adip. fin depressed L	101	105	106	098	101	113	109	123
Caudal peduncle D	105	116	110	118	108	109	105	113
Caudal peduncle L	181	155	165	169	162	162	142	159
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	153	166	165	161	162	162	156	164

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Glacier Creek

COLLECTED BY _____ DATE _____

Cat. # _____ ~~Measurements~~ Conv. by Culver DATE _____

Specimen #

	9	10						
Total L.								
Standard L.								
Body D	244	235						
Head L	263	274						
Orbit L								
Upper Jaw L	141	167						
Dors. Orig. to Snt. tip	466	470						
Dorsal fin basal L	134	158						
Dorsal fin depressed L	225	235						
Adip. fin depressed L	099	103						
Caudal peduncle D	111	115						
Caudal peduncle L	164	167						
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
[illegible]	153	171						
[illegible]								
[illegible]								
[illegible]								
[illegible]								
[illegible]								
[illegible]								

OFFICE MEMO South Apache

TO:

Date

FROM:

SUBJECT:

REMARKS:

Rare in Arkansas drainage

- Phenotypically good -

Don't use for stocking

Build barrer to prevent mixing from

No. Apache

Rotenone No. Apache & stock with

South Apache Cutts.

This will give BLM something to play with

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Salmo c. stomias LOCALITY South Apache

COLLECTED BY Stan Abel, Dan Prichard, Clay Bridges DATE 6/21-77

Cat. # _____ Measurements by Hickman + Miller DATE _____

Specimen #	1	2	3	4	5	6	7	8
Total L.	215	160	165	187	185	179	170	170
Standard L.	180	135	137	157	153	148	140	139
Body D	28	34	33	37	36	37	35	36
Head L	48	38	35	43	42	41	38	39
Oroit L								
Upper Jaw L	40	21	21	24	24	24	21	21
Dors. Orig. to Snt. tip	91	66	68	78	77	76	68	70
Dorsal fin basal L	26	18	18	22	19	25	25	23
Dorsal fin depressed L	43	30	32	38	33	40	37	36
Adip. fin depressed L	22	14	11	18	18	18	16	20
Caudal peduncle D	20	16	15	18	18	19	18	17
Caudal peduncle L	25	22	20	25	25	23	25	23
Vertebrae								
1st Arch gillrakers (up)	8	7	9	7	8	7	7	7
(lower)	13	13	12	12	13	13	13	13
(total)	21	20	21	19	21	20	20	20
Branchiostegal rays right	10	10	9	10	10	11	10	11
(left)	12	10	5	11	11	11	11	11
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	40	43	41	39	41	44	43	44
Scales 2 rows above lat.	189	179	177	176	183	180	185	179
Pelvic fin rays	8	9	9	9	9	9	9	9
Pyloric caeca	35	34	37	37	31	34	34	31
Dentition	15	6	11	9	3	5	4	0
Anal fin length	33	26	25	30	29	29	26	27

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Salmo c. stomias LOCALITY South Apache

COLLECTED BY Abel, Prichard, Bridges DATE 6/21/77

Cat. # _____ Measurements by Miller-Hickman DATE Sept. 1977

Specimen # 16

	9	10	11	12	13	14	15	16
Total L.	183	190	182	169	197	137	125	132
Standard L.	151	155	146	141	163	113	102	108
Body D	33	40	40	36	40	28	23	25
Head L	40	42	43	39	43	30	27	29
Oroit L								
Upper Jaw L	23	24	24	22	24	18	14	16
Dors. Orig. to Snt. tip	75	78	76	72	80	57	46	53
Dorsal fin basal L	24	26	22	20	25	18	17	17
Dorsal fin depressed L	38	38	35	33	39	29	27	27
Adip. fin depressed L	20	18	18	17	21	14	12	13
Caudal peduncle D	18	20	18	16	20	14	12	13
Caudal peduncle L	23	25	25	22	28	18	18	18
Vertebrae								
1st Arch gillrakers (up)	7	7	7	6	6	8	7	7
(lower)	11	12	12	14	11	13	11	11
(total)	18	19	19	20	17	21	18	18
Branchiostegal rays right	10	10	10	10	10	10	10	10
(left)	11	11	11	11	11	10	11	10
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	41	40	39	36	41	42	40	40
Scales 2 rows above lat.	176	179	170	178	183	186	154	175
Pelvic fin rays	9	9	9	9	10	9	9	9
Pyloric caeca	35	33	39	38	37	31	30	35
Dentition	20	9	6	2	0	10	6	5
Anal fin length	31	30	30	27	33	22	18	22

