Appendix F

SUCTION DREDGER SURVEY AND SUMMARY OF RESULTS

C. Equipment and Other Questions

This section asks about your suction dredge equipment and maintenance expenditures in 2008

19. **Approximately** how much money did you spend IN TOTAL on the purchase and maintenance of equipment used for suction dredging in California in 2008? $ _____

20. Please tell us **(by checking the appropriate box)** where you purchased most of your suction dredge equipment in 2008?

- ☐ At stores in the **county where you live**
- ☐ At stores in counties **other than** where you live
- ☐ Ordered by telephone
- ☐ Ordered over the internet
- ☐ Mail order
- ☐ Other (Please explain: _____)

21. Do you consider yourself to be a recreational dredger, semi-commercial dredger, or commercial dredger? **(Please check only one.)**

- ☐ Recreational dredger (not a significant source of income)
- ☐ Semi-commercial dredger (supplementary source of income)
- ☐ Commercial dredger (primary source of income, commercial enterprise)

22. About what percentage of your annual income do you derive from suction dredging? _____%

23. How important is it that you make a profit each year on your suction dredging activities?

- ☐ Very important
- ☐ Somewhat important
- ☐ Not at all important

D. Comments (please provide comments about the survey or any other concerns below)

_____

_____

_____

_____

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Please Return Survey in the Enclosed Envelope – Mailing Postage is Prepaid

Suction Dredger Survey

(California Residents)

This brief survey is being conducted to better understand participation in suction dredging activities in California. ***ALL QUESTIONS PERTAIN TO YOUR SUCTION DREDGING ACTIVITIES IN CALIFORNIA IN 2008.*** *Your participation is important to the study. Please answer all questions completely and accurately.*

IMPORTANT: What was the **ZIP CODE** of your primary residence in 2008? _____

A. Suction Dredging Activity in California in 2008

This section asks about your suction dredging activity in California in 2008.

1. How many **separate trips from your primary place of residence** did you make to suction dredge in California in 2008? _____ trips

   (If none or "0" trips, this completes the survey. Please return the questionnaire in the postage paid envelope provided.)

2. About how many days did you operate a suction dredge in California in 2008? _____ days

3. In which California **county(ies)** did you operate your suction dredge in 2008? (please list all counties)

   _____Co. _____Co. _____Co. _____Co. _____Co.

4. In which California streams did you operate a suction dredge in 2008 and what **town** is closest to that location?

Stream	*Nearby Town*
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5. **OPTIONAL:** **Approximately** how many ounces of gold did you recover in 2008? _____ ounces
   *(**Please note:** Your response to this question and all other questions are considered confidential and will be combined with responses from all other respondents for summary purposes only.)*

6. Did you use mercury and/or nitric acid to process the concentrates in 2008?

   ☐ Yes ☐ No

7. Did you collect and remove any mercury from any streams during your suction dredging activities in 2008?

☐ Yes *(go to Q7a)* ☐ No *(skip to Q8)*

7a. If YES, approximately how much mercury did you personally collect and remove from streams during your suction dredging activities in California in 2008? _____ounces

8. For each dredge that you used in California streams in 2008, please tell us the **nozzle size, horsepower, and the approximate percent of your suction dredging time** spent in California that each dredge was used over that year.

	Nozzle Size	*Horsepower*	*% of Time Used*
Dredge #1	_____	_____	_____
Dredge #2	_____	_____	_____
Dredge #3	_____	_____	_____
Dredge #4	_____	_____	_____
Dredge #5	_____	_____	_____
			= 100%

B. Typical (or Last) Trip in 2008

This section asks about your "typical trip" made in California in 2008 (that is, the trip that you made most of the time). We recognize that, for some dredgers, it may be difficult to generalize about their "typical trip" because each trip was different. ***If you did not have a typical trip in 2008, please tell us about your last trip in 2008 (and check the appropriate response in the box below).***

Please check one of the following responses:

☐ The following describes my typical suction dredging trip in California in 2008.

☐ I did not have a typical trip, so the following describes my last suction dredging trip in California in 2008.

9. On average, how many **hours per day** were you in the water operating your suction dredge on your typical trip in California in 2008? _____ hours per day

10. On average, how much area (in square feet) did you dredge per day on your typical trip? _____ square feet

11. On average, how deep (in feet) did you typically dredge? _____ feet

12. On the typical trip, did you use more than one suction dredge in California in 2008?

☐ Yes *(go to Q12a)* ☐ No *(skip to Q13)*

12a. IF YES, how many suction dredges did you typically use in 2008? _____ dredges

13. How many people (including friends and family members who did not participate in suction dredging activities) typically accompanied you on your trips to conduct suction dredging in California in 2008?

☐ no other people, went by myself ☐ 6-10 other people

☐ 1-2 other people ☐ more then 10 other people

☐ 3-5 other people

14. Did you typically work as a team with other suction dredge permit holders to operate a single suction dredge on your trips to conduct suction dredging in California in 2008?

