STANISLAUS RIVER, M.F., Section 6
Survey Date: 2001/10/10
Species: Rainbow trout

Number of shockers:	6
Number of passes:	3
Section length:	124.3599 meters
Mean width of section:	26.29348 meters

Weight estimation equation:	Weight = Length * 3.133 + 0.000
Estimation model source:	STANISLAUS RIVER, M.F., Section 6, 2001/10/10
Average weight of fish in sample:	27 grams
Range of measured lengths:	44 to 377 mm
Range of measured weights:	1 to 429 grams

Number of fish caught in each pass:

Pass	Fish caught
1	376
2	184
3	130

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	844.00 (+/-) 62.14
Upper 95% Confidence Limit:	906.14
Lower 95% Confidence Limit:	781.86

Capture Probability:	43%
Standard Error:	31.70
Error of Population Estimate:	7.36%
Coefficient of Variation:	0.04

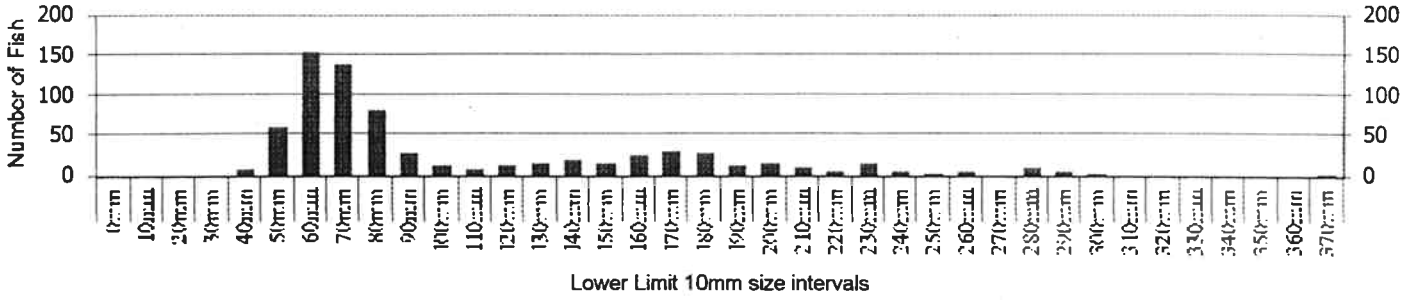
Biomass:	22.79 kg	50.13 lbs
Standing Crop:	69.69 kg/ha	62.05 lbs/acre

Fish per Mile, 95% C.I.:	10,922.22 (+/-) 804.10
Fish per Kilometer, 95% C.I.:	6,786.75 (+/-) 499.65

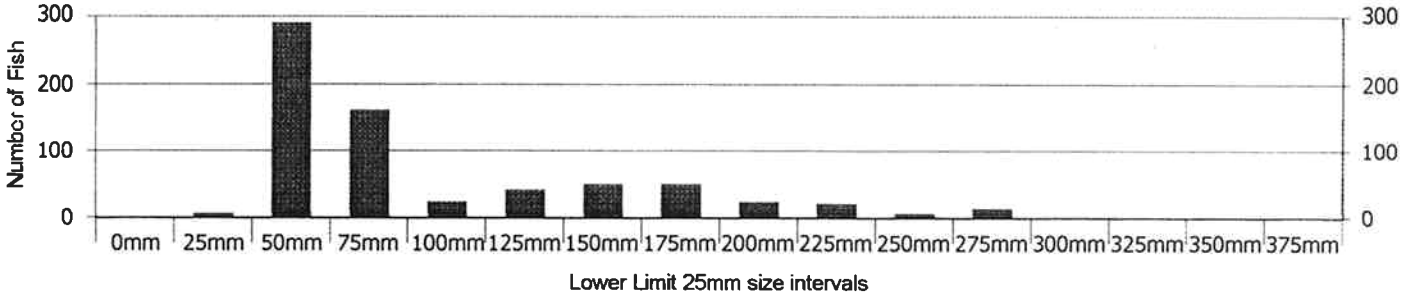
STANISLAUS RIVER, M.F., Section 6

Survey Date: **2001/10/10** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



STANISLAUS RIVER, M.F., Section 6
Survey Date: 2001/10/10
Species: Brown trout

Number of shockers:	6
Number of passes:	3
Section length:	124.3599 meters
Mean width of section:	26.29348 meters

Weight estimation equation:	Weight = Length * 3.072 + 0.000
Estimation model source:	STANISLAUS RIVER, M.F., Section 6, 2001/10/10
Average weight of fish in sample:	54 grams
Range of measured lengths:	64 to 398 mm
Range of measured weights:	2 to 630 grams

Number of fish caught in each pass:

Pass	Fish caught
1	214
2	89
3	66

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	430.00 (+/-) 34.02
Upper 95% Confidence Limit:	464.02
Lower 95% Confidence Limit:	395.98

Capture Probability:	48%
Standard Error:	17.36
Error of Population Estimate:	7.91%
Coefficient of Variation:	0.04

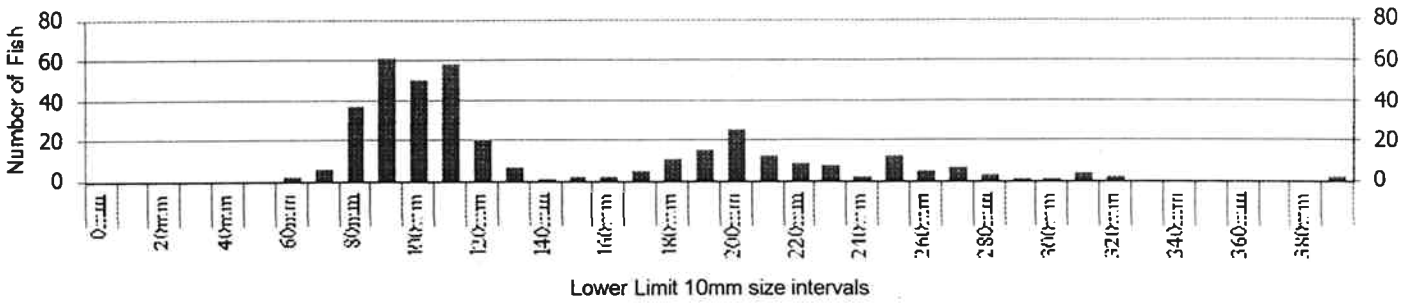
Biomass:	23.22 kg	51.08 lbs
Standing Crop:	71.01 kg/ha	63.22 lbs/acre

Fish per Mile, 95% C.I.:	5,564.64 (+/-) 440.26
Fish per Kilometer, 95% C.I.:	3,457.71 (+/-) 273.57

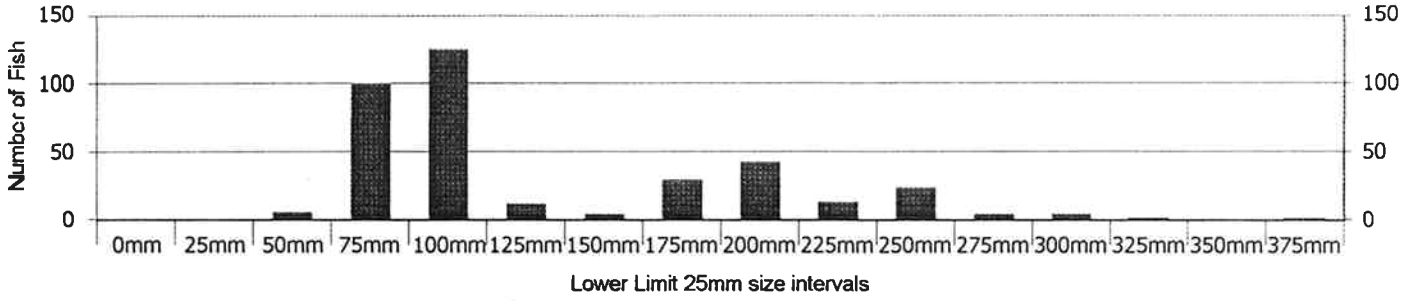
STANISLAUS RIVER, M.F., Section 6

Survey Date: **2001/10/10** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



Date

WATER QUALITY

Parameter	Value & Unit	Time	Method	Measured by	Recorded by
Water Temperature	14 (°C) or °F (circle one)	10:00	☐ pocket thermometer ☑ other (specify) YSI meter	M. Bogan	
Specific Conductivity	35 micromhos/cm	10:00	☐ Hanna Waterchek meter ☑ YSI meter ☐ other (specify)	M. Bogan	
Ambient Conductivity	micromhos/cm	same as above	Ambient Conductivity = Specific Conductivity / [1.02]$^{(25 - \text{Water Temp.°C})}$		
pH			☐ Hanna Waterchek meter ☐ other (specify)		
Total Alkalinity	mg/l		☐ Chemetrics Titret Kit ☐ other (specify)		

COMMENTS: (Note appearance, turbidity, etc. If conductivity is low and **salt is added**, specify quantity, remeasure conductivity at least once before each pass, and note time.) Four 4lb salt blocks added above upstream seine.

ELECTROFISHING CONDITIONS

Type of Electrofisher(s) Used: (check one)
☑ backpack ☐ totebarge ☐ boat
Make & Model(s): Type 12B

Electrofisher Settings:
Pulse Frequency ____ Hz
Pulse Duration ____ ms
Mode H / 5 (SR Type XII only)
Output Voltage 400 Volts
Current ≈ .14 Amps
Power = Volts x Amps = 56 Watts

General Fish Response: (check all that apply)
☒ Galvanotaxis ☐ Narcosis ☐ Tetany

Estimated Flow: 25 cfs

Water Clarity: (check one)
☐ 0 - 2 ft ☒ 2 - 4 ft ☐ > 4 ft

Weed Cover: 5 %

Start Time: _____ **End Time:** _____

ELECTROFISHING EFFORT ①

Operator	Alex	Mike	Tom S.	Brian B	Terry	Total	Brian Q
Shocker	Obi Wan	Cartman	Shadow C	WT 1	WT 2	Time (sec)	Easy cheese
Pass 1	3372	3378	3461	2787	2210		1302
Pass 2	2700	2591	2351	2407	1861		1259
Pass 3	2253	2338	2186	2217	1473		1139
Pass 4							

OTHER CREW MEMBERS: (First and last names, please!)

Netters	Live Car Tenders	Fish Processing
Dave Campodonico ②	Alec Strachan ④	
Jody Seels ①	Alice Poulsen ②	
Dawn Carlton	Steve Felty ⑤	
Andy Hatch ③		
Jason Phillips		

① Tom Studley, PG&E
④ volunteer
⑤ Tim Duff

STANISLAUS RIVER, M.F., Section 7
Survey Date: 2001/10/04
Species: Brown trout

Number of shockers:	4
Number of passes:	3
Section length:	85.34504 meters
Mean width of section:	19.62105 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	164 grams
Range of measured lengths:	254 to 267 mm
Range of measured weights:	154 to 175 grams

Number of fish caught in each pass:

Pass	Fish caught
1	1
2	0
3	1

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	2.00 (+/-) 4.47
Upper 95% Confidence Limit:	6.47
Lower 95% Confidence Limit:	2.00

Capture Probability:	50%
Standard Error:	1.04
Error of Population Estimate:	223.27%
Coefficient of Variation:	0.52

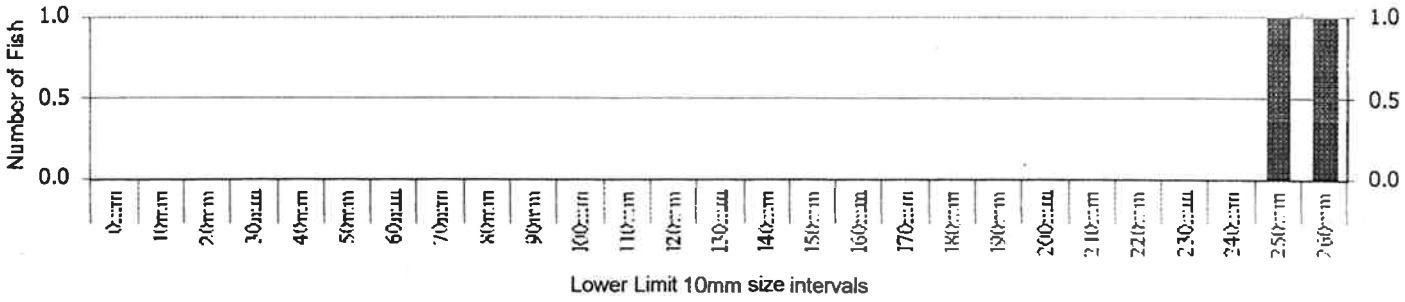
Biomass:	0.33 kg	0.72 lbs
Standing Crop:	1.96 kg/ha	1.74 lbs/acre

Fish per Mile, 95% C.I.:	37.71 (+/-) 84.20
Fish per Kilometer, 95% C.I.:	23.43 (+/-) 52.32

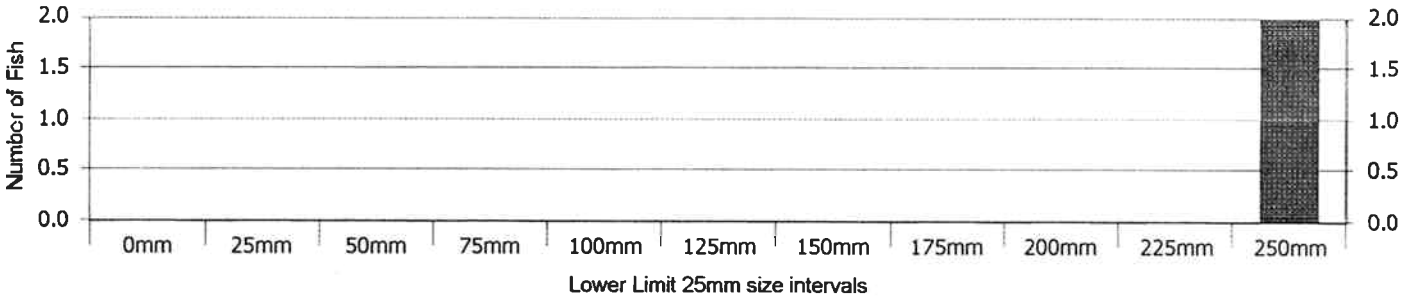
STANISLAUS RIVER, M.F., Section 7

Survey Date: **2001/10/04** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



STANISLAUS RIVER, M.F., Section 7
Survey Date: 2001/10/04
Species: Rainbow trout

Number of shockers:	4
Number of passes:	3
Section length:	85.34504 meters
Mean width of section:	19.62105 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	84 grams
Range of measured lengths:	163 to 283 mm
Range of measured weights:	36 to 167 grams

Number of fish caught in each pass:

Pass	Fish caught
1	6
2	3
3	2

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	11.00 (+/-) 2.80
Upper 95% Confidence Limit:	13.80
Lower 95% Confidence Limit:	11.00

Capture Probability:	61%
Standard Error:	1.27
Error of Population Estimate:	25.41%
Coefficient of Variation:	0.12

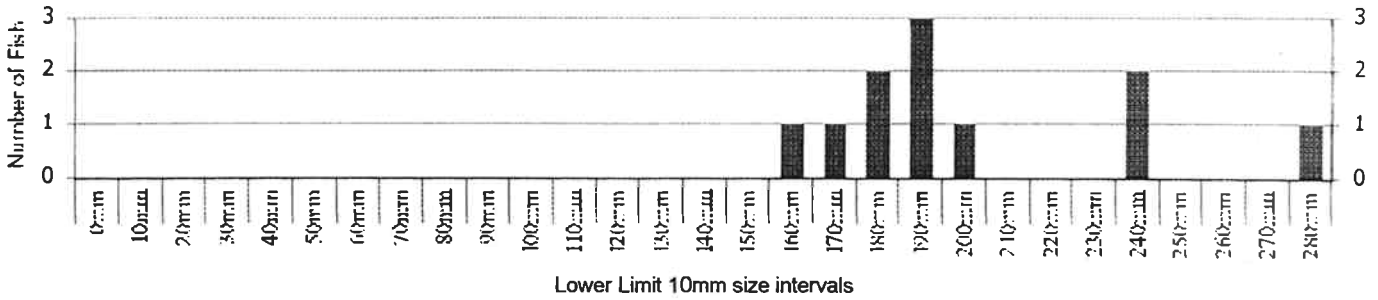
Biomass:	0.92 kg	**2.03 lbs**
Standing Crop:	5.52 kg/ha	**4.91 lbs/acre**

Fish per Mile, 95% C.I.:	207.43 (+/-) 52.71
Fish per Kilometer, 95% C.I.:	128.89 (+/-) 32.75

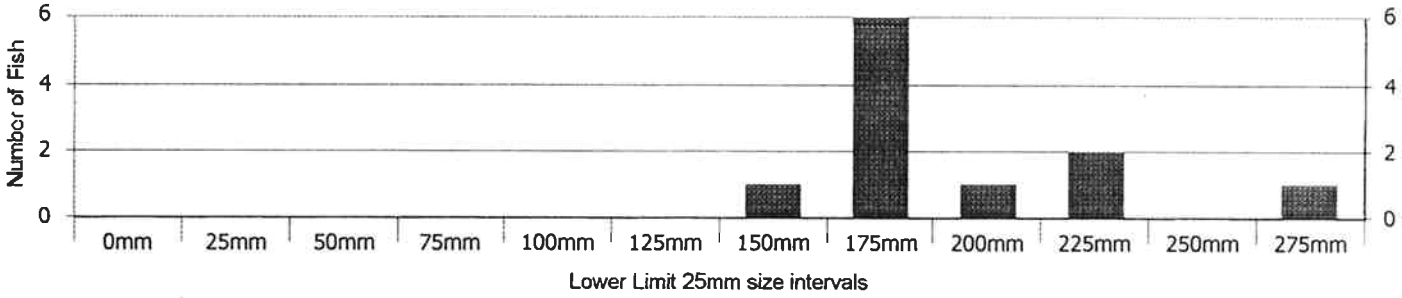
STANISLAUS RIVER, M.F., Section 7

Survey Date: **2001/10/04** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



STANISLAUS RIVER, M.F., Section 3
Survey Date: 2001/10/02
Species: Brown trout

Number of shockers:	5
Number of passes:	3
Section length:	73.15289 meters
Mean width of section:	25.22251 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	52 grams
Range of measured lengths:	69 to 282 mm
Range of measured weights:	1 to 214 grams

Number of fish caught in each pass:

Pass	Fish caught
1	98
2	43
3	30

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	199.00 (+/-) 23.10
Upper 95% Confidence Limit:	222.10
Lower 95% Confidence Limit:	175.90

Capture Probability:	48%
Standard Error:	11.79
Error of Population Estimate:	11.61%
Coefficient of Variation:	0.06

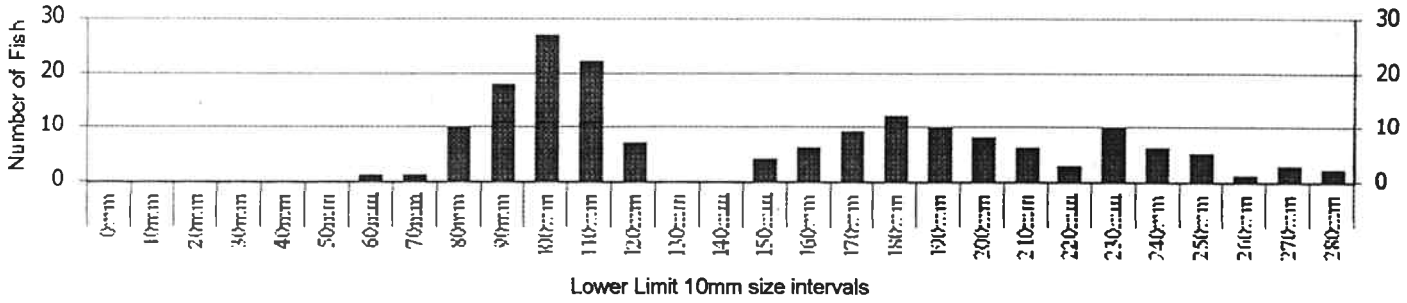
Biomass:	10.35 kg	22.77 lbs
Standing Crop:	56.08 kg/ha	49.93 lbs/acre

Fish per Mile, 95% C.I.:	4,377.95 (+/-) 508.29
Fish per Kilometer, 95% C.I.:	2,720.33 (+/-) 315.84

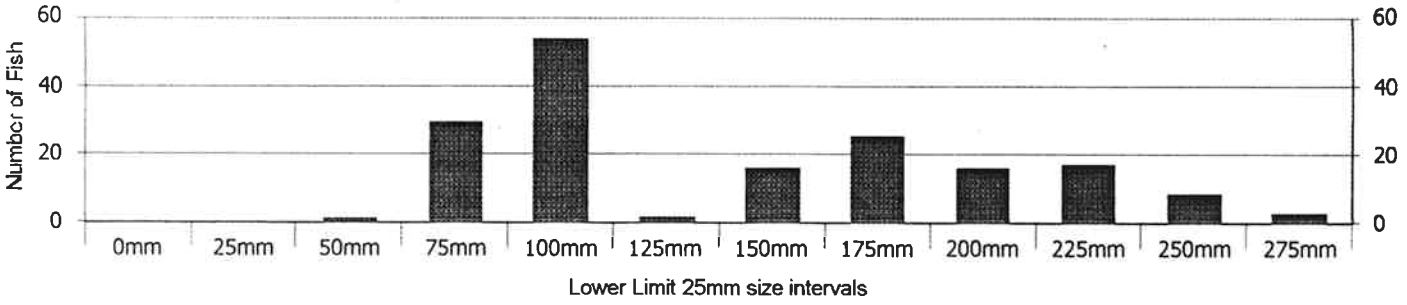
STANISLAUS RIVER, M.F., Section 3

Survey Date: **2001/10/02** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



STANISLAUS RIVER, M.F., Section 3
Survey Date: 2001/10/02
Species: Rainbow trout

Number of shockers:	5
Number of passes:	3
Section length:	73.15289 meters
Mean width of section:	25.22251 meters

Weight estimation equation:	Weight = Length * 3.255 + 0.000
Estimation model source:	STANISLAUS RIVER, M.F., Section 3, 2001/10/02
Average weight of fish in sample:	36 grams
Range of measured lengths:	51 to 274 mm
Range of measured weights:	1 to 194 grams

Number of fish caught in each pass:

Pass	Fish caught
1	80
2	59
3	25

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	204.00 (+/-) 33.43
Upper 95% Confidence Limit:	237.43
Lower 95% Confidence Limit:	170.57

Capture Probability:	42%
Standard Error:	17.06
Error of Population Estimate:	16.39%
Coefficient of Variation:	0.08

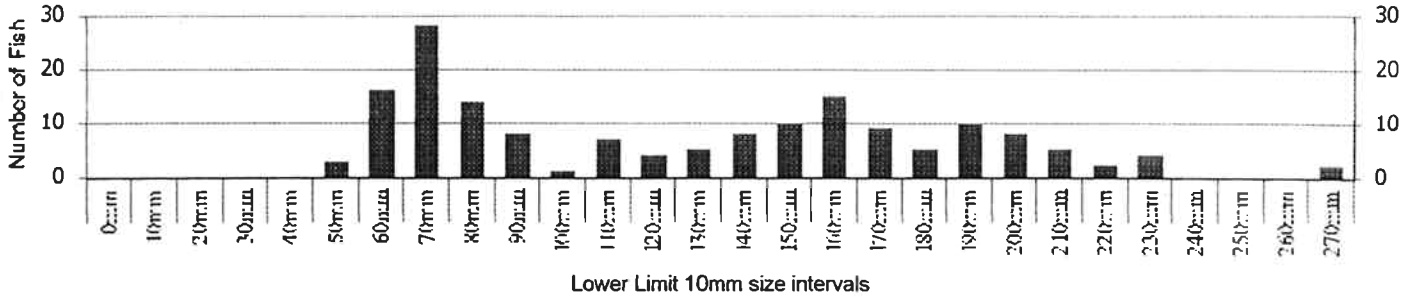
Biomass:	7.34 kg	16.16 lbs
Standing Crop:	39.80 kg/ha	35.44 lbs/acre

Fish per Mile, 95% C.I.:	4,487.95 (+/-) 735.41
Fish per Kilometer, 95% C.I.:	2,788.68 (+/-) 456.96

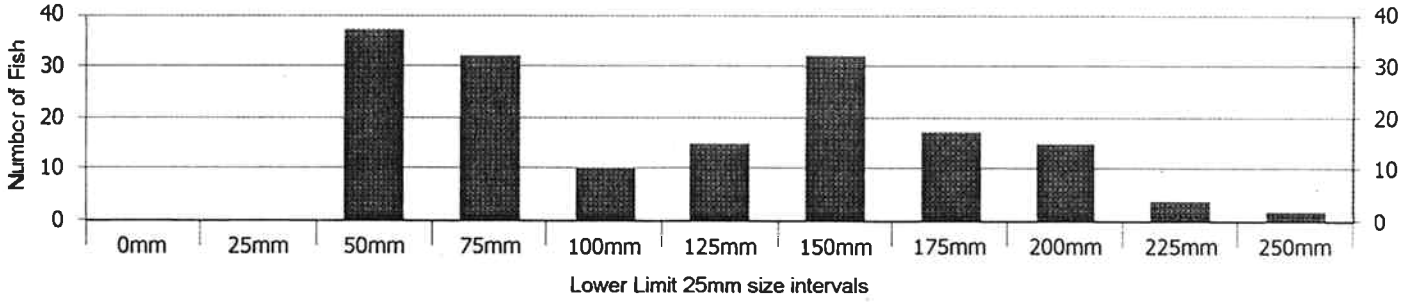
STANISLAUS RIVER, M.F., Section 3

Survey Date: **2001/10/02** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



Date ____

WATER QUALITY

Parameter	Value & Unit	Time	Method	Measured by	Recorded by
Water Temperature	17 °C or °F (circle one)	1030	☐ pocket thermometer ☒ other (specify) YSI meter	M. Bogan	A. C...
Specific Conductivity	40 micromhos/cm	1020	☐ Hanna Waterchek meter ☒ YSI meter ☐ other (specify) ____	M Bogan	A C...
Ambient Conductivity	micromhos/cm	same as above	Ambient Conductivity = Specific Conductivity / [1.02]^(25 - Water Temp.°C)		
pH			☐ Hanna Waterchek meter ☐ other (specify) ____		
Total Alkalinity	mg/l		☐ Chemetrics Titret Kit ☐ other (specify) ____		

COMMENTS: (Note appearance, turbidity, etc. If conductivity is low and **salt is added**, specify quantity, remeasure conductivity at least once before each pass, and note time.)