$\bar{X}$ 40.8

$\bar{X}$ 178

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY S. Apache

COLLECTED BY _____ DATE _____

Cat. # _____ ~~Measurements~~ Conv. by Culver DATE _____

Specimen #

	1	2	3	4	5	6	7	8
Total L.								
Standard L.								
Body D	156	252	241	236	235	250	258	259
Head L	267	291	255	274	275	277	271	281
Orbit L								
Upper Jaw L	222	156	153	153	157	162	150	151
Dors. Orig. to Snt. tip	506	489	496	497	503	514	486	504
Dorsal fin basal L	144	133	131	140	124	169	179	165
Dorsal fin depressed L	239	222	234	242	216	270	264	259
Adip. fin depressed L	122	104	096	115	118	122	114	144
Caudal peduncle D	111	119	108	115	118	128	129	122
Caudal peduncle L	139	163	146	159	163	155	179	165
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	183	193	182	191	190	196	186	194

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY S. Apache

COLLECTED BY _____ DATE _____

Cat. # _____ Measurements by Cuhra DATE _____

Specimen # (conv.)

	9	10	11	12	13	14	15	16
Total L.								
Standard L.								
Body D	219	258	274	255	245	248	225	231
Head L	265	271	296	277	264	265	265	269
Orbit L								
Upper Jaw L	152	155	164	156	147	159	137	148
Dors. Orig. to Snt. tip	497	503	521	511	491	504	451	491
Dorsal fin basal L	159	168	151	156	153	159	167	157
Dorsal fin depressed L	252	245	240	234	239	257	265	250
Adip. fin depressed L	132	116	123	121	129	124	115	120
Caudal peduncle D	119	129	123	113	123	124	118	120
Caudal peduncle L	152	161	171	156	172	159	176	167
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	205	194	205	191	202	195	176	204

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES Stomias (?) LOCALITY South Apache power sample

COLLECTED BY Abel, Prichard & Bridges DATE

Cat. # Measurements by DATE

Specimen # 16

Total L.								
Standard L.								
Body D								
Head L								
Oroit L								
Upper Jaw L								
Dors. Orig. to Snt. tip								
Dorsal fin basal L								
Dorsal fin depressed L								
Adip. fin depressed L								
Caudal peduncle D								
Caudal peduncle L								
Vertebrae								
1st Arch gillrakers (up)	6-9	7.2						
(lower)	11-14	12.3						
(total)	17-21	19.5						
Branchiostegal rays right	9-11	10						
(left)	5-12	10.5						
Dorsal rays								
Anal rays								
Pectoral fin rays		9						
Scales in lateral line								
Scales above lateral line	36-42	40.8						
Scales 2 rows above lat.	154-186	178						
Pelvic fin rays	8-10	9						
Pyloric caeca	30-39	34.4						
Dentition	0-20	6.9	2	w/o teeth				