4 salt blocks added to section before each pass (12 blocks total)

ELECTROFISHING CONDITIONS

Type of Electrofisher(s) Used: (check one)
☒ backpack ☐ totebarge ☐ boat
Make & Model(s): Type 12 B

Electrofisher Settings:
Pulse Frequency ____ Hz
Pulse Duration ____ ms
Mode H / 5 (SR Type XII only)
Output Voltage 300 Volts
Current .10-.18 Amps
Power = Volts x Amps = ____ Watts

General Fish Response: (check all that apply)
☒ Galvanotaxis ☐ Narcosis ☐ Tetany

Estimated Flow: 25 cfs

Water Clarity: (check one)
☐ 0 - 2 ft ☐ 2 - 4 ft ☒ > 4 ft

Weed Cover: 0 %

Start Time: 11:00 **End Time:** 11:45 - first pass

ELECTROFISHING EFFORT

	left channel			right channel (PG&E)		
Operator	Michael	Andrew	BRIAN B.	ALEX	Tom S	Total
Shocker	EAST CREEK	R-4 #1	SHARON CREEK	OBI WAN		Time (sec)
Pass 1	1376	1494	1678	counter not working	1986	
Pass 2	1223	1239	1422	1895	1681	
Pass 3	1041	999	1151	1479	1501	
Pass 4						

OTHER CREW MEMBERS: (First and last names, please!)

Netters	Live Car Tenders	Fish Processing
Rodney Brown	Todd Wong (right channel)	Katie Perry
Keith Williams	Brian Quelvog (left channel)	collected
Shawn Shiba		SH/RT tissue
Derek Givens		samples
Alec Strachan (Watsonville)		see data sheets
		for fish processing
		personnel - fish
		were worked up after
		the 3 passes were
		completed

left channel / right channel

STANISLAUS RIVER, M.F., Section 2
Survey Date: 2001/10/03
Species: Brown trout

Number of shockers:	5
Number of passes:	3
Section length:	89.00269 meters
Mean width of section:	22.89218 meters

Weight estimation equation:	Weight = Length * 3.074 + 0.000
Estimation model source:	STANISLAUS RIVER, M.F., Section 2, 2001/10/03
Average weight of fish in sample:	50 grams
Range of measured lengths:	65 to 301 mm
Range of measured weights:	2 to 283 grams

Number of fish caught in each pass:

Pass	Fish caught
1	92
2	26
3	19

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	146.00 (+/-) 9.64
Upper 95% Confidence Limit:	155.64
Lower 95% Confidence Limit:	137.00
Capture Probability:	60%
Standard Error:	4.92
Error of Population Estimate:	6.60%
Coefficient of Variation:	0.03

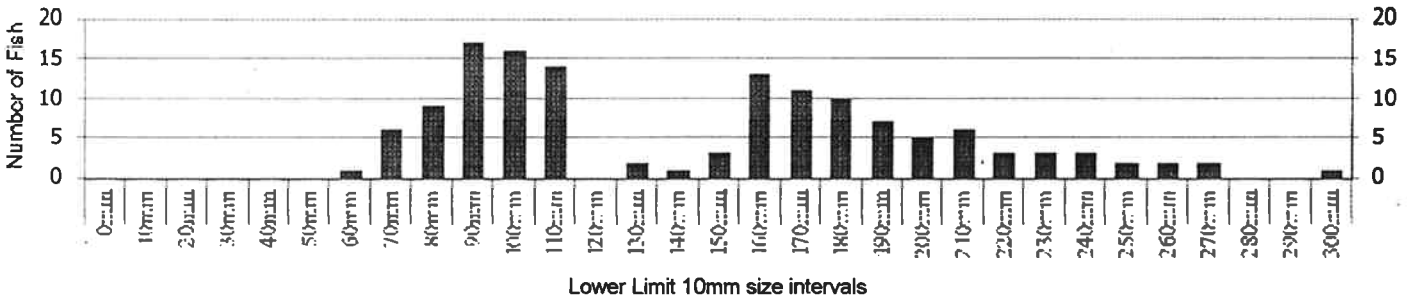
Biomass:	7.30 kg	16.06 lbs
Standing Crop:	35.83 kg/ha	31.90 lbs/acre

Fish per Mile, 95% C.I.:	2,639.97 (+/-) 174.33
Fish per Kilometer, 95% C.I.:	1,640.40 (+/-) 108.33

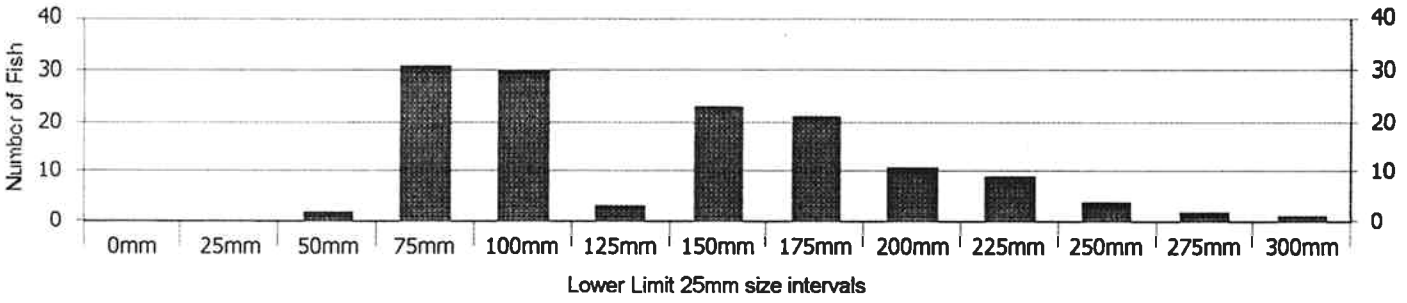
STANISLAUS RIVER, M.F., Section 2

Survey Date: **2001/10/03** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



STANISLAUS RIVER, M.F., Section 2
Survey Date: 2001/10/03
Species: Rainbow trout

Number of shockers:	5
Number of passes:	3
Section length:	89.00269 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	26 grams
Range of measured lengths:	43 to 282 mm
Range of measured weights:	1 to 199 grams

Number of fish caught in each pass:

Pass	Fish caught
1	228
2	88
3	48

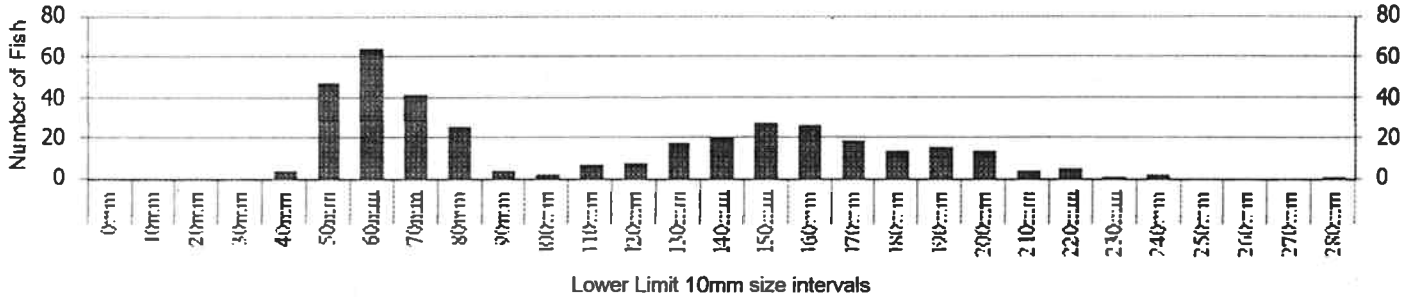
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	396.00 (+/-) 19.60	
Upper 95% Confidence Limit:	415.60	
Lower 95% Confidence Limit:	376.40	
Capture Probability:	57%	
Standard Error:	10.00	
Error of Population Estimate:	4.95%	
Coefficient of Variation:	0.03	
Biomass:	10.30 kg	22.65 lbs
Standing Crop:	50.53 kg/ha	44.99 lbs/acre
Fish per Mile, 95% C.I.:	7,160.46 (+/-) 354.33	
Fish per Kilometer, 95% C.I.:	4,449.30 (+/-) 220.17	

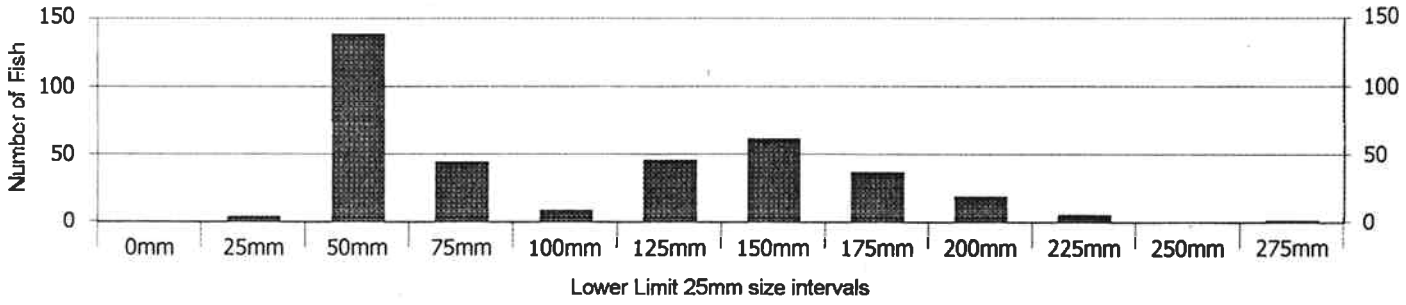
STANISLAUS RIVER, M.F., Section 2

Survey Date: **2001/10/03** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



CLARK FORK, Section 6
Survey Date: 2001/10/11
Species: Brown trout

Number of shockers:	3
Number of passes:	3
Section length:	93.87954 meters
Mean width of section:	8.997252 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	3 grams
Range of measured lengths:	85 to 85 mm
Range of measured weights:	3 to 3 grams

Number of fish caught in each pass:

Pass	Fish caught
1	1
2	0
3	0

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	1.00 (+/-) 0.00
Upper 95% Confidence Limit:	1.00
Lower 95% Confidence Limit:	1.00

Capture Probability:	100%
Standard Error:	0.00
Error of Population Estimate:	.00%
Coefficient of Variation:	0.00

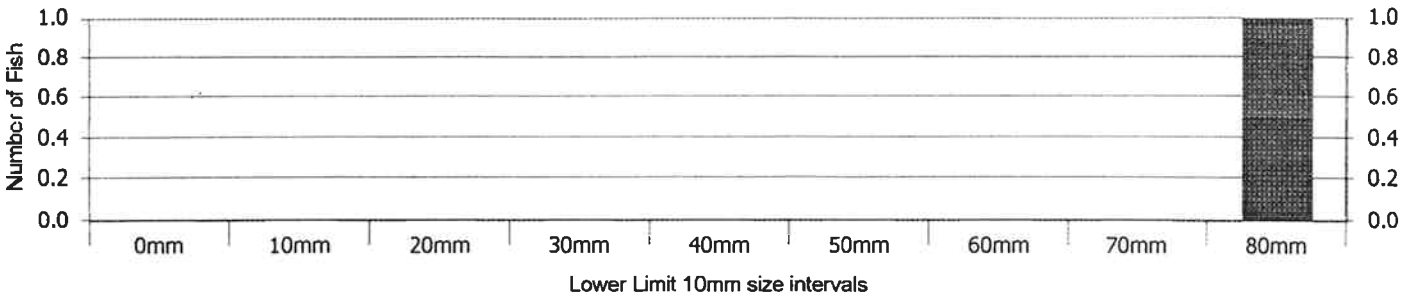
Biomass:	0.00 kg	0.01 lbs
Standing Crop:	0.04 kg/ha	0.03 lbs/acre

Fish per Mile, 95% C.I.:	17.14 (+/-) 0.00
Fish per Kilometer, 95% C.I.:	10.65 (+/-) 0.00

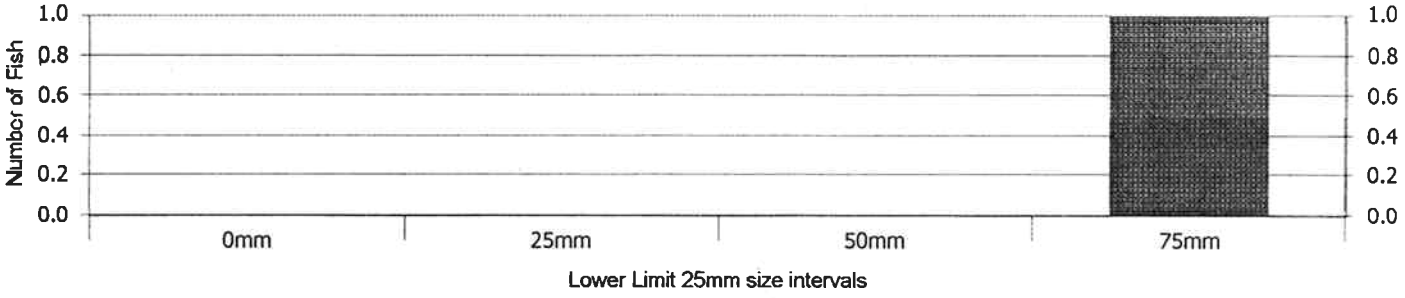
CLARK FORK, Section 6

Survey Date: **2001/10/11** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



CLARK FORK, Section 6
Survey Date: 2001/10/11
Species: Brook trout

Number of shockers:	3
Number of passes:	3
Section length:	93.87954 meters
Mean width of section:	8.997252 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	23 grams
Range of measured lengths:	75 to 185 mm
Range of measured weights:	2 to 68 grams

Number of fish caught in each pass:

Pass	Fish caught
1	17
2	10
3	2

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	30.00 (+/-) 3.82
Upper 95% Confidence Limit:	33.82
Lower 95% Confidence Limit:	29.00

Capture Probability:	63%
Standard Error:	1.87
Error of Population Estimate:	12.72%
Coefficient of Variation:	0.06

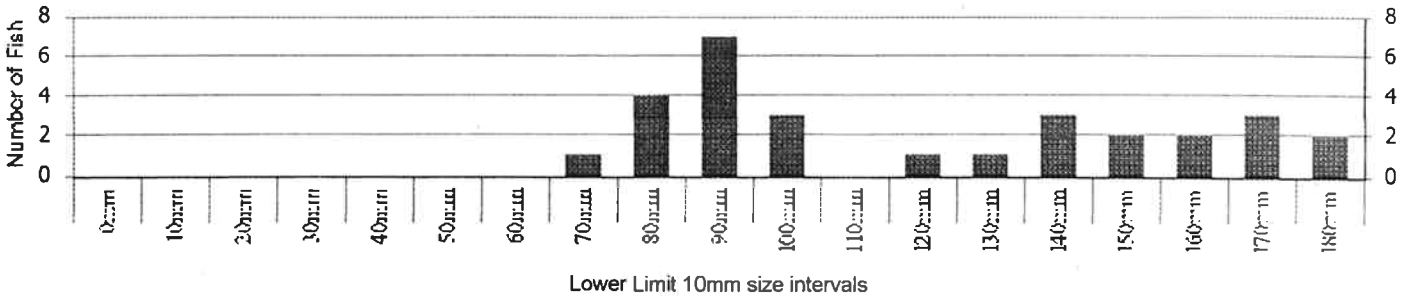
Biomass:	0.69 kg	1.52 lbs
Standing Crop:	8.17 kg/ha	7.27 lbs/acre

Fish per Mile, 95% C.I.:	514.28 (+/-) 65.41
Fish per Kilometer, 95% C.I.:	319.56 (+/-) 40.64

CLARK FORK, Section 6

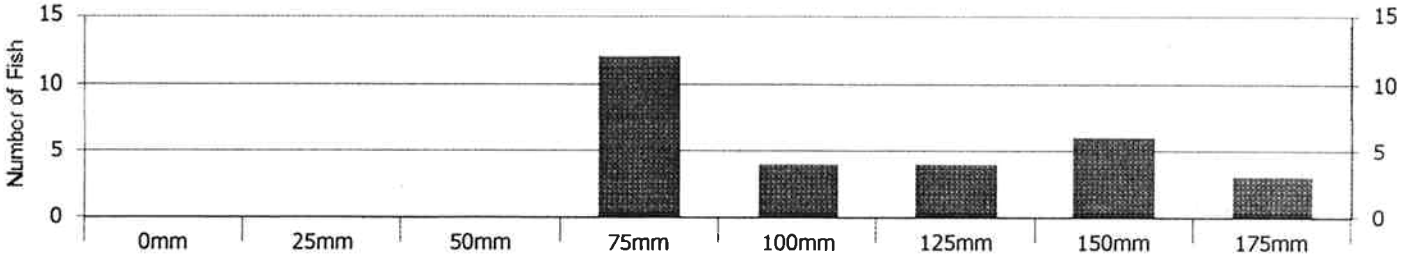
Survey Date: **2001/10/11** Species: **Brook trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

CLARK FORK, Section 6
Survey Date: 2001/10/11
Species: Rainbow trout

Number of shockers:	3
Number of passes:	3
Section length:	93.87954 meters
Mean width of section:	8.997252 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	16 grams
Range of measured lengths:	46 to 292 mm
Range of measured weights:	1 to 245 grams

Number of fish caught in each pass:

Pass	Fish caught
1	49
2	26
3	18

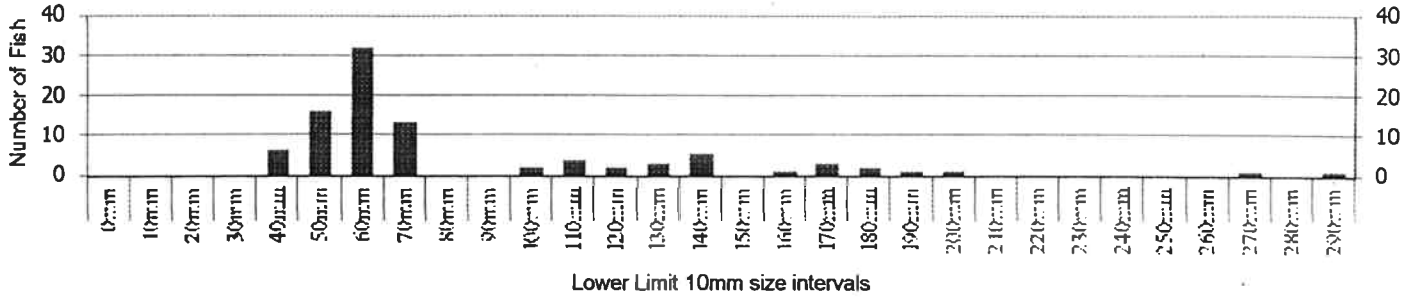
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	115.00 (+/-) 24.82
Upper 95% Confidence Limit:	139.82
Lower 95% Confidence Limit:	93.00
Capture Probability:	42%
Standard Error:	12.54
Error of Population Estimate:	21.59%
Coefficient of Variation:	0.11
Biomass:	1.84 kg 4.05 lbs
Standing Crop:	21.78 kg/ha 19.39 lbs/acre
Fish per Mile, 95% C.I.:	1,971.40 (+/-) 425.55
Fish per Kilometer, 95% C.I.:	1,224.97 (+/-) 264.42

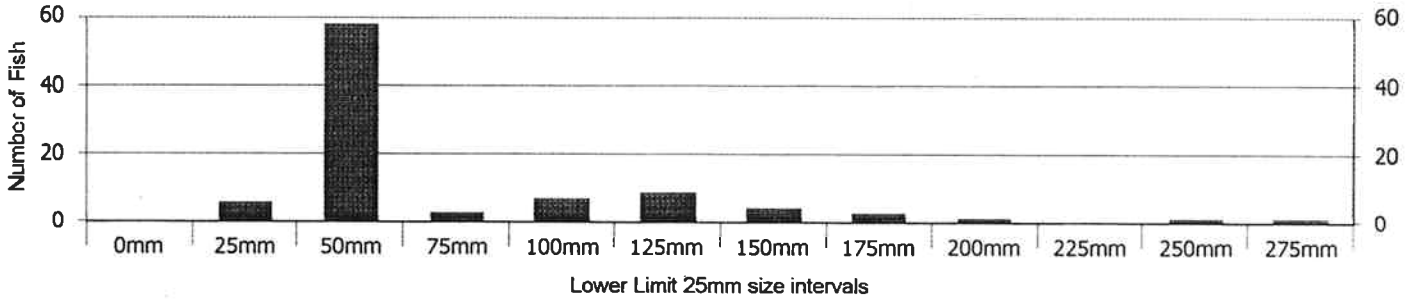
CLARK FORK, Section 6

Survey Date: **2001/10/11** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



Date

Parameter	Value & Unit	Time	Method	Measured by	Recorded by
Water Temperature	5 (°C) or °F (circle one)	09:00	☐ pocket thermometer ☒ other (specify) YSI meter	M. Bogan	M. Bogan
Specific Conductivity	45 micromhos/cm	09:00	☐ Hanna Waterchek meter ☒ YSI meter ☐ other (specify) ______	M. Bogan	M. Bogan
Ambient Conductivity	micromhos/cm	same as above	Ambient Conductivity = Specific Conductivity / $[1.02]^{(25 - \text{Water Temp. °C})}$		
pH			☐ Hanna Waterchek meter ☐ other (specify) ______		
Total Alkalinity	mg/l		☐ Chemetrics Titret Kit ☐ other (specify) ______		

COMMENTS: (Note appearance, turbidity, etc. If conductivity is low and **salt is added**, specify quantity, remeasure conductivity at least once before each pass, and note time.) Salt added before 1st pass

ELECTROFISHING CONDITIONS

Type of Electrofisher(s) Used: (check one)

☒ backpack ☐ totebarge ☐ boat

Make & Model(s): SR TYPE 12B

Electrofisher Settings:

Pulse Frequency ____ Hz

Pulse Duration ____ ms

Mode H / 5 (SR Type XII only)

Output Voltage 400 Volts

Current 0.12 Amps

Power = Volts x Amps = 48 Watts

General Fish Response: (check all that apply)

☒ Galvanotaxis ☐ Narcosis ☐ Tetany

Estimated Flow: See measurements cfs

Water Clarity: (check one)

☐ 0 - 2 ft ☐ 2 - 4 ft ☒ > 4 ft

Weed Cover: 0 %

Start Time: 09:30 **End Time:** 10:55

ELECTROFISHING EFFORT

Operator	ALEX	MIKE	BRIAN B			Total
Shocker	OBI WON	SHADOWCASTER	EASY CHEESE			Time (sec)
Pass 1	1468	1543	1408			
Pass 2	1032	1159	1097			
Pass 3	1010	872	899			
Pass 4						

OTHER CREW MEMBERS: (First and last names, please!)

Netters	Live Car Tenders	Fish Processing
Jody Seals	Jason Phillips	Sharon Shiba
Alec Strachan		
Dawn Carlton		
Brian Quelvog		
		— —

CLARK FORK, Section 3
Survey Date: 2001/10/12
Species: Brook trout

Number of shockers:	3
Number of passes:	3
Section length:	86.86906 meters
Mean width of section:	7.265412 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	35 grams
Range of measured lengths:	82 to 199 mm
Range of measured weights:	4 to 60 grams

Number of fish caught in each pass:

Pass	Fish caught
1	4
2	2
3	1

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	7.00 (+/-) 2.06
Upper 95% Confidence Limit:	9.06
Lower 95% Confidence Limit:	7.00

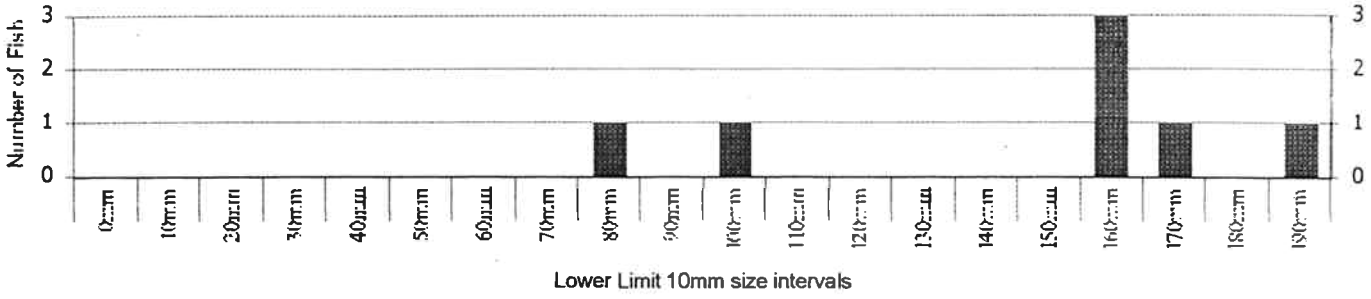
Capture Probability:	64%	
Standard Error:	0.87	
Error of Population Estimate:	29.36%	
Coefficient of Variation:	0.12	
Biomass:	0.25 kg	0.54 lbs
Standing Crop:	3.88 kg/ha	3.46 lbs/acre

Fish per Mile, 95% C.I.:	129.68 (+/-) 38.08
Fish per Kilometer, 95% C.I.:	80.58 (+/-) 23.66

CLARK FORK, Section 3

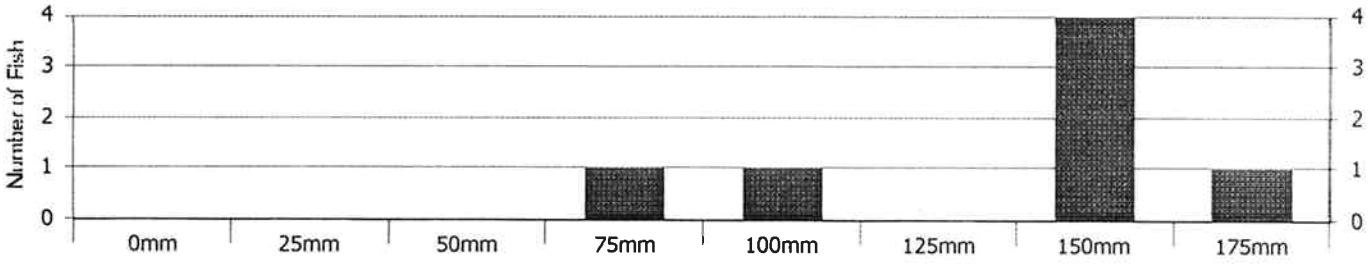
Survey Date: **2001/10/12** Species: **Brook trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

CLARK FORK, Section 3
Survey Date: 2001/10/12
Species: Rainbow trout

Number of shockers:	3
Number of passes:	3
Section length:	86.86906 meters
Mean width of section:	7.265412 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	15 grams
Range of measured lengths:	46 to 234 mm
Range of measured weights:	1 to 138 grams

Number of fish caught in each pass:

Pass	Fish caught
1	27
2	15
3	6

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	53.00 (+/-) 8.81
Upper 95% Confidence Limit:	61.81
Lower 95% Confidence Limit:	48.00

Capture Probability:	53%
Standard Error:	4.40
Error of Population Estimate:	16.62%
Coefficient of Variation:	0.08

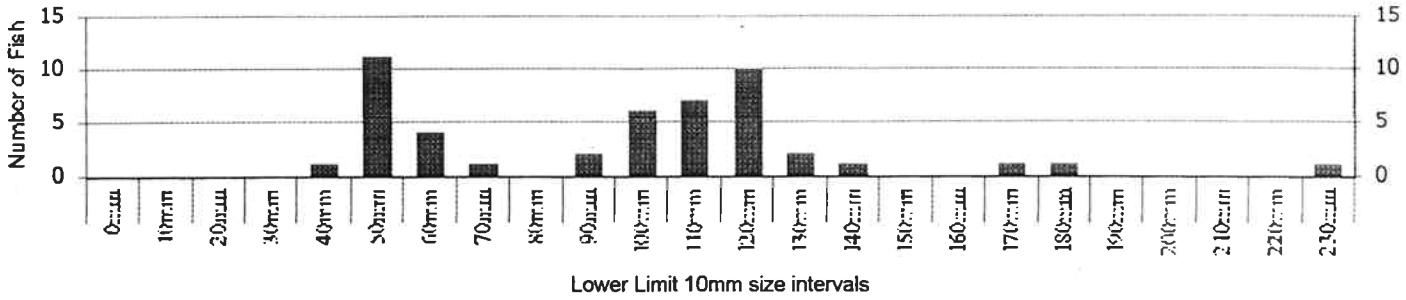
Biomass:	0.80 kg	1.75 lbs
Standing Crop:	12.60 kg/ha	11.21 lbs/acre

Fish per Mile, 95% C.I.:	981.88 (+/-) 163.16
Fish per Kilometer, 95% C.I.:	610.11 (+/-) 101.38

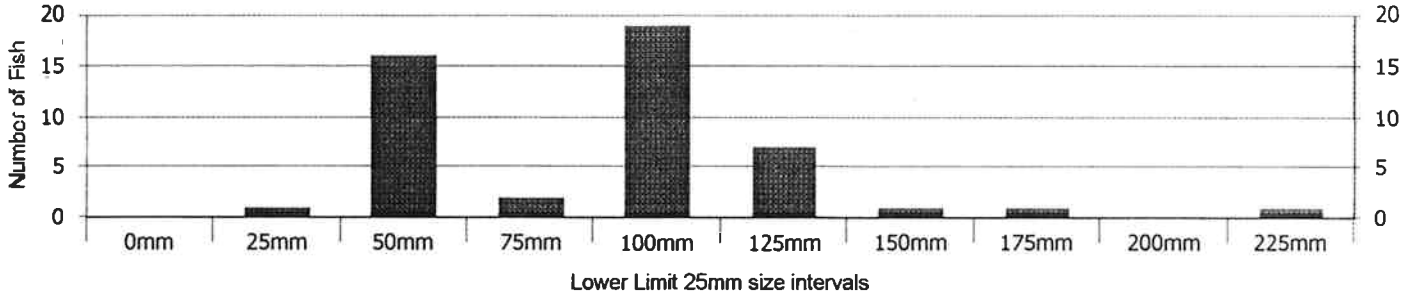
CLARK FORK, Section 3

Survey Date: **2001/10/12** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



Date

WATER QUALITY

Parameter	Value & Unit	Time	Method	Measured by	Recorded by
Water Temperature	6 °C or °F (circle one)	≈ 11:15	☐ pocket thermometer ☑ other (specify) YSI METER	[illegible]	[illegible]
Specific Conductivity	41 micromhos/cm	≈ 11:15	☐ Hanna Waterchek meter ☒ YSI meter ☐ other (specify)	"	"
Ambient Conductivity	micromhos/cm	same as above	Ambient Conductivity = Specific Conductivity / [1.02]$^{(25 - \text{Water Temp.}^\circ\text{C})}$		
pH			☐ Hanna Waterchek meter ☐ other (specify)		
Total Alkalinity	mg/l		☐ Chemetrics Titret Kit ☐ other (specify)		

COMMENTS: (Note appearance, turbidity, etc. If conductivity is low and **salt is added**, specify quantity, remeasure conductivity at least once before each pass, and note time.) SALT ADDED BEFORE 1st PASS

ELECTROFISHING CONDITIONS

Type of Electrofisher(s) Used: (check one)
☒ backpack ☐ totebarge ☐ boat
Make & Model(s): SR TYPE 12B

Electrofisher Settings:
Pulse Frequency ____ Hz
Pulse Duration ____ ms
Mode G / 4 (SR Type XII only)
Output Voltage 300 Volts
Current 0.10 Amps
Power = Volts x Amps = 30 Watts

General Fish Response: (check all that apply)
☒ Galvanotaxis ☐ Narcosis ☐ Tetany

Estimated Flow: ~8-9 cfs

Water Clarity: (check one)
☐ 0 - 2 ft ☐ 2 - 4 ft ☒ > 4 ft

Weed Cover: 0 %

Start Time: 1055 **End Time:** 1224

ELECTROFISHING EFFORT

Operator	Michael	Alex	Brian Bell			Total
Shocker	EASY CHECK	OBI WON	SHADOWCASTER			Time (sec)
Pass 1	1169	1206	1220			
Pass 2	1005	1044	1116			
Pass 3	996	1007	1020			
Pass 4						

OTHER CREW MEMBERS: (First and last names, please!)

Netters	Live Car Tenders	Fish Processing
Dawn Carlton *	Dave Campobasso	Sharon Shiba
Jason Phillips		Dawn Carlton
Alec Strachan		

SAN JOAQUIN RIVER 1.F., Section 6
Survey Date: 2002/10/28
Species: Brook trout

Number of shockers:	4
Number of passes:	3
Section length:	85.9546 meters
Mean width of section:	8.5 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	20 grams
Range of measured lengths:	57 to 196 mm
Range of measured weights:	2 to 58 grams

Number of fish caught in each pass:

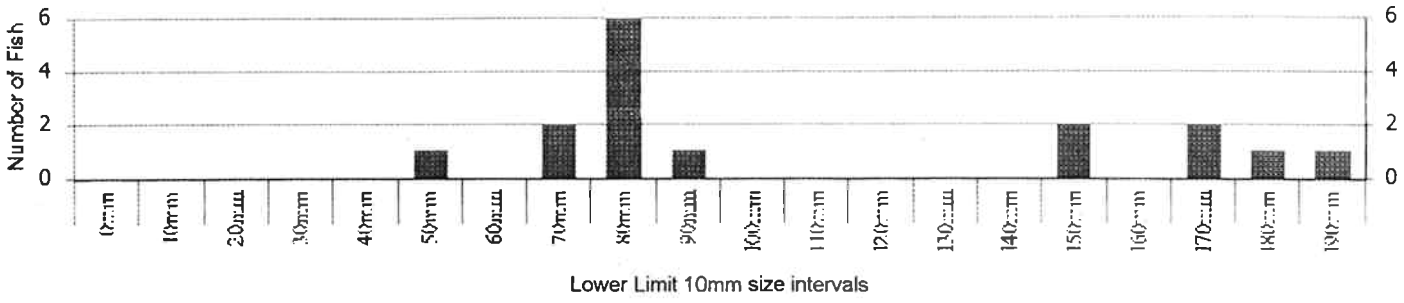
Pass	Fish caught
1	12
2	3
3	1

Maximum Likelihood Model (Burnham)		
Population Estimate, 95% C. I.:	16.00 (+/-) 1.19	
Upper 95% Confidence Limit:	17.19	
Lower 95% Confidence Limit:	16.00	
Capture Probability:	76%	
Standard Error:	0.56	
Error of Population Estimate:	7.43%	
Coefficient of Variation:	0.04	
Biomass:	0.32 kg	0.70 lbs
Standing Crop:	4.38 kg/ha	3.90 lbs/acre
Fish per Mile, 95% C.I.:	299.57 (+/-) 22.27	
Fish per Kilometer, 95% C.I.:	186.14 (+/-) 13.84	

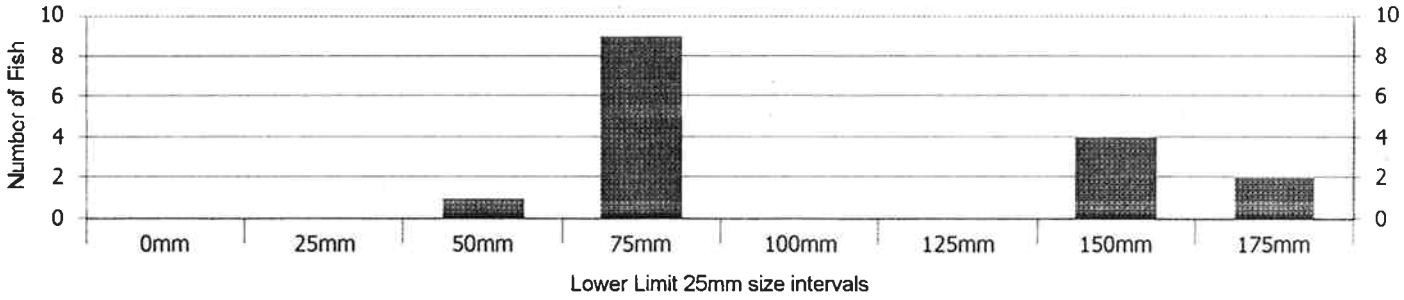
SAN JOAQUIN RIVER, M.F., Section F

Survey Date: **2002/10/28** Species: **Brook trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER M.F., Section 6
Survey Date: 2002/10/28
Species: Rainbow trout

Number of shockers:	4
Number of passes:	3
Section length:	85.9546 meters
Mean width of section:	8.5 meters
Weight estimation equation:	Weight = Length * 3.018 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 6, 2002/10/28
Average weight of fish in sample:	16 grams
Range of measured lengths:	47 to 223 mm
Range of measured weights:	1 to 108 grams

Number of fish caught in each pass:

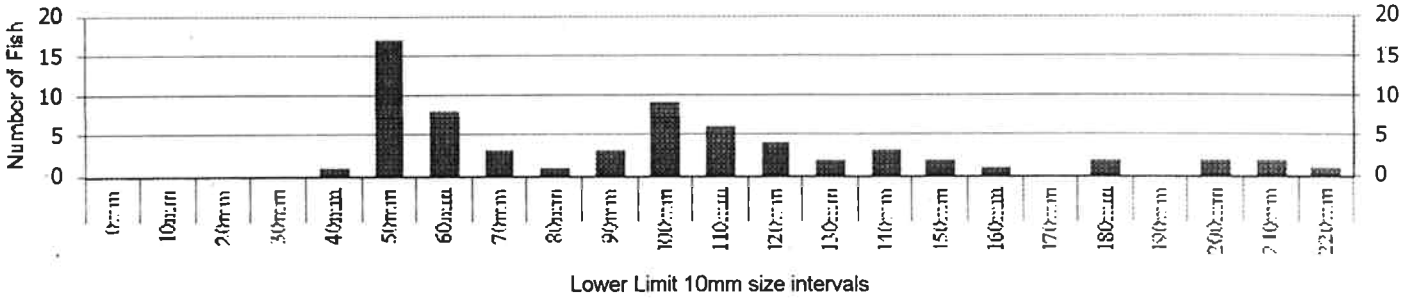
Pass	Fish caught
1	37
2	19
3	11

Maximum Likelihood Model (Burnham)		
Population Estimate, 95% C. I.:	77.00 (+/-) 13.87	
Upper 95% Confidence Limit:	90.87	
Lower 95% Confidence Limit:	67.00	
Capture Probability:	49%	
Standard Error:	7.00	
Error of Population Estimate:	18.01%	
Coefficient of Variation:	0.09	
Biomass:	1.23 kg	2.71 lbs
Standing Crop:	16.86 kg/ha	15.01 lbs/acre
Fish per Mile, 95% C.I.:	1,441.69 (+/-) 259.68	
Fish per Kilometer, 95% C.I.:	895.82 (+/-) 161.36	

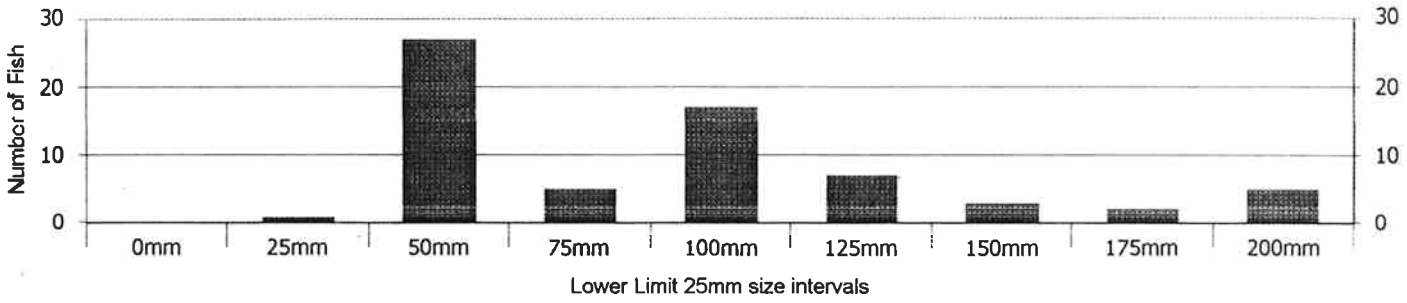
SAN JOAQUIN RIVER, M.F., Section F

Survey Date: **2002/10/28** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 6
Survey Date: 2002/10/28
Species: Brown trout

Number of shockers:	4
Number of passes:	3
Section length:	85.9546 meters
Mean width of section:	8.5 meters
Weight estimation equation:	Weight = Length * 2.935 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 6, 2002/10/28
Average weight of fish in sample:	40 grams
Range of measured lengths:	49 to 335 mm
Range of measured weights:	1 to 373 grams

Number of fish caught in each pass:

Pass	Fish caught
1	195
2	78
3	34

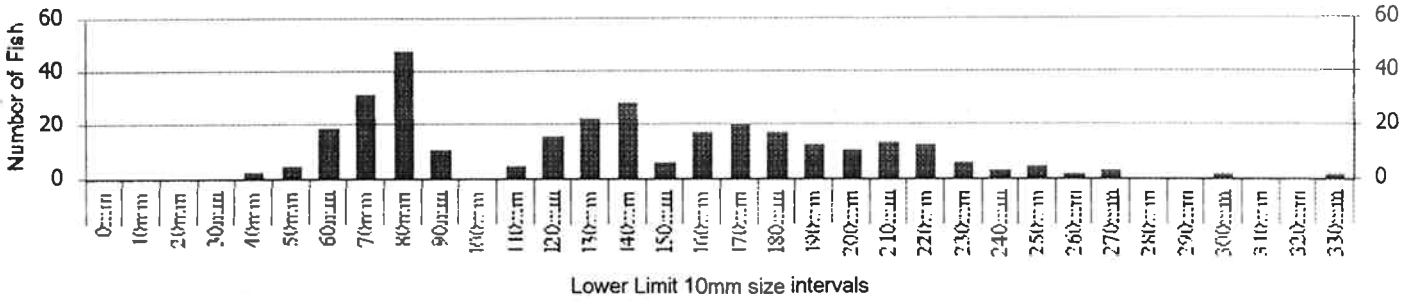
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	329.00 (+/-) 15.30	
Upper 95% Confidence Limit:	344.30	
Lower 95% Confidence Limit:	313.70	
Capture Probability:	59%	
Standard Error:	7.81	
Error of Population Estimate:	4.65%	
Coefficient of Variation:	0.02	
Biomass:	13.16 kg	28.95 lbs
Standing Crop:	180.12 kg/ha	160.37 lbs/acre
Fish per Mile, 95% C.I.:	6,159.93 (+/-) 286.47	
Fish per Kilometer, 95% C.I.:	3,827.60 (+/-) 178.00	

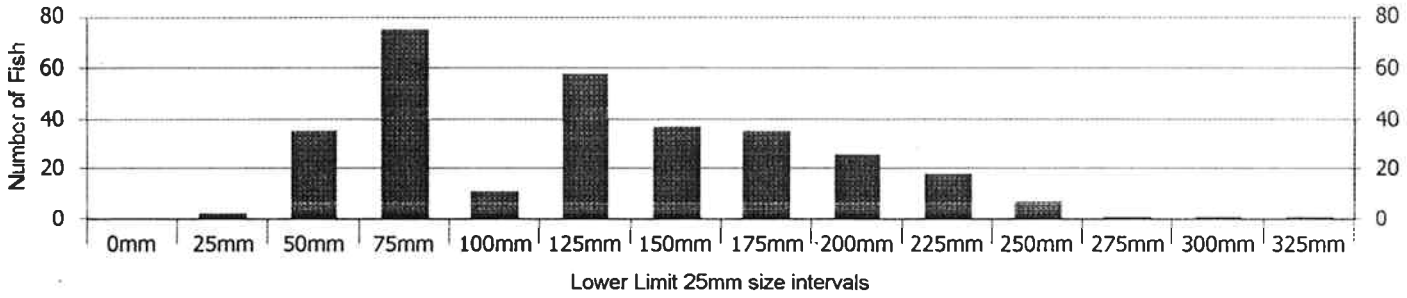
SAN JOAQUIN RIVER, M.F., Section C

Survey Date: **2002/10/28** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 6
Survey Date: 2000/10/17
Species: Hatchery rainbow trout

Number of shockers:	3
Number of passes:	3
Section length:	170.69 meters
Mean width of section:	11.622 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	224 grams
Range of measured lengths:	250 to 285 mm
Range of measured weights:	168 to 266 grams

Number of fish caught in each pass:

Pass	Fish caught
1	1
2	2
3	0

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	3.00 (+/-) 2.26
Upper 95% Confidence Limit:	5.26
Lower 95% Confidence Limit:	3.00

Capture Probability:	60%
Standard Error:	0.71
Error of Population Estimate:	75.18%
Coefficient of Variation:	0.24