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Upper S. Apache

COLLECTED BY Miller & Hickman DATE _____

Cat. # _____ Measurements by _____ DATE _____

Specimen # 10

	1	2	3	4	5	6	7	8
Total L.	209	224	185	167	178	155	161	150
Standard L.	174	190	155	138	147	131	133	123
Body D	44	56	37	37	36	31	32	29
Head L	52	49	40	37	40	34	35	32
Oroit L								
Upper Jaw L	33	29	23	21	25	19	22	19
Dors. Orig. to Snt. tip	89	102	77	70	74	69	68	60
Dorsal fin basal L	23	23	22	22	20	19	20	19
Dorsal fin depressed L	41	41	35	33	30	28	33	27
Adip. fin depressed L	19	19	16	17	16	14	16	13
Caudal peduncle D	21	24	18	16	17	15	16	14
Caudal peduncle L	27	26	24	20	23	19	21	15
Vertebrae								
1st Arch gillrakers (up)	7	7	6	6	7	7	7	7
(lower)	13	11	11	11	11	12	11	13
(total)	20	18	17	17	18	19	18	20
Branchiostegal rays right	9	10	8	10	10	9	10	9
(left)	11	10	10	11	11	11	11	10
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	39	46	38	38	39	38	40	41
Scales 2 rows above lat.	178	185	157	170	160	179	178	167
Pelvic fin rays	9	9	9	9	9	9	9	9
Pyloric caeca lost 4's & 31.0								
Dentition	9	8	8	8	8	3	5	6
Anal fin length	23	24	19	18	20	17	17	17

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Upper S. Apache

COLLECTED BY Miller & Hickman DATE _____

Cat. # _____ Measurements by _____ DATE _____

Specimen # 40

	9	10		Range	$\bar{X}$			
Total L.	150	155						
Standard L.	123	130						
Body D	27	28						
Head L	31	34						
Oroit L								
Upper Jaw L	18	21						
Dors. Orig. to Snt. tip	59	63						
Dorsal fin basal L	18	19						
Dorsal fin depressed L	28	32						
Adip. fin depressed L	12	15						
Caudal peduncle D	13	15						
Caudal peduncle L	20	19						
Vertebrae								
1st Arch gillrakers (up)	6	7		6-7	6.7			
(lower)	11	12		11-13	11.6			
(total)	17	19		17-20	18.3			
Branchiostegal rays right	10	9		8-10	9.2			
(left)	10	10		10-11	10.5			
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line	38	41		38-46	39.8			
Scales 2 rows above lat.	159	162		159-185	169.5			
Pelvic fin rays	9	9			9			
Pyloric caeca								
Dentition	5	6		3-9	6.6			
Anal fin length	17	16						

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Upper S. Arkansas

COLLECTED BY _____ DATE _____

Cat. # _____ ~~Measurements~~ Conv. by Culver DATE _____

Specimen #

	1	2	3	4	5	6	7	8
Total L.								
Standard L.								
Body D	253	295	239	268	245	237	241	236
Head L	299	258	258	268	272	260	263	260
Orbit L								
Upper Jaw L	190	153	148	152	170	145	165	154
Dors. Orig. to Snt. tip	511	537	497	507	503	527	511	488
Dorsal fin basal L	132	121	142	159	136	145	150	154
Dorsal fin depressed L	236	216	226	239	204	214	248	220
Adip. fin depressed L	109	100	103	123	109	107	120	106
Caudal peduncle D	121	126	116	116	116	115	120	114
Caudal peduncle L	155	137	155	145	156	145	158	122
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	132	126	123	130	136	130	128	138

CHARACTER ANALYSIS SHEET - COLORADO COOPERATIVE FISHERY UNIT

SPECIES _____ LOCALITY Upper S. Apache

COLLECTED BY _____ DATE _____

Cat. # _____ Measurements by Culver DATE _____

Specimen # Conv.

	9	10						
Total L.								
Standard L.								
Body D	220	215						
Head L	252	262						
Orbit L								
Upper Jaw L	146	162						
Dors. Orig. to Snt. tip	480	485						
Dorsal fin basal L	146	146						
Dorsal fin depressed L	228	246						
Adip. fin depressed L	098	115						
Caudal peduncle D	106	115						
Caudal peduncle L	163	146						
Vertebrae								
1st Arch gillrakers (up)								
(lower)								
(total)								
Branchiostegal rays right								
(left)								
Dorsal rays								
Anal rays								
Pectoral fin rays								
Scales in lateral line								
Scales above lateral line								
Scales 2 rows above lat.								
Pelvic fin rays								
Pyloric caeca								
Dentition								
	138	123						