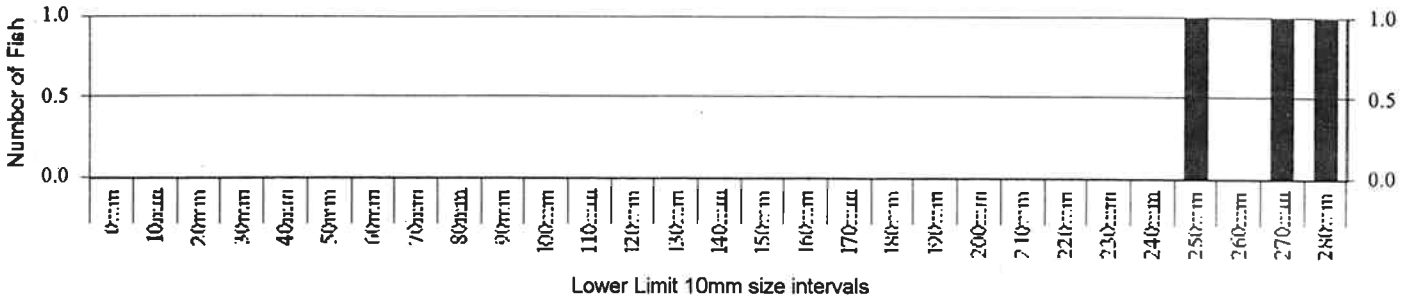
Biomass:	0.67 kg	1.48 lbs
Standing Crop:	3.39 kg/ha	3.02 lbs/acre

Fish per Mile, 95% C.I.:	28.29 (+/-) 21.27
Fish per Kilometer, 95% C.I.:	17.58 (+/-) 13.21

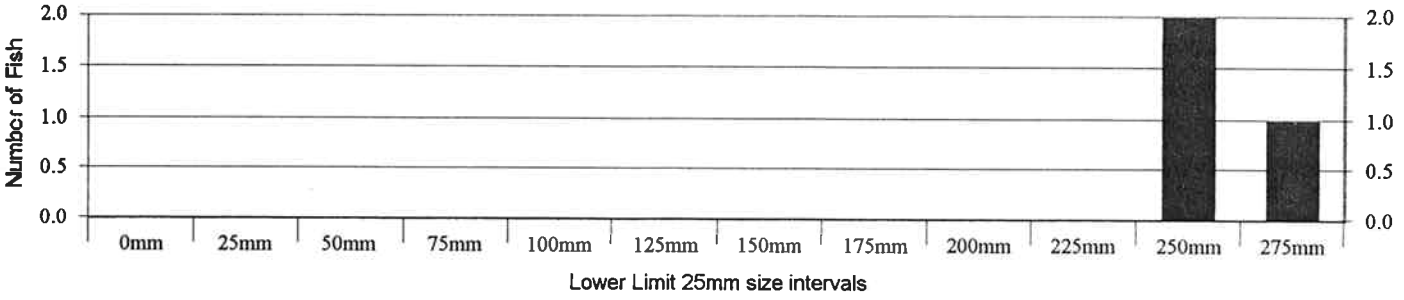
SAN JOAQUIN RIVER, M.F., Section 6

Survey Date: **2000/10/17** Species: **Hatchery rainbow trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 6
Survey Date: 2000/10/17
Species: Brook trout

Number of shockers:	3
Number of passes:	3
Section length:	170.69 meters
Mean width of section:	11.622 meters

Weight estimation equation:	Weight = Length * 3.278 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 6, 2000/10/17
Average weight of fish in sample:	28 grams
Range of measured lengths:	71 to 191 mm
Range of measured weights:	2 to 73 grams

Number of fish caught in each pass:

Pass	Fish caught
1	25
2	13
3	12

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	67.00 (+/-) 27.47
Upper 95% Confidence Limit:	94.47
Lower 95% Confidence Limit:	50.00

Capture Probability:	36%
Standard Error:	13.74
Error of Population Estimate:	41.00%
Coefficient of Variation:	0.21

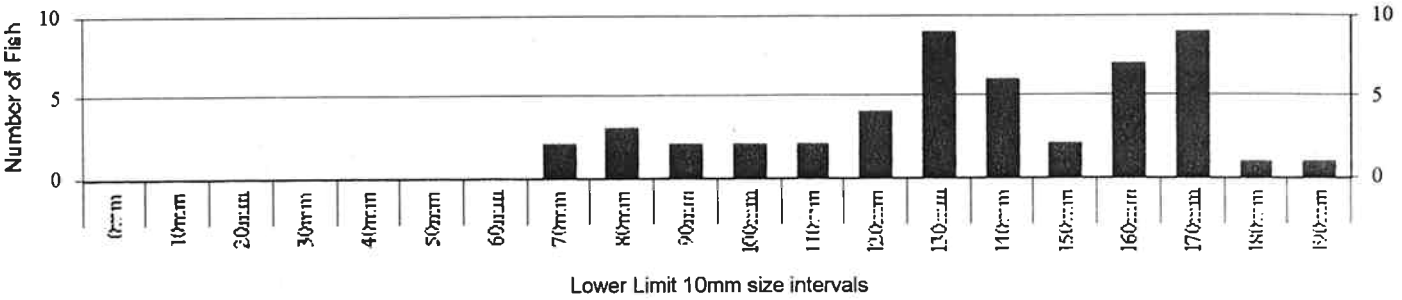
Biomass:	1.88 kg	4.13 lbs
Standing Crop:	9.46 kg/ha	8.42 lbs/acre

Fish per Mile, 95% C.I.:	631.71 (+/-) 259.03
Fish per Kilometer, 95% C.I.:	392.52 (+/-) 160.95

SAN JOAQUIN RIVER, M.F., Section 6

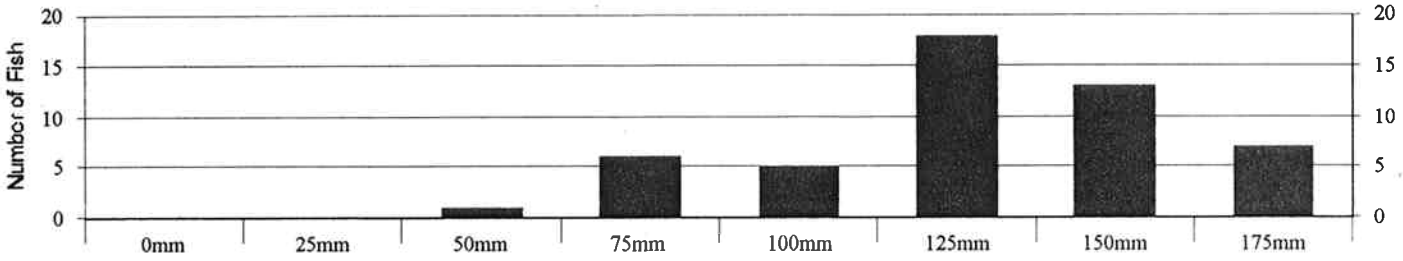
Survey Date: **2000/10/17** Species: **Brook trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

SAN JOAQUIN RIVER, M.F., Section 6
Survey Date: 2000/10/17
Species: Rainbow trout

Number of shockers:	3
Number of passes:	3
Section length:	170.69 meters
Mean width of section:	11.622 meters

Weight estimation equation:	Weight = Length * 2.955 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 6, 2000/10/17
Average weight of fish in sample:	38 grams
Range of measured lengths:	44 to 254 mm
Range of measured weights:	1 to 162 grams

Number of fish caught in each pass:

Pass	Fish caught
1	84
2	38
3	18

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	154.00 (+/-) 13.60
Upper 95% Confidence Limit:	167.60
Lower 95% Confidence Limit:	140.40

Capture Probability:	55%
Standard Error:	6.94
Error of Population Estimate:	8.83%
Coefficient of Variation:	0.05

Biomass:	5.85 kg	12.87 lbs
Standing Crop:	29.50 kg/ha	26.26 lbs/acre

Fish per Mile, 95% C.I.:	1,451.98 (+/-) 128.22
Fish per Kilometer, 95% C.I.:	902.22 (+/-) 79.67

SAN JOAQUIN RIVER, M.F., Section 6
Survey Date: 2000/10/17
Species: Brown trout

Number of shockers:	3
Number of passes:	3
Section length:	170.69 meters
Mean width of section:	11.622 meters

Weight estimation equation:	Weight = Length * 3.110 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 6, 2000/10/17
Average weight of fish in sample:	51 grams
Range of measured lengths:	41 to 327 mm
Range of measured weights:	1 to 301 grams

Number of fish caught in each pass:

Pass	Fish caught
1	239
2	140
3	65

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	522.00 (+/-) 39.51
Upper 95% Confidence Limit:	561.51
Lower 95% Confidence Limit:	482.49

Capture Probability:	47%
Standard Error:	20.16
Error of Population Estimate:	7.57%
Coefficient of Variation:	0.04

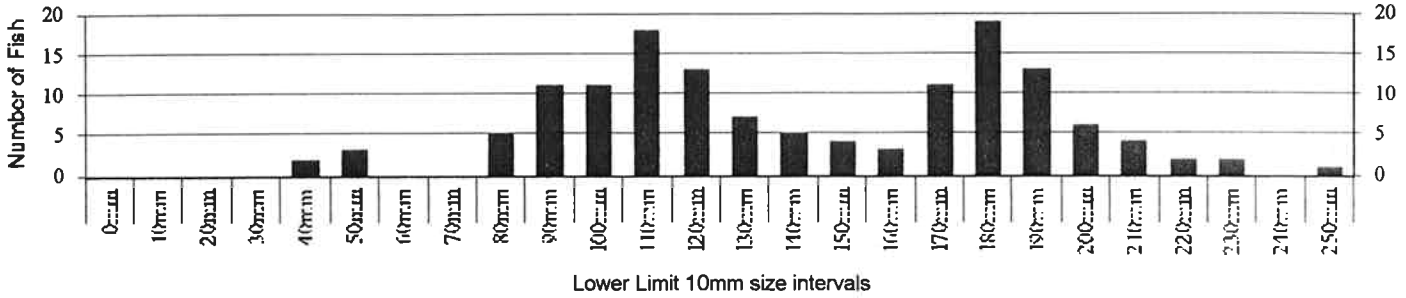
Biomass:	26.62 kg	58.57 lbs
Standing Crop:	134.20 kg/ha	119.48 lbs/acre

Fish per Mile, 95% C.I.:	4,921.66 (+/-) 372.50
Fish per Kilometer, 95% C.I.:	3,058.18 (+/-) 231.46

SAN JOAQUIN RIVER, M.F., Section 6

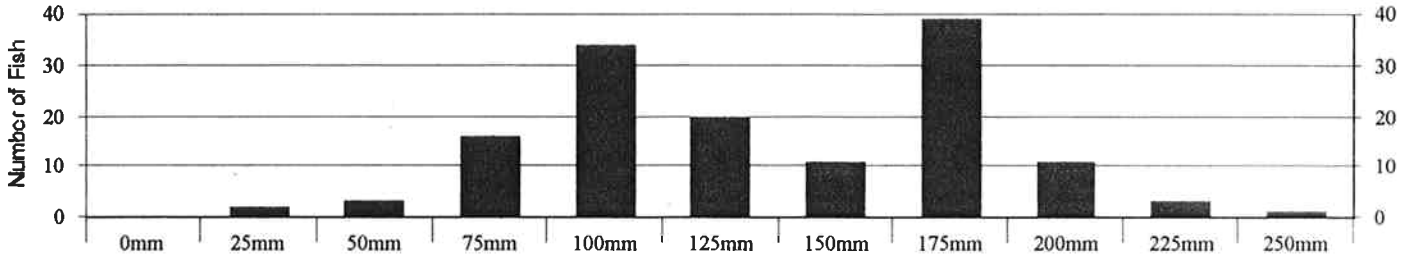
Survey Date: **2000/10/17** Species: **Rainbow trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution

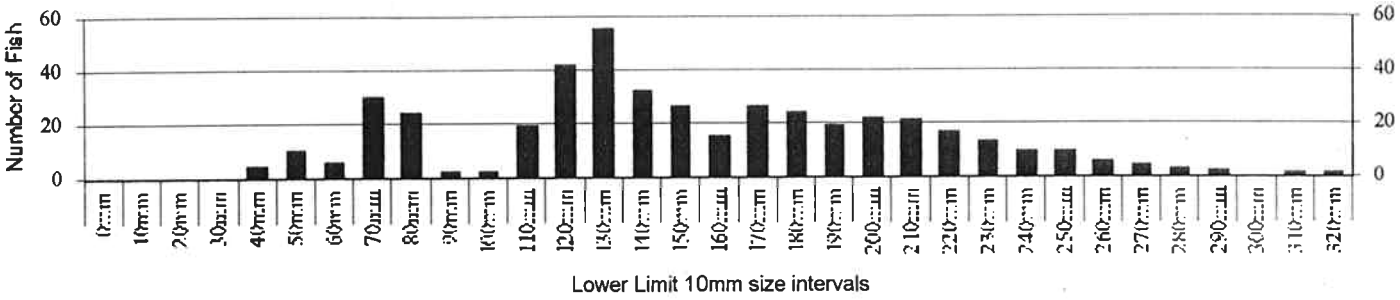


Lower Limit 25mm size intervals

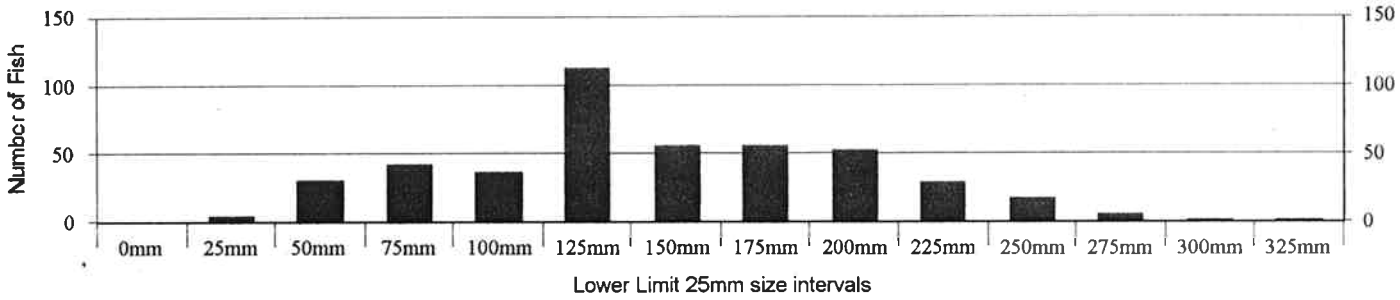
SAN JOAQUIN RIVER, M.F., Section 6

Survey Date: **2000/10/17** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



CALIFORNIA DEPARTMENT OF FISH AND GAME [redacted] HERITAGE [redacted]

ELECTROFISHING SURVEY SUMMARY

GENERAL LOCATION (describe in detail & draw map on Location form)

Survey Date (da/mo/yr) 17 / 10 / 00

Stream Name MF San Joaquin River Section 6

Location Description Ranger Station

Section Length 560 ft Average Width 36.13 ft
170.67 meters 11.02.2 meters

GPS Unit Used BROWN TROUT

Waypoint No. 063 Time 0904 FOM 254 ft

North 37.627781 ° West 119.08464 °

Other information

DATA PACKET CHECKLIST

- ☑ Location Map
- ☑ Fish Population
- ☑ Water Quality/Discharge/Gradient
- ☑ Stream Transect (Depth/Substrate/Habitat)
- ☐ Vegetation /Bank Stability/Cover
- ☐ Habitat Description
- ☐ Volunteer Service Agreements
- ☐ Other

SURVEY PARTICIPANTS

Name	Affiliation
Debra Hawk	DFG
Troy Kelly	" / Volunteer
Nancy Meyer	"
Leo Millan	"
Mike Schommer	"
Bob Soleta	"
Robin Kunstle	NPS
Laura Wilvert	NPS
Sharon Shiba	DFG
Joe Medeiros	Volunteer

Recorder: SNS CDFG

ELECTROFISHING CONDITIONS

Section Closures: (check one for each end)

Upstream Block: ☑ seine ☐ cascade ☐ waterfall ☐ other (describe)

Downstream Block: ☑ seine ☐ cascade ☐ waterfall ☐ other (describe)

Type of Electrofisher(s) Used: (check one)

☑ backpack ☐ totebarge ☐ boat

Salt Added? (check one) ☑ YES ☐ NO

Number in Crew: Shockers 3 Netters 4

Live Car Tenders 2 (Fish Processing)

NOTES & COMMENTS:

Streamflow was lower than that observed last year; ∴ used 3 instead of 4 shockers

ELECTROFISHING EFFORT

Shocker	OBI-WON	SHADOWCASTER	CHAIRMAN			
Pass 1	3500	3777	3621			
Pass 2	2394	2943	2968			
Pass 3	2108	2579	2606			
Pass 4						
Total						

FISH PROCESSING

Anesthetic used: (check one) ☑ CO_2 ☐ Other

Oxygen Added? (check one) ☐ YES ☐ NO

Amphibians and Reptiles Observed:

ENTERED AS RT

FISH POPULATION ESTIMATE SUMMARY

(use space below for notes or additional columns, if needed)

Taxon	BN	RT	GT	BK	H-RT							
Pass 1	239	85		25	1							
Pass 2	140	38		13	2							
Pass 3	66	18		12	0							
Pass 4												
Total												

ONLY 84 (ONE GT HERE)

SAN JOAQUIN RIVER \.F., Section 5
Survey Date: 2002/10/29
Species: Brook trout

Number of shockers:	4
Number of passes:	3
Section length:	77.7249 meters
Mean width of section:	11.7 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	32 grams
Range of measured lengths:	70 to 190 mm
Range of measured weights:	3 to 70 grams

Number of fish caught in each pass:

Pass	Fish caught
1	3
2	0
3	0

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	3.00 (+/-) 0.00
Upper 95% Confidence Limit:	3.00
Lower 95% Confidence Limit:	3.00

Capture Probability:	100%
Standard Error:	0.00
Error of Population Estimate:	.00%
Coefficient of Variation:	0.00

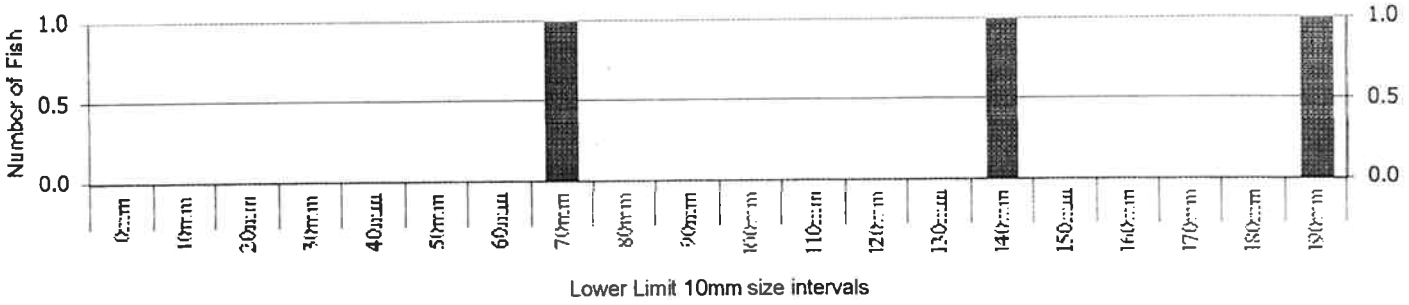
Biomass:	0.10 kg	0.21 lbs
Standing Crop:	1.06 kg/ha	0.94 lbs/acre

Fish per Mile, 95% C.I.:	62.12 (+/-) 0.00
Fish per Kilometer, 95% C.I.:	38.60 (+/-) 0.00

SAN JOAQUIN RIVER, M.F., Section 5

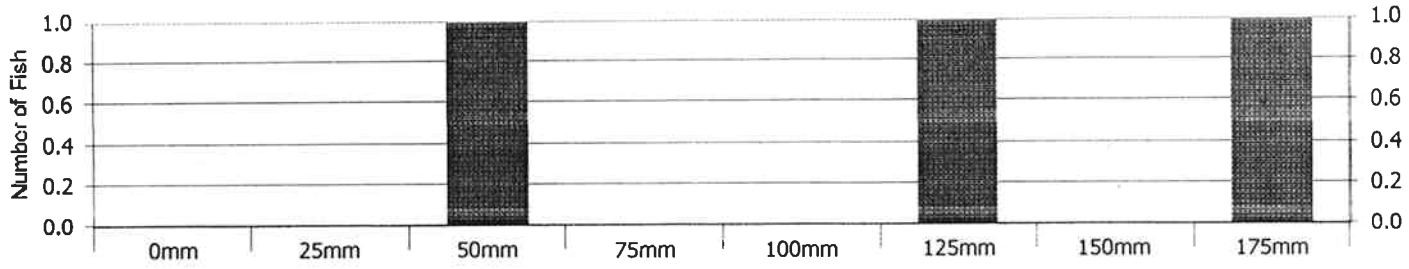
Survey Date: **2002/10/29** Species: **Brook trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

SAN JOAQUIN RIVER \.F., Section 5
Survey Date: **2002/10/29**
Species: **Rainbow trout**

Number of shockers:	4
Number of passes:	3
Section length:	77.7249 meters
Mean width of section:	11.7 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	44 grams
Range of measured lengths:	52 to 301 mm
Range of measured weights:	1 to 320 grams

Number of fish caught in each pass:

Pass	Fish caught
1	35
2	7
3	2

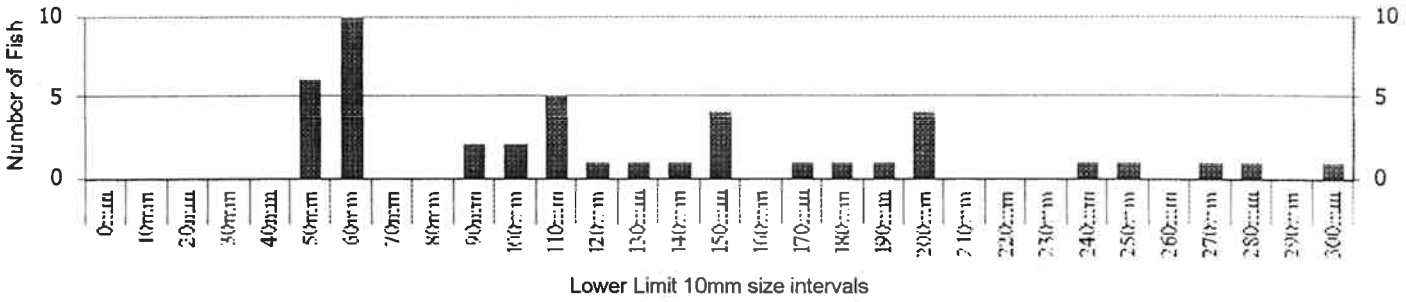
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	44.00 (+/-) 1.36	
Upper 95% Confidence Limit:	45.36	
Lower 95% Confidence Limit:	44.00	
Capture Probability:	80%	
Standard Error:	0.68	
Error of Population Estimate:	3.09%	
Coefficient of Variation:	0.02	
Biomass:	1.94 kg	4.26 lbs
Standing Crop:	21.29 kg/ha	18.95 lbs/acre
Fish per Mile, 95% C.I.:	911.05 (+/-) 28.19	
Fish per Kilometer, 95% C.I.:	566.10 (+/-) 17.51	

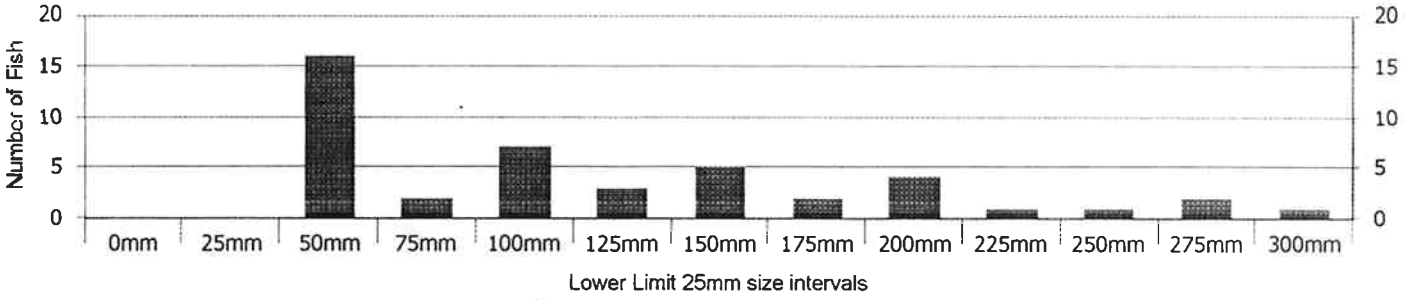
SAN JOAQUIN RIVER, M.F., Section F

Survey Date: **2002/10/29** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER 1.F., Section 5
Survey Date: 2002/10/29
Species: Brown trout

Number of shockers:	4
Number of passes:	3
Section length:	77.7249 meters
Mean width of section:	11.7 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	50 grams
Range of measured lengths:	64 to 262 mm
Range of measured weights:	2 to 206 grams

Number of fish caught in each pass:

Pass	Fish caught
1	104
2	30
3	14

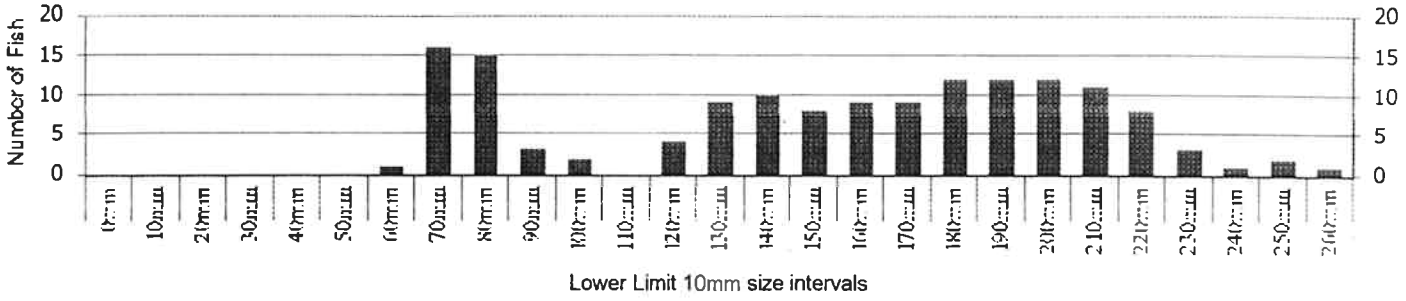
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	153.00 (+/-) 6.46	
Upper 95% Confidence Limit:	159.46	
Lower 95% Confidence Limit:	148.00	
Capture Probability:	67%	
Standard Error:	3.30	
Error of Population Estimate:	4.22%	
Coefficient of Variation:	0.02	
Biomass:	7.65 kg	16.83 lbs
Standing Crop:	84.12 kg/ha	74.90 lbs/acre
Fish per Mile, 95% C.I.:	3,167.96 (+/-) 133.83	
Fish per Kilometer, 95% C.I.:	1,968.48 (+/-) 83.16	

SAN JOAQUIN RIVER, M.F., Section 5

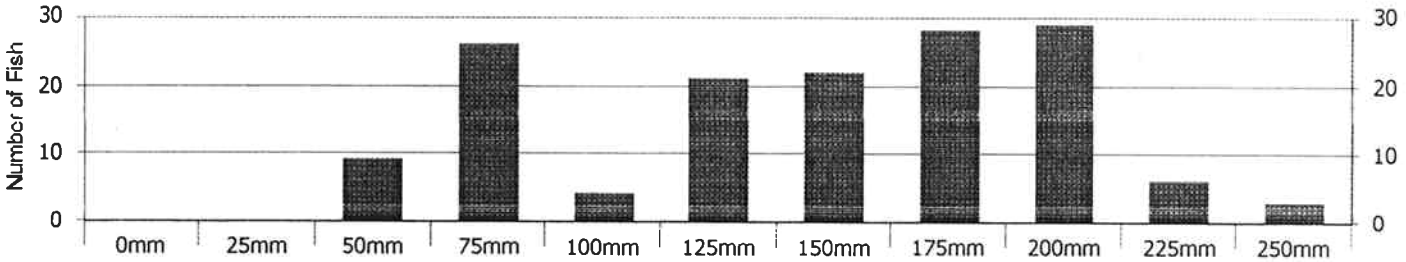
Survey Date: **2002/10/29** Species: **Brown trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

SAN JOAQUIN RIVER, F., Section 1
Survey Date: 2002/10/30
Species: Brook trout

Number of shockers:	4
Number of passes:	4
Section length:	91.44 meters, 300 feet
Mean width of section:	9.144 meters, 30 feet
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	38 grams
Range of measured lengths:	140 to 174 mm
Range of measured weights:	27 to 49 grams

Number of fish caught in each pass:

Pass	Fish caught
1	2
2	1
3	1
4	0

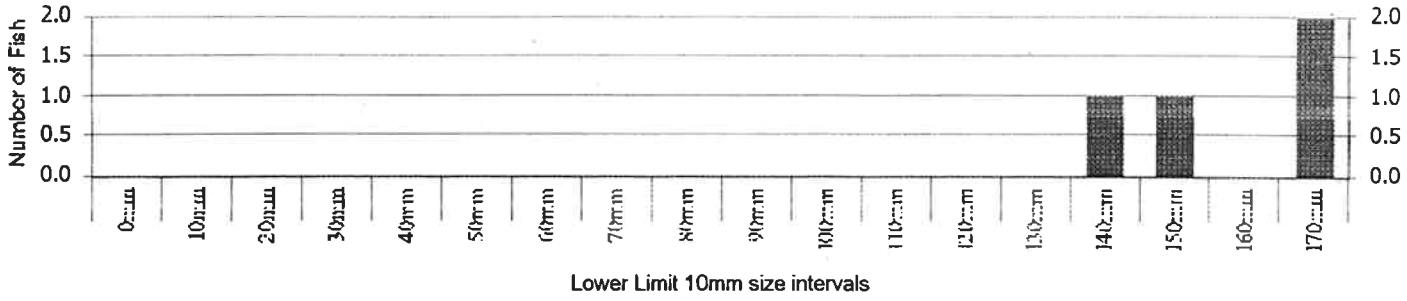
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	4.00 (+/-) 1.39	
Upper 95% Confidence Limit:	5.39	
Lower 95% Confidence Limit:	4.00	
Capture Probability:	57%	
Standard Error:	0.50	
Error of Population Estimate:	34.67%	
Coefficient of Variation:	0.12	
Biomass:	0.15 kg	0.33 lbs
Standing Crop:	1.82 kg/ha	1.62 lbs/acre
Fish per Mile, 95% C.I.:	70.40 (+/-) 24.41	
Fish per Kilometer, 95% C.I.:	43.74 (+/-) 15.17	

SAN JOAQUIN RIVER, M.F., Section '

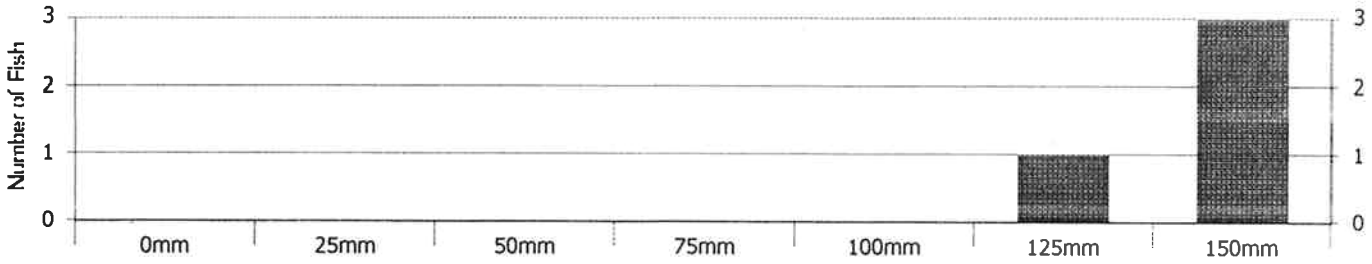
Survey Date: **2002/10/30** Species: **Brook trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

SAN JOAQUIN RIVER M.F., Section 1
Survey Date: 2002/10/30
Species: Rainbow trout

Number of shockers:	4
Number of passes:	4
Section length:	91.4411 meters
Mean width of section:	9.1 meters
Weight estimation equation:	Weight = Length * 2.908 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 1, 2002/10/30
Average weight of fish in sample:	35 grams
Range of measured lengths:	45 to 285 mm
Range of measured weights:	1 to 233 grams

Number of fish caught in each pass:

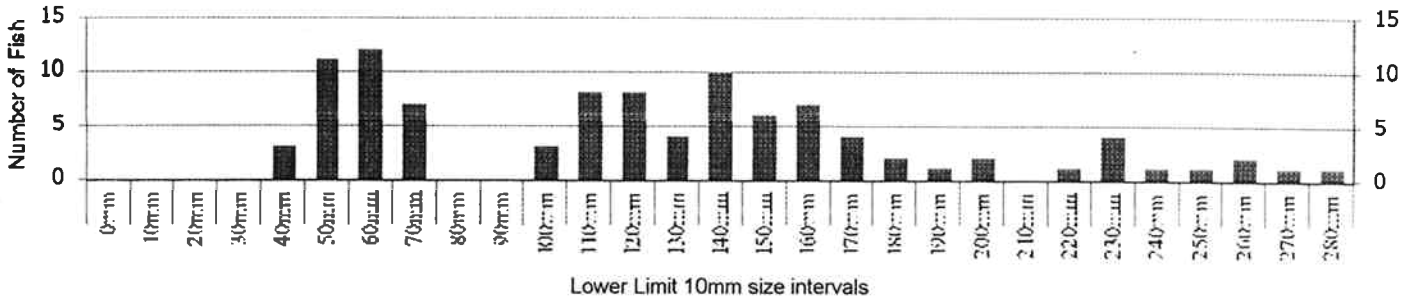
Pass	Fish caught
1	61
2	16
3	13
4	9

Maximum Likelihood Model (Burnham)		
Population Estimate, 95% C. I.:	103.00 (+/-) 6.22	
Upper 95% Confidence Limit:	109.22	
Lower 95% Confidence Limit:	99.00	
Capture Probability:	54%	
Standard Error:	3.14	
Error of Population Estimate:	6.03%	
Coefficient of Variation:	0.03	
Biomass:	3.61 kg	7.93 lbs
Standing Crop:	43.32 kg/ha	38.57 lbs/acre
Fish per Mile, 95% C.I.:	1,812.78 (+/-) 109.39	
Fish per Kilometer, 95% C.I.:	1,126.41 (+/-) 67.97	

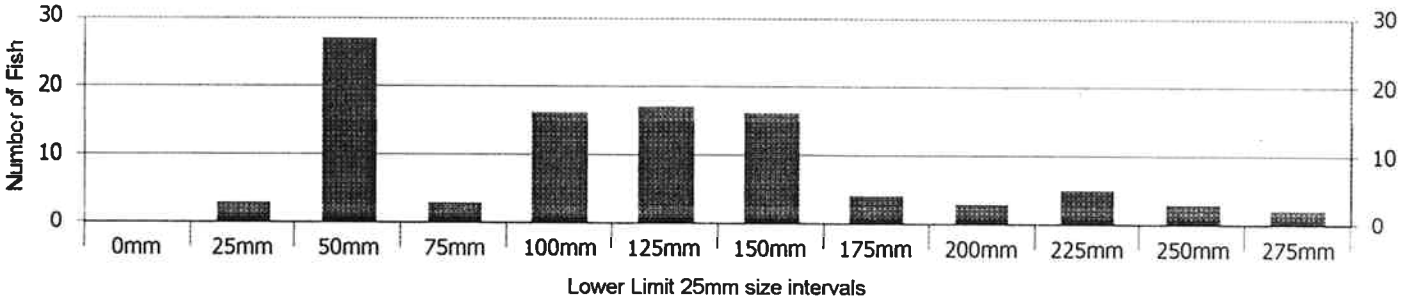
SAN JOAQUIN RIVER, M.F., Section

Survey Date: **2002/10/30** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER M.F., Section 1
Survey Date: 2002/10/30
Species: Brown trout

Number of shockers:	4
Number of passes:	4
Section length:	91.4411 meters
Mean width of section:	9.1 meters
Weight estimation equation:	Weight = Length * 2.958 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 1, 2002/10/30
Average weight of fish in sample:	47 grams
Range of measured lengths:	61 to 271 mm
Range of measured weights:	2 to 186 grams

Number of fish caught in each pass:

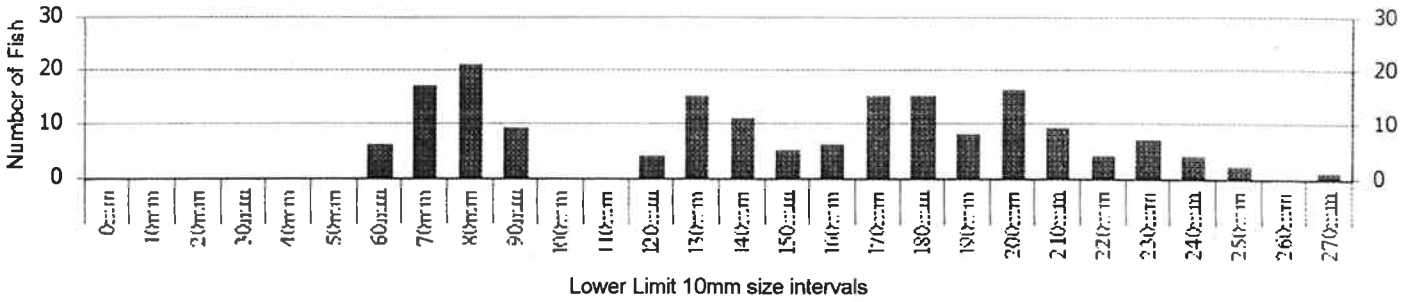
Pass	Fish caught
1	96
2	36
3	22
4	22

Maximum Likelihood Model (Burnham)		
Population Estimate, 95% C. I.:	193.00 (+/-) 14.55	
Upper 95% Confidence Limit:	207.55	
Lower 95% Confidence Limit:	178.45	
Capture Probability:	45%	
Standard Error:	7.43	
Error of Population Estimate:	7.54%	
Coefficient of Variation:	0.04	
Biomass:	9.07 kg	19.96 lbs
Standing Crop:	109.01 kg/ha	97.05 lbs/acre
Fish per Mile, 95% C.I.:	3,396.76 (+/-) 256.15	
Fish per Kilometer, 95% C.I.:	2,110.65 (+/-) 159.16	

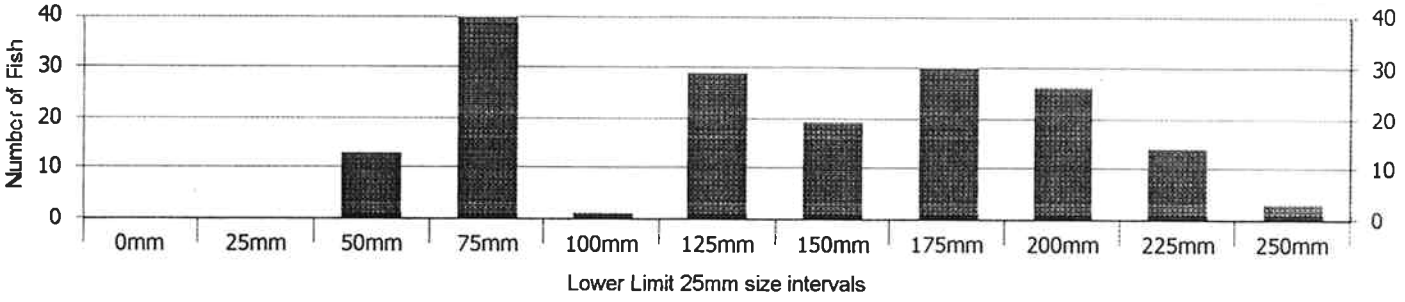
SAN JOAQUIN RIVER, M.F., Section

Survey Date: **2002/10/30** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 1
Survey Date: 2000/10/18
Species: Hatchery rainbow trout

Number of shockers:	3
Number of passes:	3
Section length:	91.44 meters
Mean width of section:	10.84 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	183 grams
Range of measured lengths:	216 to 290 mm
Range of measured weights:	106 to 252 grams

Number of fish caught in each pass:

Pass	Fish caught
1	7
2	2
3	1

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	10.00 (+/-) 1.40
Upper 95% Confidence Limit:	11.40
Lower 95% Confidence Limit:	10.00

Capture Probability:	71%
Standard Error:	0.63
Error of Population Estimate:	13.97%
Coefficient of Variation:	0.06

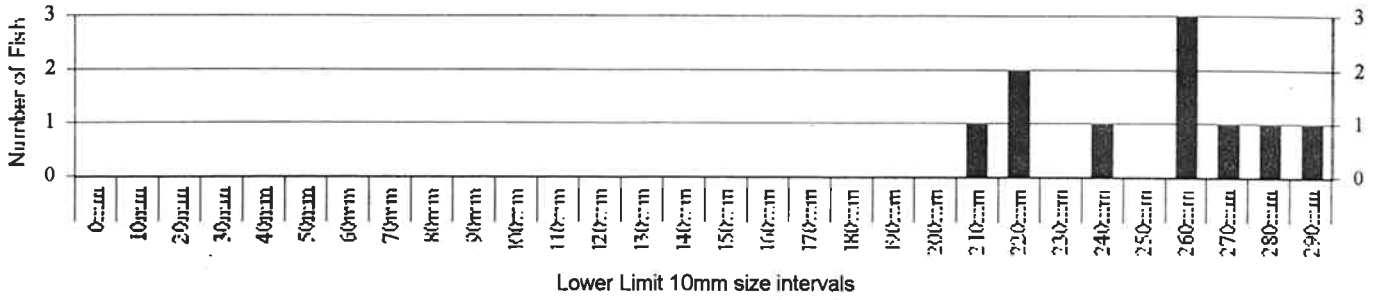
Biomass:	1.83 kg	4.03 lbs
Standing Crop:	18.46 kg/ha	16.44 lbs/acre

Fish per Mile, 95% C.I.:	176.00 (+/-) 24.59
Fish per Kilometer, 95% C.I.:	109.36 (+/-) 15.28

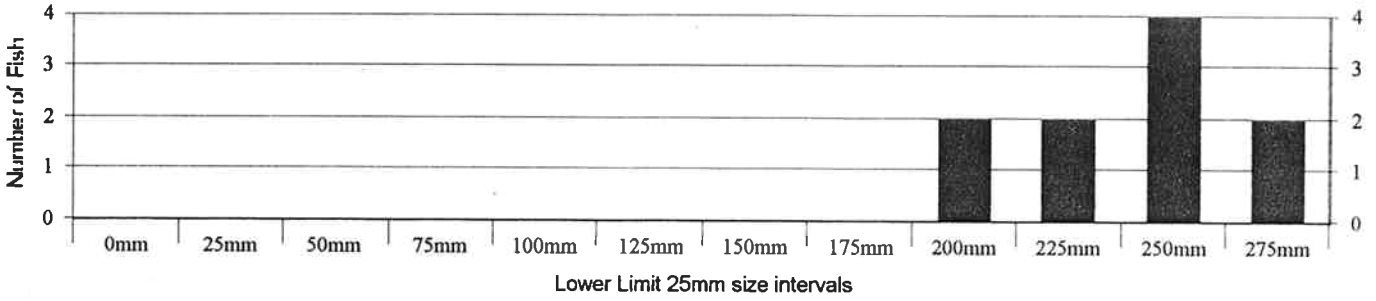
SAN JOAQUIN RIVER, M.F., Section 1

Survey Date: **2000/10/18** Species: **Hatchery rainbow trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 1
Survey Date: 2000/10/18
Species: Brook trout

Number of shockers:	3
Number of passes:	3
Section length:	91.44 meters
Mean width of section:	10.84 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	31 grams
Range of measured lengths:	119 to 192 mm
Range of measured weights:	8 to 60 grams

Number of fish caught in each pass:

Pass	Fish caught
1	9
2	1
3	1

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	11.00 (+/-) 0.85
Upper 95% Confidence Limit:	11.85
Lower 95% Confidence Limit:	11.00

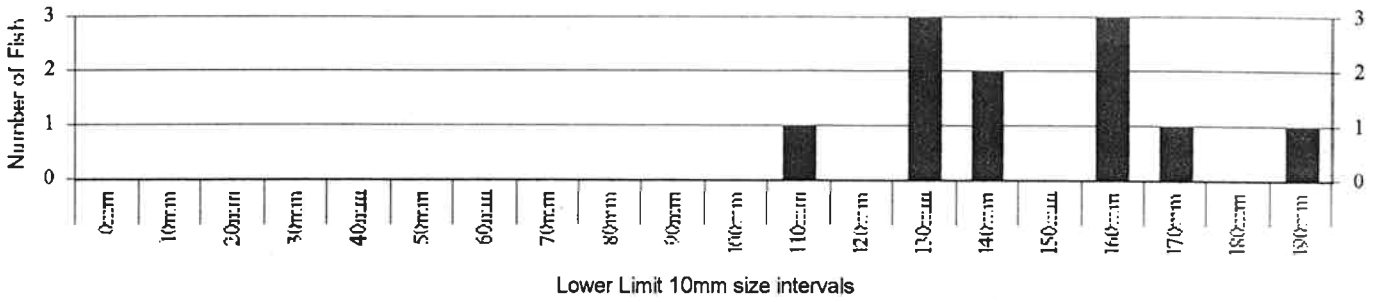
Capture Probability:	79%	
Standard Error:	0.38	
Error of Population Estimate:	7.69%	
Coefficient of Variation:	0.03	
Biomass:	0.34 kg	0.75 lbs
Standing Crop:	3.44 kg/ha	3.06 lbs/acre

Fish per Mile, 95% C.I.:	193.60 (+/-) 14.89
Fish per Kilometer, 95% C.I.:	120.30 (+/-) 9.25

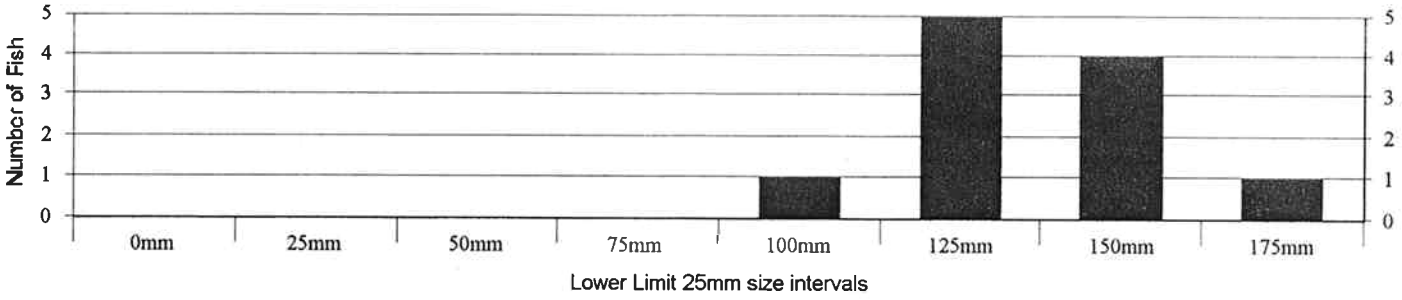
SAN JOAQUIN RIVER, M.F., Section 1

Survey Date: **2000/10/18** Species: **Brook trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 1
Survey Date: 2000/10/18
Species: Rainbow trout

Number of shockers:	3
Number of passes:	3
Section length:	91.44 meters
Mean width of section:	10.84 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	28 grams
Range of measured lengths:	43 to 202 mm
Range of measured weights:	1 to 87 grams

Number of fish caught in each pass:

Pass	Fish caught
1	20
2	11
3	4

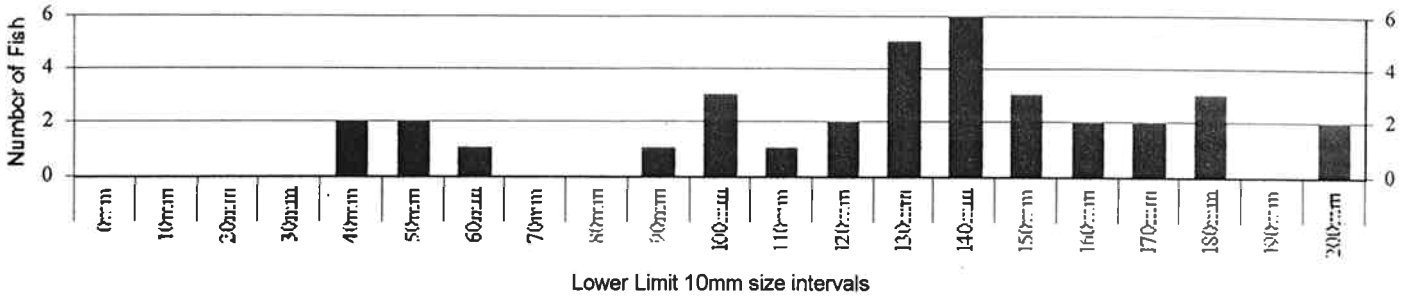
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	38.00 (+/-) 6.62	
Upper 95% Confidence Limit:	44.62	
Lower 95% Confidence Limit:	35.00	
Capture Probability:	56%	
Standard Error:	3.28	
Error of Population Estimate:	17.43%	
Coefficient of Variation:	0.09	
Biomass:	1.06 kg	2.34 lbs
Standing Crop:	10.73 kg/ha	9.56 lbs/acre
Fish per Mile, 95% C.I.:	668.80 (+/-) 116.55	
Fish per Kilometer, 95% C.I.:	415.57 (+/-) 72.42	

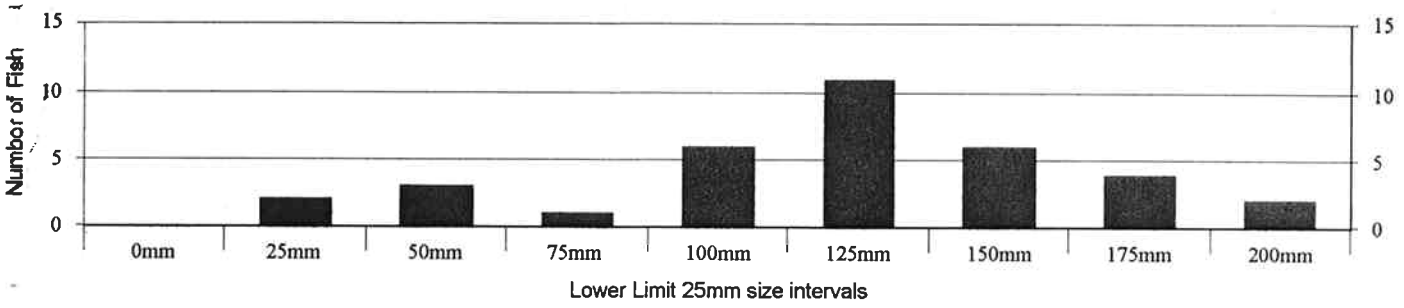
SAN JOAQUIN RIVER, M.F., Section 1

Survey Date: **2000/10/18** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



SAN JOAQUIN RIVER, M.F., Section 1
Survey Date: 2000/10/18
Species: Brown trout

Number of shockers:	3
Number of passes:	3
Section length:	91.44 meters
Mean width of section:	10.84 meters

Weight estimation equation:	Weight = Length * 3.133 + 0.000
Estimation model source:	SAN JOAQUIN RIVER, M.F., Section 1, 2000/10/18
Average weight of fish in sample:	44 grams
Range of measured lengths:	48 to 265 mm
Range of measured weights:	1 to 177 grams

Number of fish caught in each pass:

Pass	Fish caught
1	61
2	21
3	15

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	106.00 (+/-) 10.92
Upper 95% Confidence Limit:	116.92
Lower 95% Confidence Limit:	97.00

Capture Probability:	55%
Standard Error:	5.51
Error of Population Estimate:	10.30%
Coefficient of Variation:	0.05

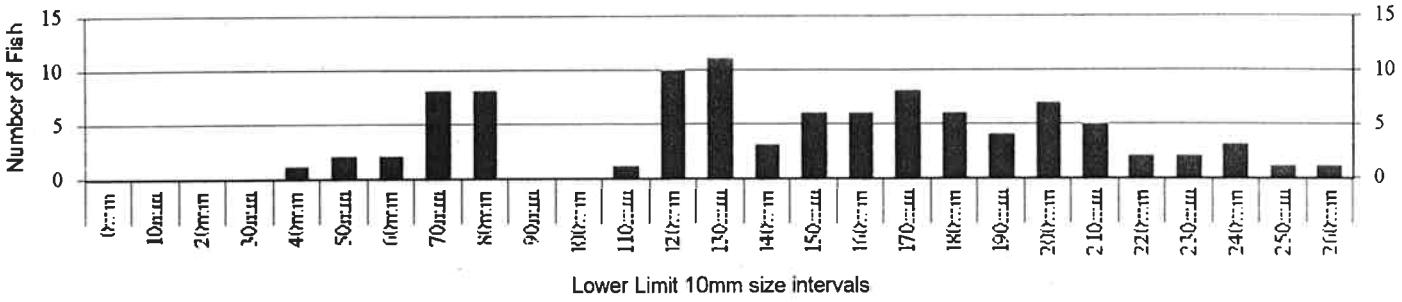
Biomass:	4.66 kg	10.26 lbs
Standing Crop:	47.05 kg/ha	41.89 lbs/acre

Fish per Mile, 95% C.I.:	1,865.60 (+/-) 192.13
Fish per Kilometer, 95% C.I.:	1,159.23 (+/-) 119.38

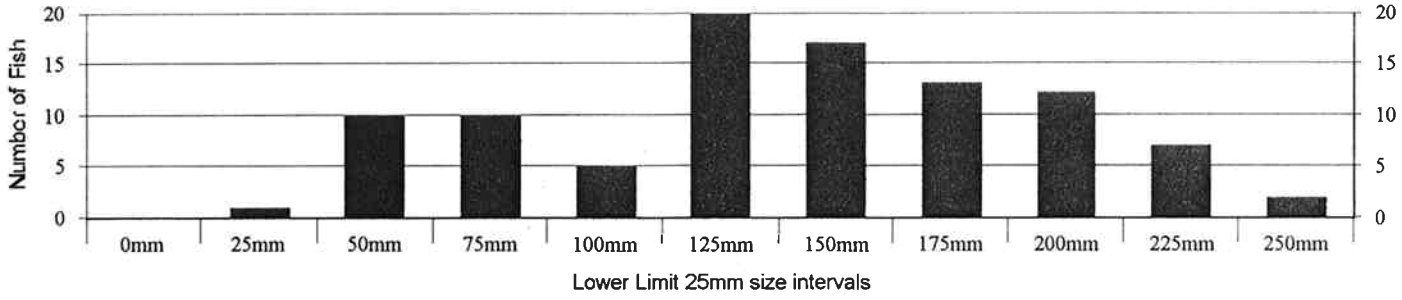
SAN JOAQUIN RIVER, M.F., Section 1

Survey Date: **2000/10/18** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



CALIFORNIA DEPARTMENT OF FISH AND GAME — HERITAGE AND WILD TROUT PROGRAM

[redacted] ELECTROFISHING SURVEY SUMMARY [redacted]

GENERAL LOCATION (describe in detail & draw map on Location form)

Survey Date (da/mo/yr) 18 / 10 / 00 (OCT)
Stream Name MIDDLE FORK SAN JOAQUIN R Section 1
Location Description UPPER SODA SPRINGS

Section Length 300 ft (91.44 METERS) Average Width [illegible] ft (10.84 METERS)
GPS Unit Used BROWN TROUT
Waypoint No. 064 Time 0951 FOM 18.9 ft
North 37.65555 ° West 119.08003 °
Other information According to the old location map description, the lower end of the section is 504 ft upstream of the bridge. In last two years however, the bottom of the section was 804 ft above the bridge - we did the same this year.

ELECTROFISHING CONDITIONS

Section Closures: (check one for each end)
Upstream Block: ☑ seine ☐ cascade ☐ waterfall ☐ other (describe) _____
Downstream Block: ☑ seine ☐ cascade ☐ waterfall ☐ other (describe) _____

Type of Electrofisher(s) Used: (check one)
☑ backpack ☐ totebarge ☐ boat

Salt Added? (check one) ☑ YES ☐ NO

Number in Crew: Shockers 3 Netters 4
Live Car Tenders 1 Fish Processing 4

ELECTROFISHING EFFORT

Shocker	SHARON CARTER	OBI WON	CARTMAN			
Pass 1	1556	1431	1356			
Pass 2	1587	1355	1204			
Pass 3	1325	1081	989			
Pass 4						
Total						

FISH PROCESSING

Anesthetic used: (check one) ☒ CO_2 ☐ Other _____
Oxygen Added? (check one) ☐ YES ☐ NO

DATA PACKET CHECKLIST

☑ Location Map (old) ☑ Fish Population
☐ Water Quality/Discharge/Gradient
☑ Stream Transect (Depth/Substrate/Habitat)
☐ Vegetation /Bank Stability/Cover
☐ Habitat Description
☐ Volunteer Service Agreements
☐ Other _____

SURVEY PARTICIPANTS

Name	Affiliation
SHARON SHIBA	DFG - HQ
BOB SOLECKI	DFG - HQ
MIKE SCHOMMER	DFG - HQ
STAN STEPHENS	DFG - R4
NANCY MEYER	DFG - R6
LEO MILAN	DFG - R6
JOE MEDEIROS	VOLUNTEER
DEBRA HAWK	DFG - R6

Recorder: D. HAWK **CDFG**

NOTES & COMMENTS:

ORIGINAL LOCATION MAP (1986) INDICATED THAT THE BOTTOM OF THE SECTION WAS 504 FT ABOVE THE BRIDGE. SINCE 1998, THE LOWER BLOCK NET WAS PLACED 804 FT ABOVE THE BRIDGE.

Amphibians and Reptiles Observed:

NONE

FISH POPULATION ESTIMATE SUMMARY

(use space below for notes or additional columns, if needed)

Taxon	BN	BK	RT-GT	RT-H							
Pass 1	61	9	20	7							
Pass 2	21	1	11	2							
Pass 3	15	1	4	1							
Pass 4											
Total	97	11	35	10							

MERCED RIVER, Section 5
Survey Date: 2001/08/15
Species: Brown trout

Number of shockers:	5
Number of passes:	3
Section length:	74.67691 meters
Mean width of section:	32.36461 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	355 grams
Range of measured lengths:	175 to 388 mm
Range of measured weights:	52 to 586 grams

Number of fish caught in each pass:

Pass	Fish caught
1	5
2	2
3	2

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	9.00 (+/-) 2.78
Upper 95% Confidence Limit:	11.78
Lower 95% Confidence Limit:	9.00

Capture Probability:	60%
Standard Error:	1.23
Error of Population Estimate:	30.86%
Coefficient of Variation:	0.14

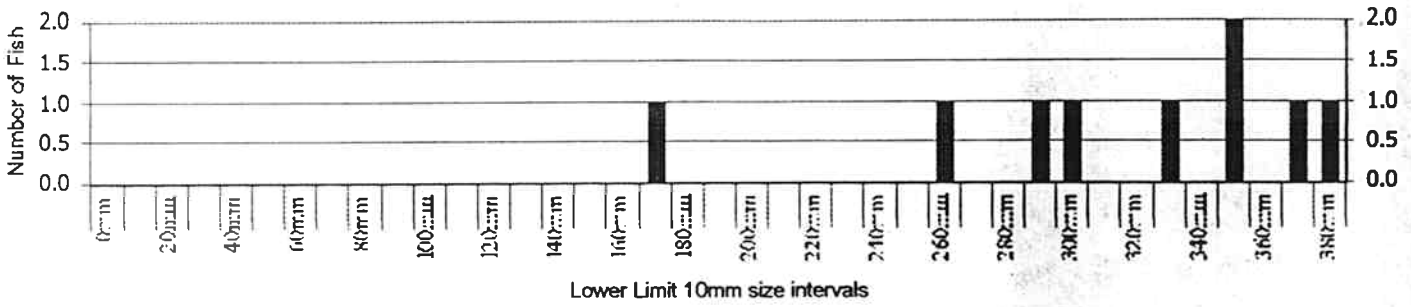
Biomass:	3.20 kg	7.03 lbs
Standing Crop:	13.22 kg/ha	11.77 lbs/acre

Fish per Mile, 95% C.I.:	193.96 (+/-) 59.85
Fish per Kilometer, 95% C.I.:	120.52 (+/-) 37.19

MERCED RIVER, Section 5

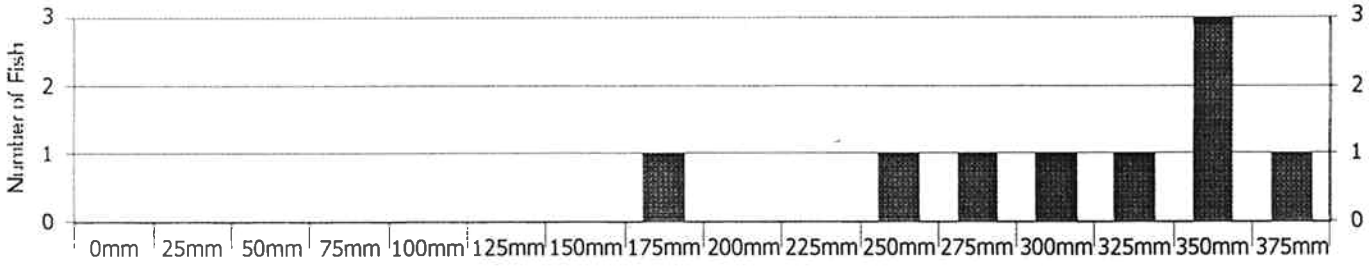
Survey Date: **2001/08/15** Species: **Brown trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

MERCED RIVER, Section 5
Survey Date: 2001/08/15
Species: Rainbow trout

Number of shockers:	5
Number of passes:	3
Section length:	74.67691 meters
Mean width of section:	32.36461 meters

Weight estimation equation:	Weight = Length * 2.996 + 0.000
Estimation model source:	MERCED RIVER, Section 5, 2001/08/15
Average weight of fish in sample:	117 grams
Range of measured lengths:	47 to 332 mm
Range of measured weights:	1 to 340 grams

Number of fish caught in each pass:

Pass	Fish caught
1	19
2	5
3	0

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	24.00 (+/-) 0.80
Upper 95% Confidence Limit:	24.80
Lower 95% Confidence Limit:	24.00

Capture Probability:	83%
Standard Error:	0.39
Error of Population Estimate:	3.35%
Coefficient of Variation:	0.02

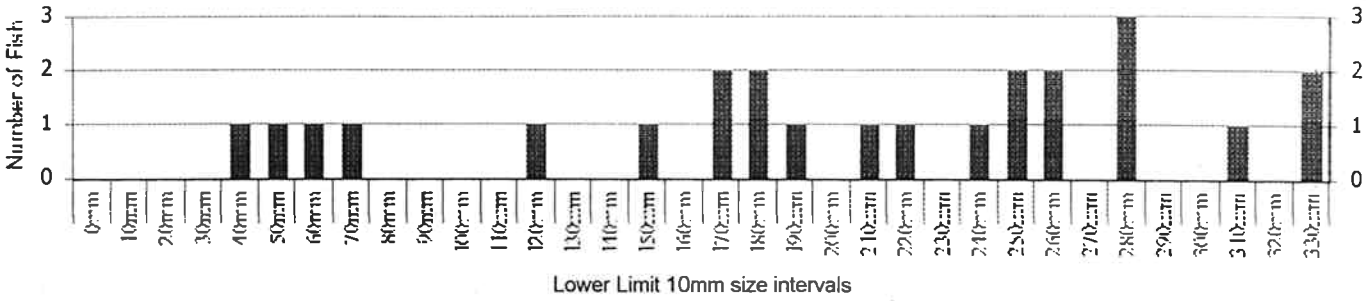
Biomass:	2.81 kg	6.18 lbs
Standing Crop:	11.62 kg/ha	10.34 lbs/acre

Fish per Mile, 95% C.I.:	517.22 (+/-) 17.33
Fish per Kilometer, 95% C.I.:	321.38 (+/-) 10.77

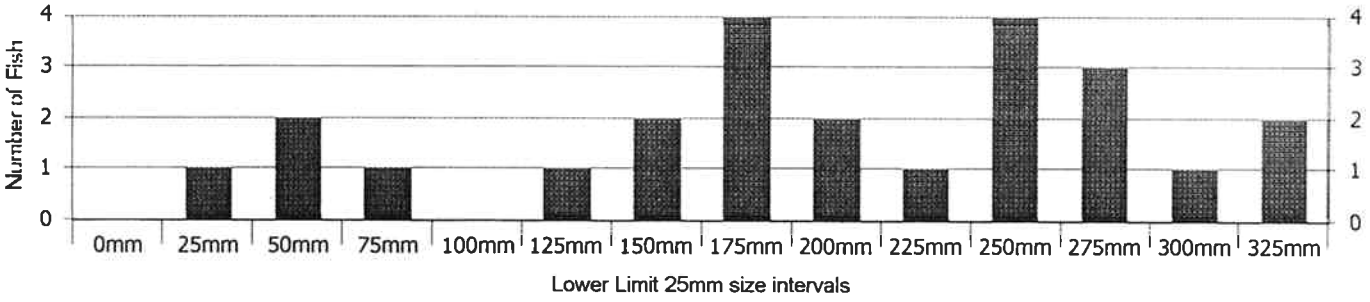
MERCED RIVER, Section 5

Survey Date: **2001/08/15** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



WATER QUALITY

Parameter	Value & Unit	Time	Method	Measured by	Recorded by
Water Temperature	21 (°C) or °F (circle one)	9:10	☒ pocket thermometer ☐ other (specify)	M. Bogan	M. Bogan
Specific Conductivity	30 micromhos/cm	9:10	☒ Hanna Waterchek meter ☐ YSI meter ☐ other (specify)	↓	↓
Ambient Conductivity	micromhos/cm	same as above	Ambient Conductivity = Specific Conductivity / $[1.02]^{(25 - \text{Water Temp °C})}$	↓	↓
pH	7.8	9:10	☐ Hanna Waterchek meter ☐ other (specify)	↓	↓
Total Alkalinity	14 mg/l	9:10	☒ Chemetrics Titret Kit ☐ other (specify)	↓	↓

COMMENTS: (Note appearance, turbidity, etc. If conductivity is low and **salt is added**, specify quantity, remeasure conductivity at least once before each pass, and note time.) Added 4 bricks of salt first pass; 2 bricks at start of second pass. Conductivity according to Hanna meter was unchanged.

ELECTROFISHING CONDITIONS

Type of Electrofisher(s) Used: (check one)
☒ backpack ☐ totebarge ☐ boat
Make & Model(s): SR-12 ; BBs

Electrofisher Settings:
Pulse Frequency ____ Hz
Pulse Duration ____ ms
Mode 6 / 5 (SR Type XII only)
Output Voltage 400 Volts and 500
Current 0.18 Amps
Power = Volts x Amps = 72 Watts

General Fish Response: (check all that apply)
☒ Galvanotaxis ☐ Narcosis ☐ Tetany

Estimated Flow: 60 cfs

Water Clarity: (check one)
☐ 0 - 2 ft ☐ 2 - 4 ft ☒ > 4 ft

Weed Cover: 0 %

Start Time: 10:30 **End Time:** 13:00

ELECTROFISHING EFFORT

Operator	ALEX	STAN	MIKE	AUSTIN	KEN	Total
Shocker	[illegible]	R-4 #1	[illegible]	Timber (R4)	[illegible]	Time (sec)
Pass 1	1268	1768	1358	1084	1907	
Pass 2	1378	1401	1105	988	1176	
Pass 3	1103	1099	958	917	983	
Pass 4						

OTHER CREW MEMBERS: (First and last names, please!)

Netters	Live Car Tenders	Fish Processing
Cari Scott	Andrew Branagan	did between passes -
Kelli Felker		see data sheets
Robb Tibstra		
Sharon Shiba		
Dave Lentz		

MERCED RIVER, Section 1
Survey Date: 2001/08/14
Species: Brown trout

Number of shockers:	4
Number of passes:	3
Section length:	94.48915 meters
Mean width of section:	20.04084 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	1628 grams
Range of measured lengths:	549 to 549 mm
Range of measured weights:	1628 to 1628 grams

Number of fish caught in each pass:

Pass	Fish caught
1	0
2	1
3	0

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	1.00 (+/-) 9.32
Upper 95% Confidence Limit:	10.32
Lower 95% Confidence Limit:	1.00

Capture Probability:	50%
Standard Error:	0.73
Error of Population Estimate:	932.37%
Coefficient of Variation:	0.73

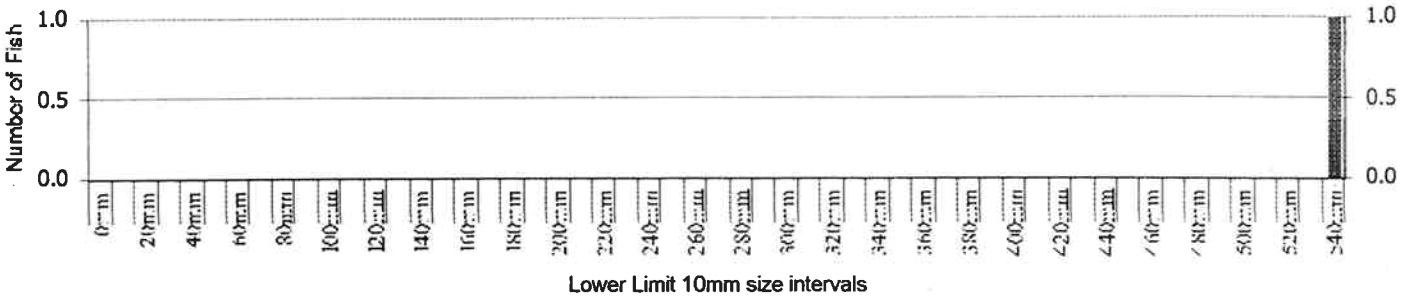
Biomass:	1.63 kg	3.58 lbs
Standing Crop:	8.60 kg/ha	7.65 lbs/acre

Fish per Mile, 95% C.I.:	17.03 (+/-) 158.80
Fish per Kilometer, 95% C.I.:	10.58 (+/-) 98.67

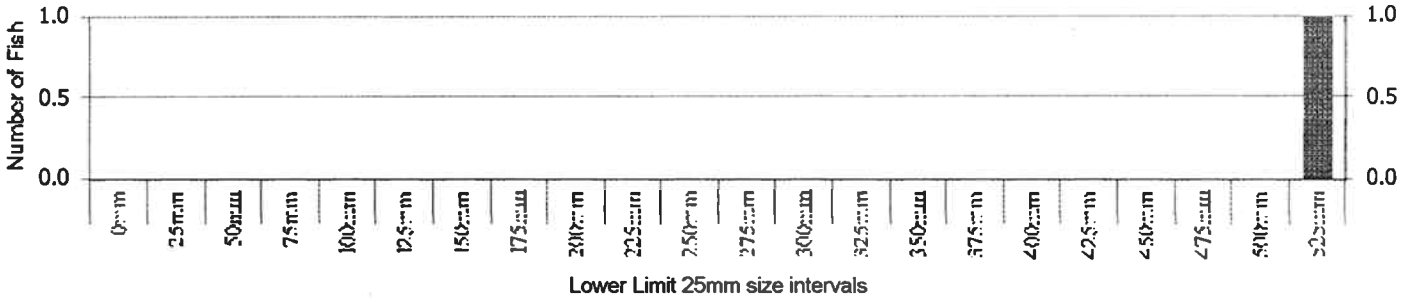
MERCED RIVER, Section 1

Survey Date: **2001/08/14** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



MERCED RIVER, Section 1
Survey Date: 2001/08/14
Species: Hatchery rainbow trout

Number of shockers:	4
Number of passes:	3
Section length:	94.48915 meters
Mean width of section:	20.04084 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	262 grams
Range of measured lengths:	283 to 321 mm
Range of measured weights:	202 to 321 grams

Number of fish caught in each pass:

Pass	Fish caught
1	1
2	0
3	1

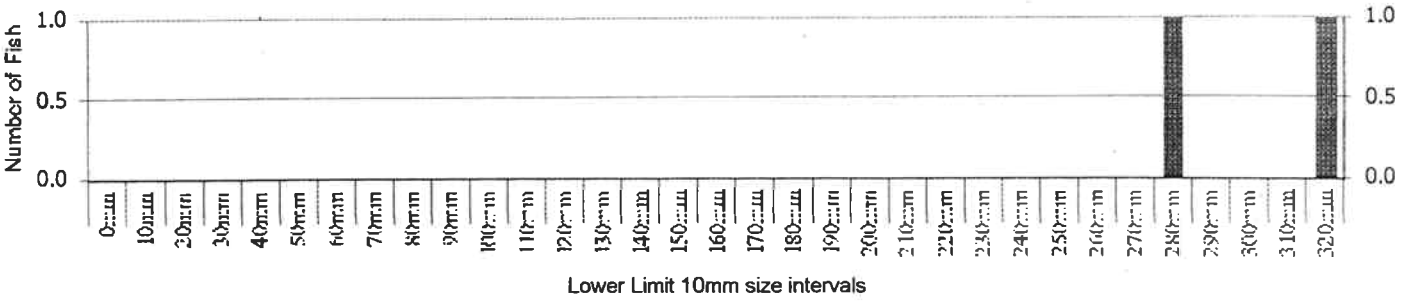
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	2.00 (+/-) 4.47	
Upper 95% Confidence Limit:	6.47	
Lower 95% Confidence Limit:	2.00	
Capture Probability:	50%	
Standard Error:	1.04	
Error of Population Estimate:	223.27%	
Coefficient of Variation:	0.52	
Biomass:	0.52 kg	1.15 lbs
Standing Crop:	2.77 kg/ha	2.46 lbs/acre
Fish per Mile, 95% C.I.:	34.06 (+/-) 76.06	
Fish per Kilometer, 95% C.I.:	21.17 (+/-) 47.26	

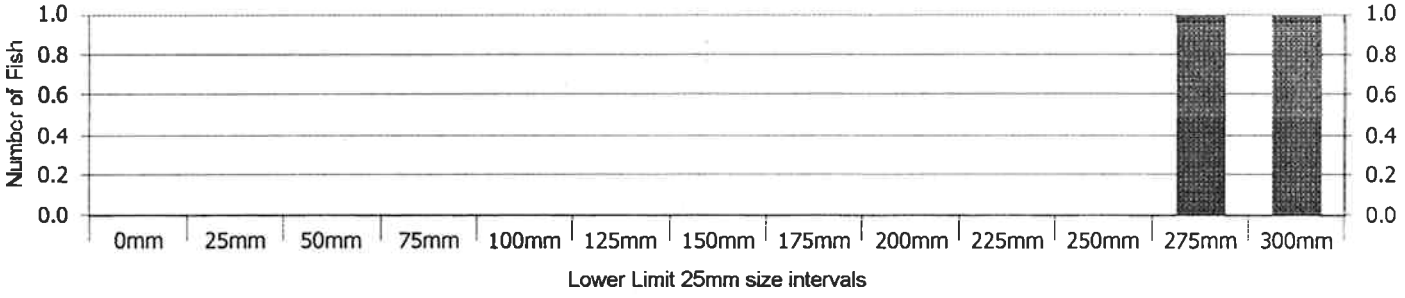
MERCED RIVER, Section 1

Survey Date: **2001/08/14** Species: **Hatchery rainbow trout**

10mm Length Distribution



25mm Length Distribution



MERCED RIVER, Section 1
Survey Date: 2001/08/14
Species: Rainbow trout

Number of shockers:	4
Number of passes:	3
Section length:	94.48915 meters
Mean width of section:	20.04084 meters

Weight estimation equation:	Weight = Length * 2.844 + 0.000
Estimation model source:	MERCED RIVER, Section 1, 2001/08/14
Average weight of fish in sample:	147 grams
Range of measured lengths:	47 to 371 mm
Range of measured weights:	1 to 356 grams

Number of fish caught in each pass:

Pass	Fish caught
1	12
2	6
3	3

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	22.00 (+/-) 4.41
Upper 95% Confidence Limit:	26.41
Lower 95% Confidence Limit:	21.00

Capture Probability:	58%
Standard Error:	2.12
Error of Population Estimate:	20.03%
Coefficient of Variation:	0.10

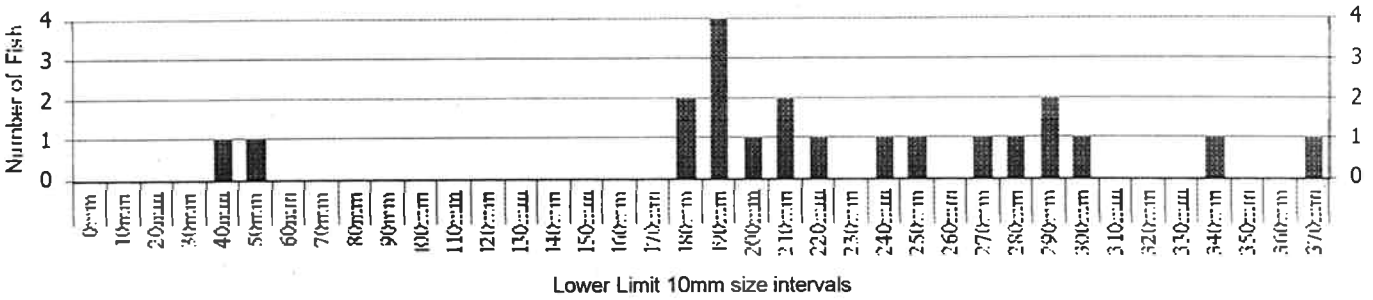
Biomass:	3.23 kg	7.11 lbs
Standing Crop:	17.08 kg/ha	15.21 lbs/acre

Fish per Mile, 95% C.I.:	374.71 (+/-) 75.06
Fish per Kilometer, 95% C.I.:	232.83 (+/-) 46.64

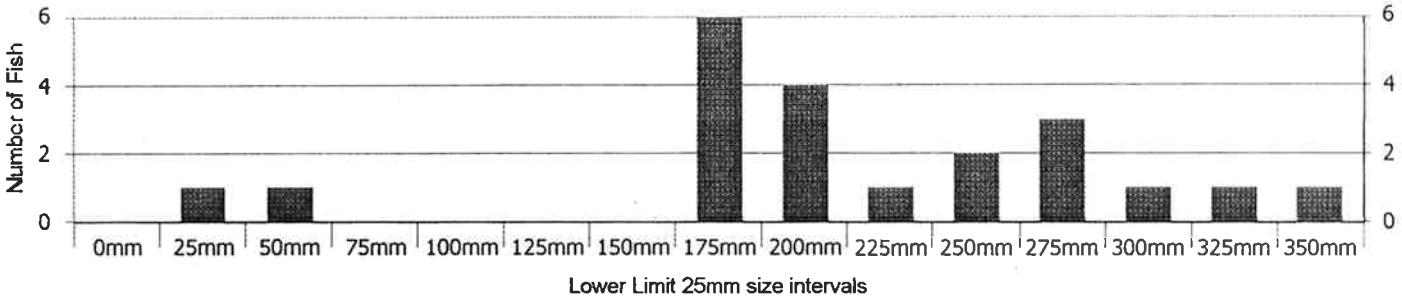
MERCED RIVER, Section 1

Survey Date: **2001/08/14** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



WATER QUALITY

	Value & Unit	Time	Method	Measured by	Recorded by
Water Temperature	17* ☒°C or ☐°F (circle one)	950	☒ pocket thermometer ☐ other (specify) _____	M. Bogan	C. Scott
Specific Conductivity	40 micromhos/cm	950	☒ Hanna Waterchek meter ☐ YSI meter ☐ other (specify) _____	↓	↓
Ambient Conductivity	micromhos/cm	same as above	Ambient Conductivity = Specific Conductivity / [1.02]^(25 - Water Temp.°C)	↓	↓
pH	7.9	950	☒ Hanna Waterchek meter ☐ other (specify) _____	↓	↓
Total Alkalinity	18 mg/l	950	☒ Chemetrics Titret Kit ☐ other (specify) _____	A. Gaos	C. Scott

COMMENTS: (Note appearance, turbidity, etc. If conductivity is low and **salt is added**, specify quantity, remeasure conductivity at least once before each pass, and note time.) Salt added (2 blocks)

0 Temp at 1300 = 22°C

20 Temp at 1630 = 26°C

Could have used 1 or 2 more shockers, plus more netters.

ELECTROFISHING CONDITIONS

Type of Electrofisher(s) Used: (check one)

☒ backpack ☐ totebarge ☐ boat XII

Make & Model(s): Smith Root Type ~~XII~~

Electrofisher Settings:

Pulse Frequency _____ Hz

Pulse Duration _____ ms

Mode G / 5 (SR Type XII only)

Output Voltage 400 Volts

Current 0.18 Amps

Power = Volts x Amps = _____ Watts

General Fish Response: (check all that apply)

☒ Galvanotaxis ☐ Narcosis ☐ Tetany

Estimated Flow: ~50-70 cfs

Water Clarity: (check one)

☐ 0 - 2 ft ☒ 2 - 4 ft ☐ > 4 ft

Weed Cover: 0 %

Start Time: 1020* **End Time:** 1645 (est)

* did work up in between shocking passes

ELECTROFISHING EFFORT

Operator	Ken	Alex	Rob Tibbetts	Bryan Beal		Total
Shocker	EasyCleye	Catamaran	R4	Shadow		Time (sec)
Pass 1	1612	2299	1296	1981		7188
Pass 2	1664	1819	1149	1737		6349
Pass 3	1403	1268	932	1560		5163
Pass 4						

OTHER CREW MEMBERS: (First and last names, please!)

Netters	Live Car Tenders	Fish Processing
M. Bogan	Shyuon Shiba	processed fish
Austin Pearson	Cari Scott	between passes,
Bryan ?		see took turns,
Andrew Brannigan		see fish processing
		sheets for processed

KINGS RIVER, S.F., Section 3
Survey Date: 2002/09/19
Species: Rainbow trout

Number of shockers:	4
Number of passes:	3
Section length:	57.9127 meters
Mean width of section:	15 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	40 grams
Range of measured lengths:	55 to 244 mm
Range of measured weights:	2 to 138 grams

Number of fish caught in each pass:

Pass	Fish caught
1	20
2	10
3	4

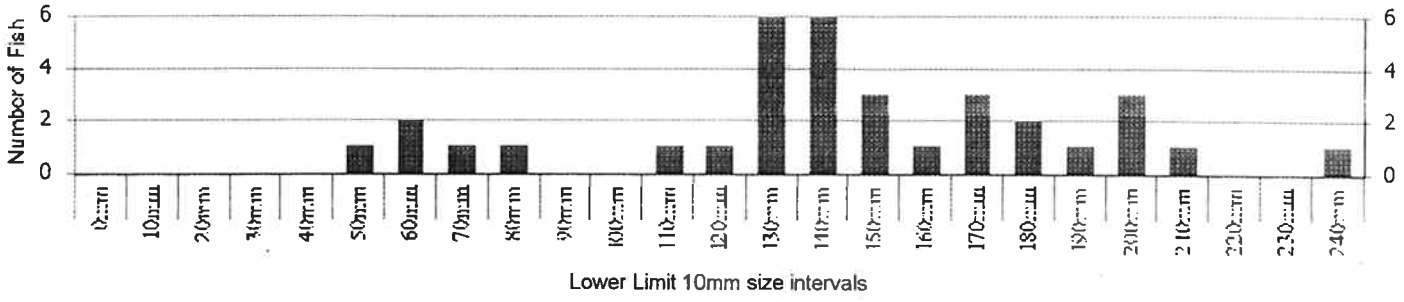
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	36.00 (+/-) 5.39	
Upper 95% Confidence Limit:	41.39	
Lower 95% Confidence Limit:	34.00	
Capture Probability:	59%	
Standard Error:	2.66	
Error of Population Estimate:	14.96%	
Coefficient of Variation:	0.07	
Biomass:	1.44 kg	3.17 lbs
Standing Crop:	16.58 kg/ha	14.76 lbs/acre
Fish per Mile, 95% C.I.:	1,000.41 (+/-) 149.66	
Fish per Kilometer, 95% C.I.:	621.63 (+/-) 92.99	

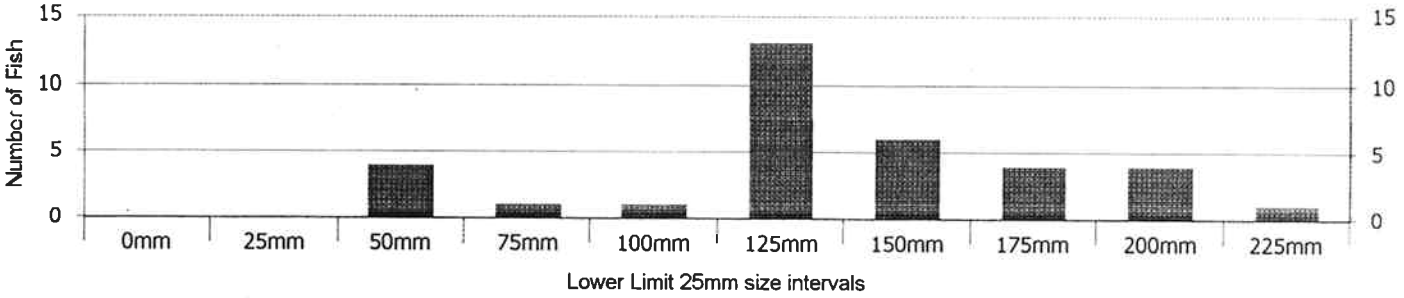
KINGS RIVER, S.F., Section 3

Survey Date: **2002/09/19** Species: **Rainbow trout**

10mm Length Distribution



25mm Length Distribution



KINGS RIVER, S.F., Section 3
Survey Date: 2002/09/19
Species: Brown trout

Number of shockers:	4
Number of passes:	3
Section length:	57.9127 meters
Mean width of section:	15 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	93 grams
Range of measured lengths:	82 to 376 mm
Range of measured weights:	5 to 579 grams

Number of fish caught in each pass:

Pass	Fish caught
1	31
2	9
3	5

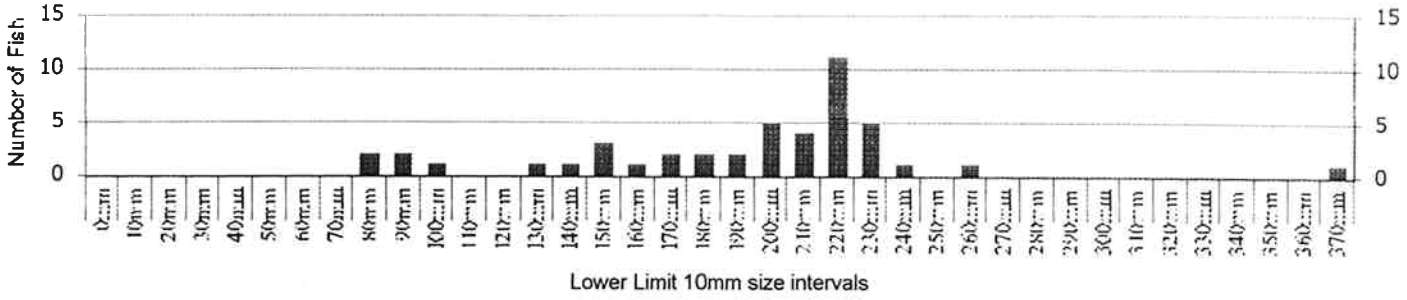
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	46.00 (+/-) 3.57	
Upper 95% Confidence Limit:	49.57	
Lower 95% Confidence Limit:	45.00	
Capture Probability:	67%	
Standard Error:	1.79	
Error of Population Estimate:	7.76%	
Coefficient of Variation:	0.04	
Biomass:	4.28 kg	9.41 lbs
Standing Crop:	49.25 kg/ha	43.85 lbs/acre
Fish per Mile, 95% C.I.:	1,278.30 (+/-) 99.24	
Fish per Kilometer, 95% C.I.:	794.30 (+/-) 61.66	

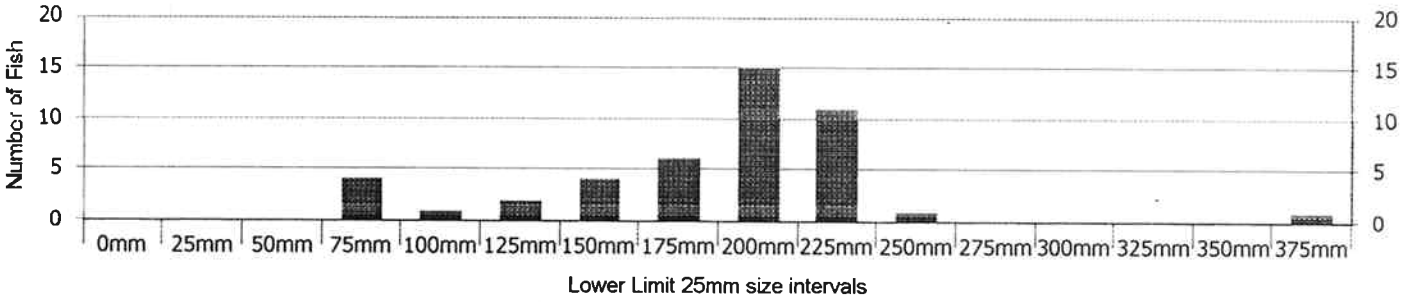
KINGS RIVER, S.F., Section 3

Survey Date: **2002/09/19** Species: **Brown trout**

10mm Length Distribution



25mm Length Distribution



KERN RIVER, S.F., Se on 2
Survey Date: 2003/09/25
Species: Golden trout

Number of shockers:	2
Number of passes:	3
Section length:	91.44 meters
Mean width of section:	2.6 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	10 grams
Range of measured lengths:	39 to 167 mm
Range of measured weights:	1 to 40 grams

Number of fish caught in each pass:

Pass	Fish caught
1	110
2	50
3	51

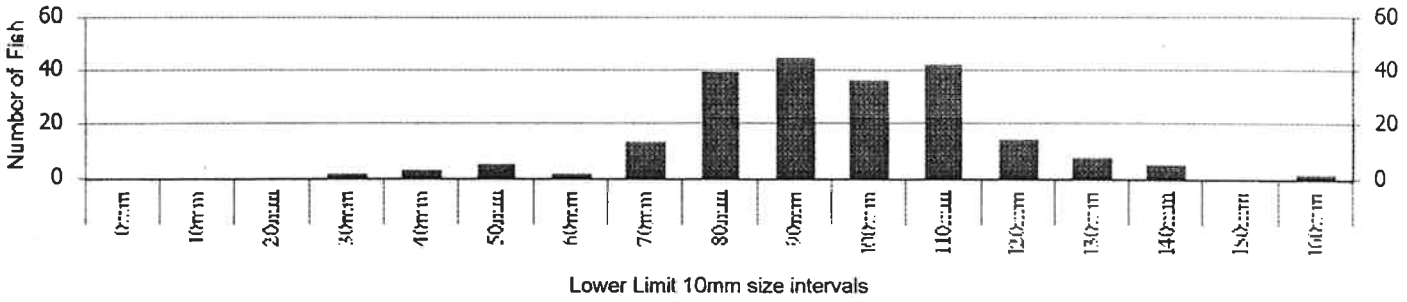
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	286.00 (+/-) 56.88	
Upper 95% Confidence Limit:	342.88	
Lower 95% Confidence Limit:	229.12	
Capture Probability:	36%	
Standard Error:	29.02	
Error of Population Estimate:	19.89%	
Coefficient of Variation:	0.10	
Biomass:	2.86 kg	6.29 lbs
Standing Crop:	120.30 kg/ha	107.10 lbs/acre
Fish per Mile, 95% C.I.:	5,033.60 (+/-) 1,001.03	
Fish per Kilometer, 95% C.I.:	3,127.73 (+/-) 622.01	

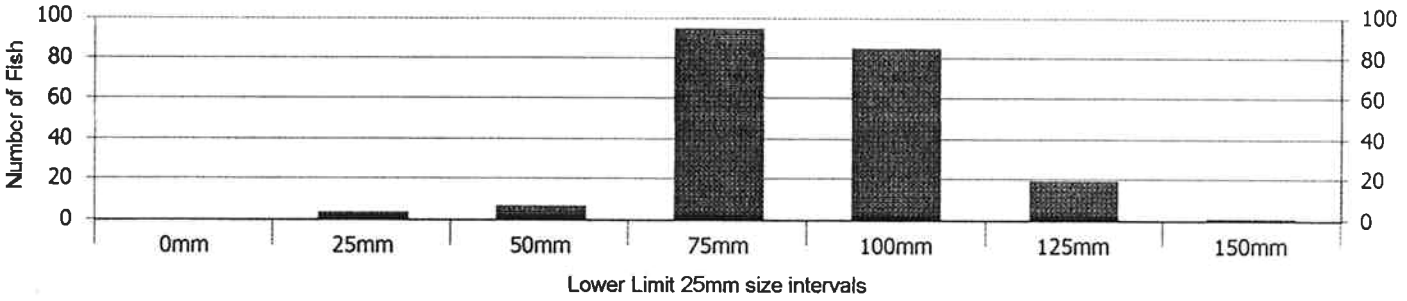
KERN RIVER, S.F., Section 2

Survey Date: **2003/09/25** Species: **Golden trout**

10mm Length Distribution



25mm Length Distribution



KERN RIVER, S.F., Section 2
Survey Date: 2001/09/27
Species: Golden trout

Number of shockers:	1 — ACTUAL NUMBER UNKNOWN
Number of passes:	3
Section length:	328.08 meters
Mean width of section:	~~1 meters~~ NO WIDTHS MEASURED - DEFAULTED AS 1 TO GET THIS SUMMARY TO RUN
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	9 grams
Range of measured lengths:	65 to 170 mm
Range of measured weights:	1 to 42 grams

Number of fish caught in each pass:

Pass	Fish caught
1	136 + 3
2	58 + 3
3	24

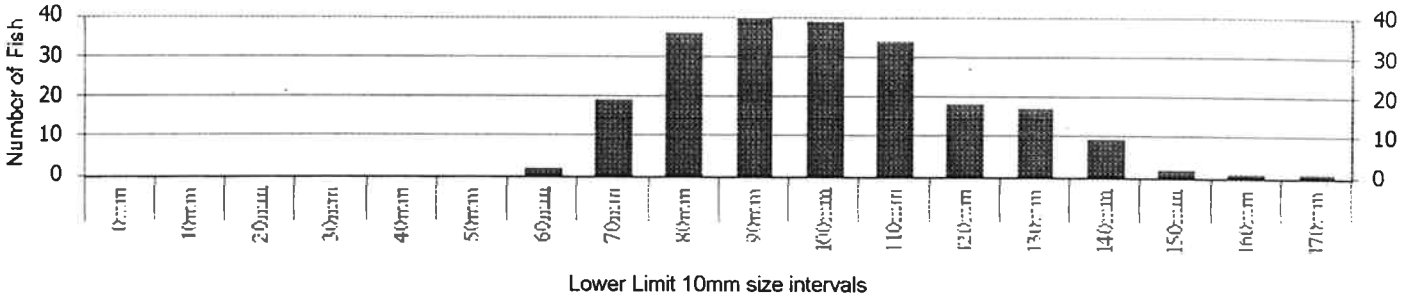
6 YOY NOT MEASURED & NOT INCLUDED IN TOTAL COUNTS SO TOTAL POP & POP/KM WILL BE SLIGHTLY HIGHER

Maximum Likelihood Model (Burnham)	
Population Estimate, 95% C. I.:	234.00 (+/-) 13.33
Upper 95% Confidence Limit:	247.33
Lower 95% Confidence Limit:	220.67
Capture Probability:	59%
Standard Error:	6.80
Error of Population Estimate:	5.70%
Coefficient of Variation:	0.03
Biomass:	2.11 kg 4.63 lbs
Standing Crop:	~~64.19 kg/ha~~ ~~57.15 lbs/acre~~ NO WIDTHS MEASURED NO STANDING CROP
Fish per Mile, 95% C.I.:	1,147.85 (+/-) 65.39
Fish per Kilometer, 95% C.I.:	713.24 (+/-) 40.63

KERN RIVER, S.F., Section 2

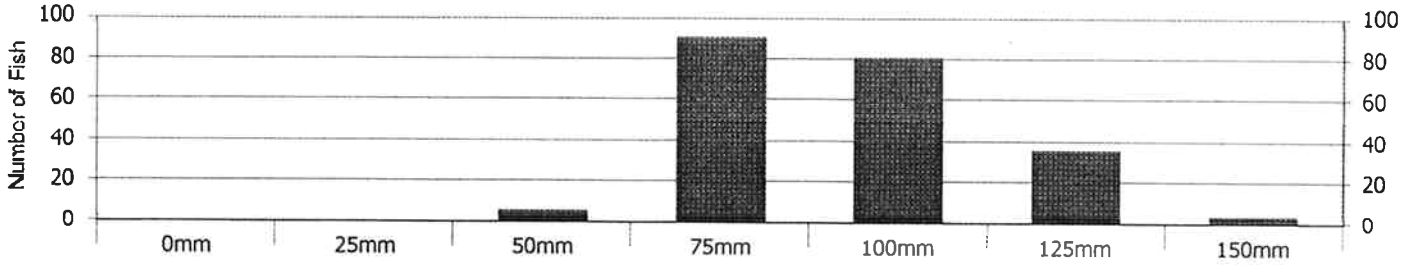
Survey Date: **2001/09/27** Species: **Golden trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals

JOHNSON SPRING CR K, Section 1
Survey Date: 2003/09/23
Species: Golden trout

Number of shockers:	2
Number of passes:	3
Section length:	100.6 meters
Mean width of section:	2.2 meters

Weight estimation equation:	Weight = Length * 2.831 + 0.000
Estimation model source:	JOHNSON SPRING CREEK, Section 1, 2003/09/23
Average weight of fish in sample:	14 grams
Range of measured lengths:	36 to 223 mm
Range of measured weights:	0 to 103 grams

Number of fish caught in each pass:

Pass	Fish caught
1	209
2	130
3	78

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	538.00 (+/-) 63.66
Upper 95% Confidence Limit:	601.66
Lower 95% Confidence Limit:	474.34

Capture Probability:	39%
Standard Error:	32.48
Error of Population Estimate:	11.83%
Coefficient of Variation:	0.06

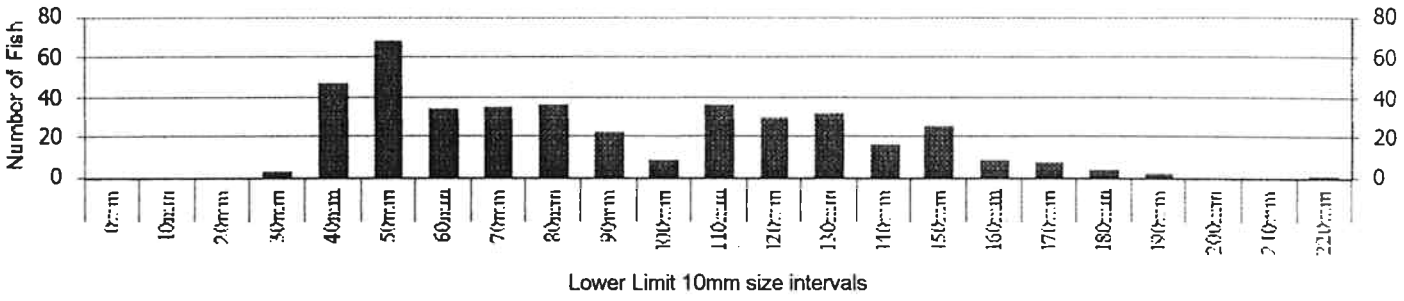
Biomass:	7.53 kg	16.57 lbs
Standing Crop:	340.32 kg/ha	302.99 lbs/acre

Fish per Mile, 95% C.I.:	8,606.63 (+/-) 1,018.37
Fish per Kilometer, 95% C.I.:	5,347.91 (+/-) 632.79

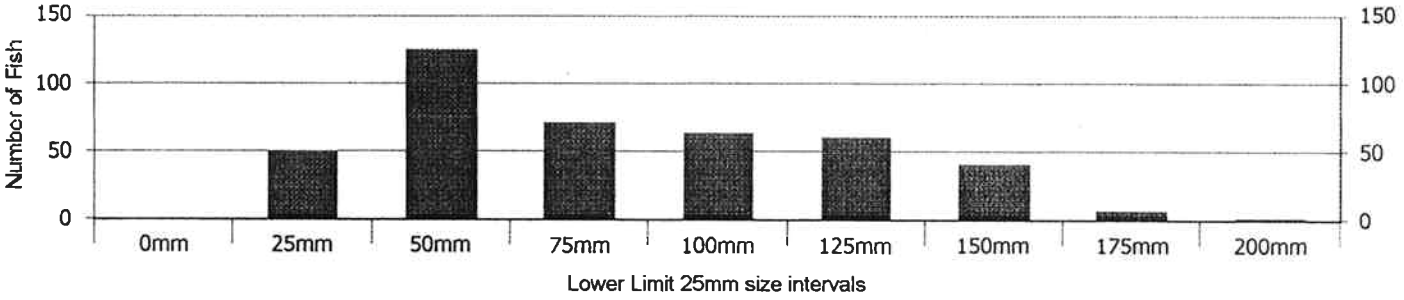
JOHNSON SPRING CREEK, Section 1

Survey Date: **2003/09/23** Species: **Golden trout**

10mm Length Distribution



25mm Length Distribution



GOLDEN TROUT CREE Section 1
Survey Date: 2002/09/11
Species: Golden trout

Number of shockers:	2
Number of passes:	3
Section length:	91.4 meters
Mean width of section:	4.2 meters

Weight estimation equation:	Weight = Length * 2.889 + 0.000
Estimation model source:	GOLDEN TROUT CREEK, Section 1, 2002/09/11
Average weight of fish in sample:	23 grams
Range of measured lengths:	30 to 248 mm
Range of measured weights:	1 to 153 grams

Number of fish caught in each pass:

Pass	Fish caught
1	471
2	248
3	113

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	948.00 (+/-) 43.51
Upper 95% Confidence Limit:	991.51
Lower 95% Confidence Limit:	904.49

Capture Probability:	50%
Standard Error:	22.20
Error of Population Estimate:	4.59%
Coefficient of Variation:	0.02

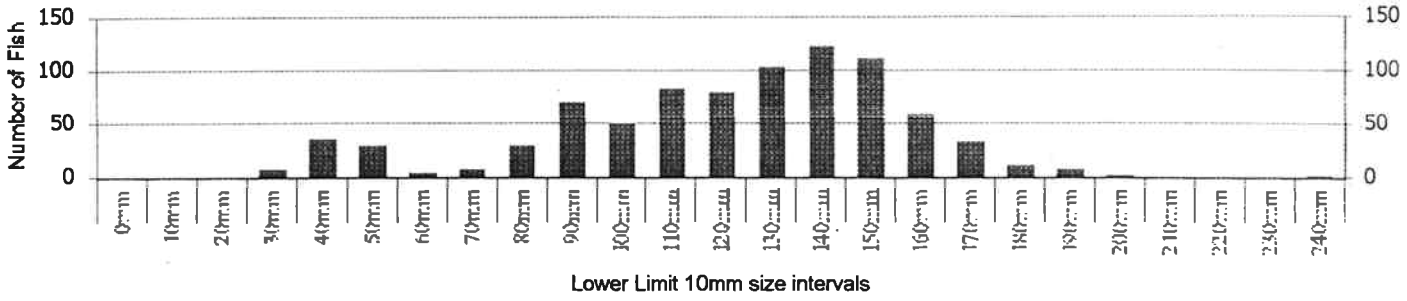
Biomass:	21.80 kg	47.97 lbs
Standing Crop:	567.99 kg/ha	505.69 lbs/acre

Fish per Mile, 95% C.I.:	16,692.10 (+/-) 766.17
Fish per Kilometer, 95% C.I.:	10,371.99 (+/-) 476.08

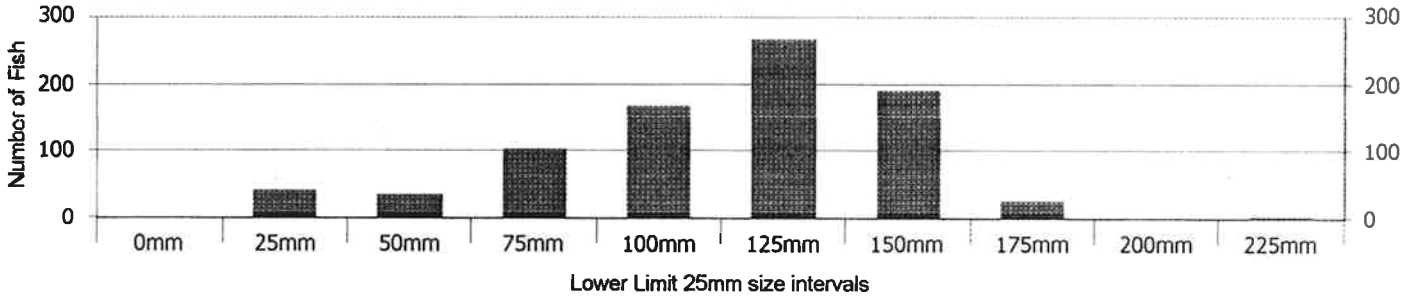
GOLDEN TROUT CREEK, Section 1

Survey Date: **2002/09/11** Species: **Golden trout**

10mm Length Distribution



25mm Length Distribution



CLAVEY RIVER, Section 6
Survey Date: 2000/09/14
Species: Rainbow trout

Number of shockers:	2
Number of passes:	3
Section length:	99.671 meters
Mean width of section:	7.846 meters
Weight estimation equation:	Weight = Length * 3.242 + 0.000
Estimation model source:	CLAVEY RIVER, Section 6, 2000/09/14
Average weight of fish in sample:	18 grams
Range of measured lengths:	50 to 198 mm
Range of measured weights:	1 to 70 grams

Number of fish caught in each pass:

Pass	Fish caught
1	139
2	19
3	17

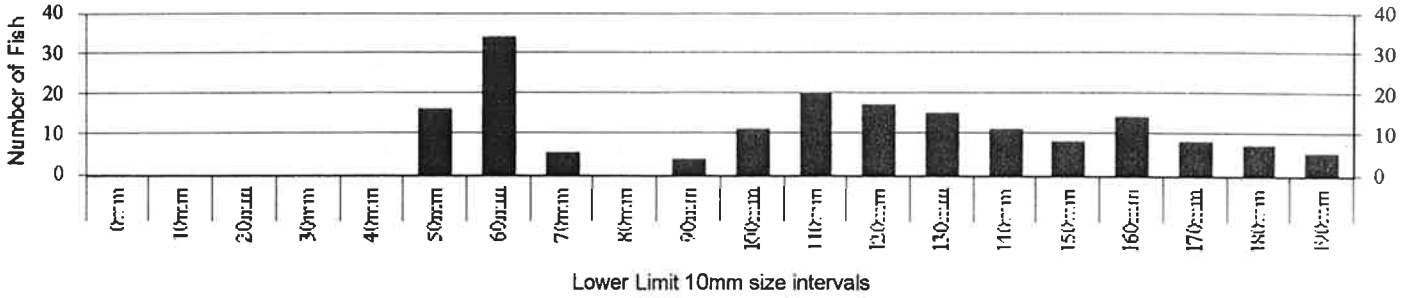
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	178.00 (+/-) 4.37
Upper 95% Confidence Limit:	182.37
Lower 95% Confidence Limit:	175.00
Capture Probability:	74%
Standard Error:	2.23
Error of Population Estimate:	2.46%
Coefficient of Variation:	0.01
Biomass:	3.20 kg 7.05 lbs
Standing Crop:	40.97 kg/ha 36.48 lbs/acre
Fish per Mile, 95% C.I.:	2,874.09 (+/-) 70.61
Fish per Kilometer, 95% C.I.:	1,785.88 (+/-) 43.88

CLAVEY RIVER, Section 6

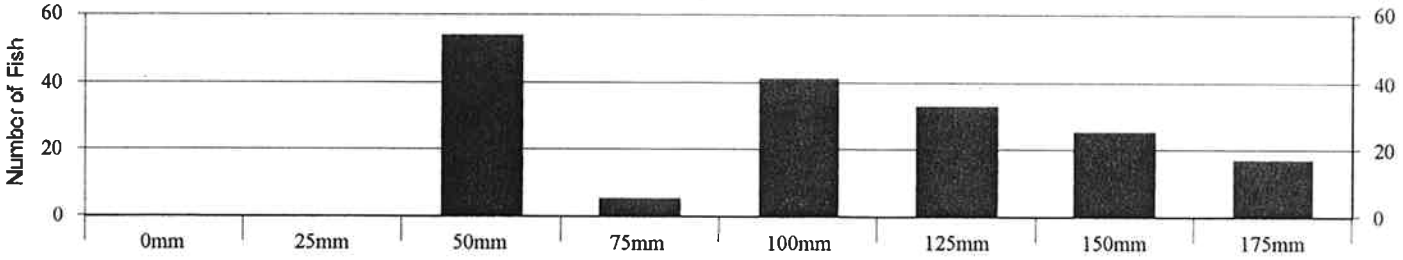
Survey Date: **2000/09/14** Species: **Rainbow trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution

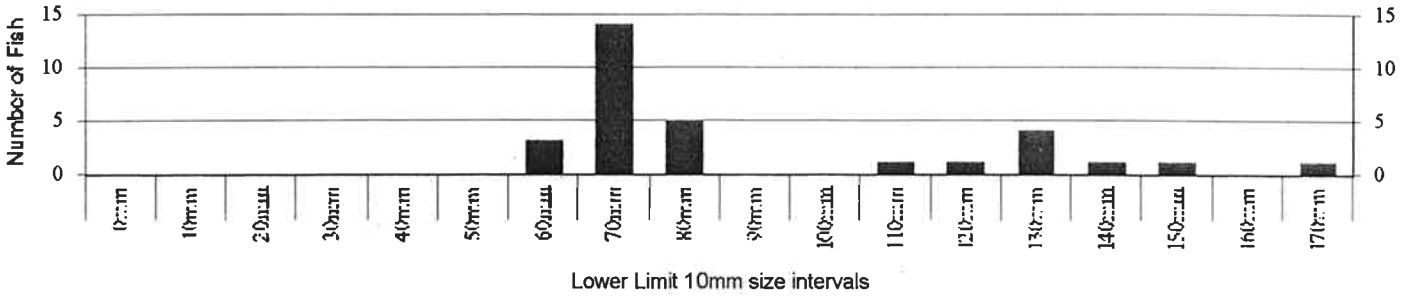


Lower Limit 25mm size intervals

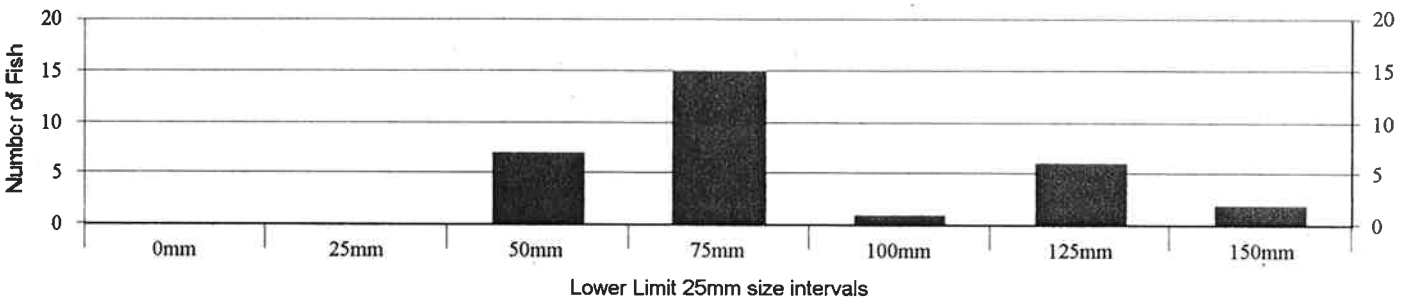
BELL CREEK, Section 1

Survey Date: **2000/09/15** Species: **Brook trout**

10mm Length Distribution



25mm Length Distribution



CALIFORNIA DEPARTMENT OF FISH AND GAME [redacted] HERITAGE AND WILD TROUT PROGRAM

ELECTROFISHING SURVEY SUMMARY [redacted]

GENERAL LOCATION (describe in detail & draw map on Location form)

Survey Date (da/mo/yr) 14 / 1558 / 00

Stream Name CLAVEY RIVER Section 6

Location Description just above Confl. w/ Trout Creek (218 ft upstream of bridge)

Section Length 327 ft 99.671 METERS Average Width 25.74 ft 7.846 METERS

GPS Unit Used BROWN TROUT

Waypoint No. 058 Time 1558 PDT FOM 16.2 ft

North 38.13664 ° West 119.97415 °

Other information _____

DATA PACKET CHECKLIST

- ☑ Location Map
- ☑ Fish Population
- ☑ Water Quality/Discharge/Gradient
- ☑ Stream Transect (Depth/Substrate/Habitat)
- ☐ Vegetation /Bank Stability/Cover
- ☐ Habitat Description
- ☐ Volunteer Service Agreements
- ☐ Other _____

SURVEY PARTICIPANTS

Name	Affiliation
Stan Stephens	DFG R4
Rob Tibbitts	DFG - R-4
Mike Schommer	DFG - HQ
Bob Soleski	"
Dave Lentz	"

Recorder: Shawn Shinn CDFG

ELECTROFISHING CONDITIONS

Section Closures: (check one for each end)

Upstream Block: ☑ seine ☐ cascade ☐ waterfall ☐ other (describe) _____

Downstream Block: ☑ seine ☐ cascade ☐ waterfall ☐ other (describe) _____

Type of Electrofisher(s) Used: (check one)

☑ backpack ☐ totebarge ☐ boat

Salt Added? (check one) ☑ YES ☐ NO

Number in Crew: Shockers 2 Netters 3

Live Car Tenders 1 Fish Processing post-shocking

ELECTROFISHING EFFORT

	Shocker	OBIWON	SHADOW CASTER				
Pass 1		1626	1276				
Pass 2		1443	1037				
Pass 3		927	860				
Pass 4							
_____							
Total							

NOTES & COMMENTS:

E FISHER SETTINGS - J-6 at 100 to 200 VOLTS - had to switch over whenever output fluctuated too high because of uneven salt concentrations

FISH PROCESSING

Anesthetic used: (check one) ☑ CO_2 ☐ Other _____

Oxygen Added? (check one) ☐ YES ☑ NO

Amphibians and Reptiles Observed:

NONE

FISH POPULATION ESTIMATE SUMMARY

(use space below for notes or additional columns, if needed)

Taxon	RT										
Pass 1	139										
Pass 2	19										
Pass 3	17										
Pass 4											
_____											
Total											

BELL CREEK, Section 1
Survey Date: 2000/09/15
Species: Brook trout

Number of shockers:	2
Number of passes:	3
Section length:	280.72 meters
Mean width of section:	4.56 meters

Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	9 grams
Range of measured lengths:	62 to 173 mm
Range of measured weights:	1 to 48 grams

Number of fish caught in each pass:

Pass	Fish caught
1	18
2	12
3	1

Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	32.00 (+/-) 3.54
Upper 95% Confidence Limit:	35.54
Lower 95% Confidence Limit:	31.00

Capture Probability:	65%
Standard Error:	1.75
Error of Population Estimate:	11.07%
Coefficient of Variation:	0.05

Biomass:	0.29 kg	0.63 lbs
Standing Crop:	2.25 kg/ha	2.00 lbs/acre

Fish per Mile, 95% C.I.:	183.45 (+/-) 20.31
Fish per Kilometer, 95% C.I.:	113.99 (+/-) 12.62

BELL CREEK, Section 1
Survey Date: 2000/09/15
Species: Rainbow trout

Number of shockers:	2
Number of passes:	3
Section length:	280.72 meters
Mean width of section:	4.56 meters
Weight estimation equation:	N/A
Estimation model source:	N/A
Average weight of fish in sample:	29 grams
Range of measured lengths:	48 to 254 mm
Range of measured weights:	1 to 160 grams

Number of fish caught in each pass:

Pass	Fish caught
1	176
2	37
3	17

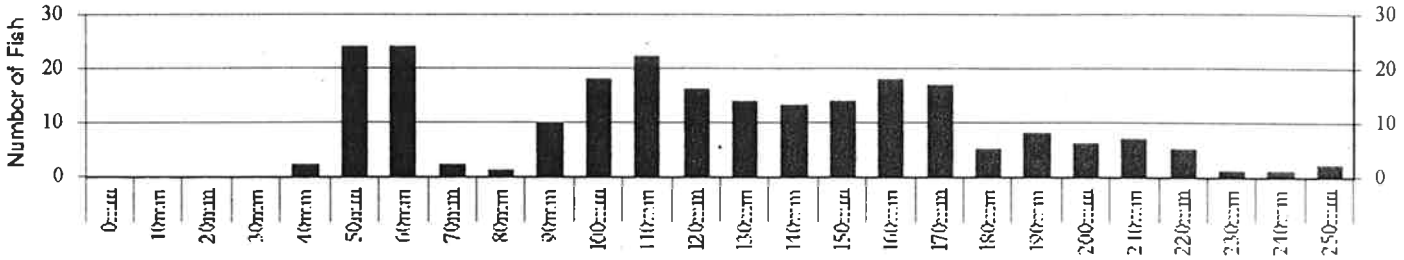
Maximum Likelihood Model (Burnham)

Population Estimate, 95% C. I.:	234.00 (+/-) 5.15	
Upper 95% Confidence Limit:	239.15	
Lower 95% Confidence Limit:	230.00	
Capture Probability:	73%	
Standard Error:	2.63	
Error of Population Estimate:	2.20%	
Coefficient of Variation:	0.01	
Biomass:	6.79 kg	14.93 lbs
Standing Crop:	53.01 kg/ha	47.20 lbs/acre
Fish per Mile, 95% C.I.:	1,341.50 (+/-) 29.50	
Fish per Kilometer, 95% C.I.:	833.57 (+/-) 18.33	

BELL CREEK, Section 1

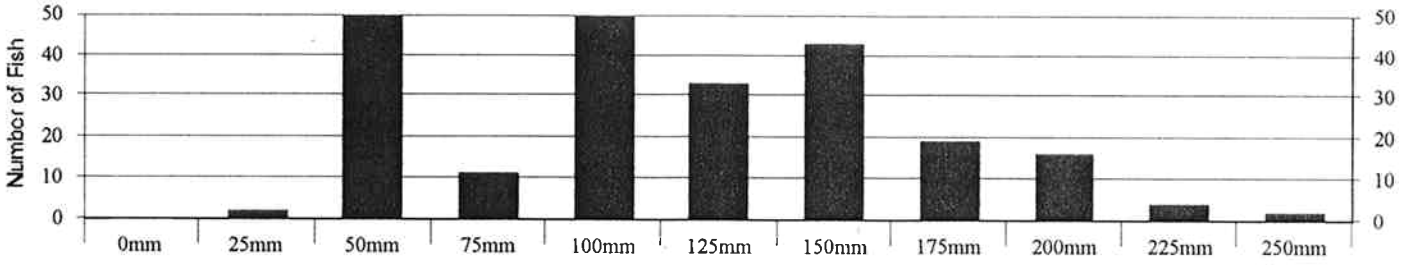
Survey Date: **2000/09/15** Species: **Rainbow trout**

10mm Length Distribution



Lower Limit 10mm size intervals

25mm Length Distribution



Lower Limit 25mm size intervals