☐ Yes ☐ No

15. About how far in distance (miles) did you typically travel **(one-way)** from your residence to the primary site where you suction dredged in California in 2008? _____ miles

16. Did you typically stay overnight when you were away from home on suction dredging trips in California in 2008?

☐ Yes *(go to Q16a)* ☐ No *(skip to Q17)*

16a. If YES, where did you typically stay? **(Check all that apply.)**

☐ Developed campground → **(circle one or more)**: State, Federal, Private

☐ Undeveloped campsite → **(circle one or more)**: State, Federal, Private

☐ Hotel/motel

☐ Friend or family

☐ Other (please explain: _____)

17. Did you typically drive off of paved roads to get to/from your usual suction dredge site(s) or camping location on your typical trip in California?

☐ Yes *(go to Q17a)* ☐ No *(skip to Q18)*

17a. If YES, did you typically use a car/truck or off-highway vehicle when driving off of paved roads?

☐ car/truck ☐ off-highway vehicle

18. On your typical trip in California in 2008, what were your **TOTAL personal** expenditures on the following?

Gasoline:	$ _____ per trip
Food and beverages:	$ _____ per trip
Restaurants:	$ _____ per trip
Miscellaneous trip supplies:	$ _____ per trip
Miscellaneous services:	$ _____ per trip
TOTAL TRIP-RELATED	**$ _____ per trip**

Suction Dredger Survey Results

California Resident Responses

LOCATIONS

Counties Visited for Suction Dredging

Counties	Frequency Mentioned
Sierra	115
Plumas	112
Siskiyou	110
Placer	94
El Dorado	68
Trinity	65
Mariposa	64
Tuolumne	62
Nevada	55
Yuba	41
Butte	35
Los Angeles	34
Amador	29
Shasta	29
Calaveras	22
Madera	20
Kern	18
Stanislaus	16
Merced	10
Fresno	8
Humboldt	6
San Bernardino	5
Del Norte	4
Lassen	4
Sacramento	3
Sutter	2
Contra Costa	1
Modoc	1
San Benito	1
Solano	1
Tehama	1
Yolo	1
Total responses	*1,037*

(Over the 732 response total since some survey respondents visited multiple counties)

SUCTION DREDGING INTENSITY BY BASIN

Basin	Estimated Dredging Days	Category	Intensity*
Yuba River	13985.64	>10,000	6
Feather River	12295.07	>10,000	6
American River	9144.46	5,000 to 10,000	5
Klamath River	6839.13	5,000 to 10,000	5
Trinity River	6608.60	5,000 to 10,000	5
Merced River	6531.76	5,000 to 10,000	5
Stanislaus River	5379.09	5,000 to 10,000	5
Cosumnes River	4610.65	2,000 to 5,000	4
Sacramento River	2843.24	2,000 to 5,000	4
San Gabriel River	2766.39	2,000 to 5,000	4
Tuolumne River	2074.79	2,000 to 5,000	4
Salmon River	2074.79	2,000 to 5,000	4
Mokelumne River	1921.10	1000 to 2000	3
Scott River	1690.57	1000 to 2000	3
Fresno River	1613.73	1000 to 2000	3
Kern River	1383.20	1000 to 2000	3
San Joaquin River	845.29	500 to 1000	2
Calaveras River	461.07	0 to 500	1
Santa Ana River	307.38	0 to 500	1
Smith River	307.38	0 to 500	1
Honey Lake	153.69	0 to 500	1
Suisun Bay	76.84	0 to 500	1

**Intensity: 1 is lowest, 6 is highest*

Suction Dredger Survey Results
California Resident Responses

TRANSPORTATION

Number Who Drive Off Paved Roads

	Count	Percent
Yes, typically drive off paved roads	492	72.14
No, don't typically drive off paved roads	190	27.86

Of 492 "Yes, typically drive off paved roads":

	Count	Percent
Car/Truck	428	86.99
Off-Highway Vehicle	32	6.50
Other	32	6.50

ESTIMATED TRANSPORTATION IMPACTS

Estimated Vehicle Miles Traveled	132.66	Miles
Average number of trips in 2008	14.69	trips
Average Number of Miles Driven in 2008	3897.55	Miles per Year
Average Number of SD Permits Issued (ES-2)	3200	Permits
Estimate of VMT	12472173	Miles per Year

Camping/Overnight

LOCATIONS STAYED AT WHILE SUCTION DREDGING

Percent Who Stayed Overnight When Dredging

Stayed Overnight	495	People
Didn't Stay Overnight	190	People
Percent Who Stayed Overnight When Dredging	72.26	Percent

Of 495 "Yes, stay overnight":

	Count	Percent
Developed Campground	216	43.64
Undeveloped Campsite	266	53.74
Hotel/Motel	90	18.18
Friends or Family	35	7.07
Other	110	22.22

**Percentages add up to over 100 since multiple selections allowed*

Types of Developed Campsites Stayed In:

	Count	Percent
Developed State Campground:	99	48.29
Developed Federal Campground:	59	28.78
Developed Private Campground:	97	47.32
Total Who Specified Type of Developed Campground:	*205*	

**Percentages add up to over 100 since multiple selections allowed*

Types of Undeveloped Campsites Stayed In:

	Count	Percent
Undeveloped State Campground:	81	32.4
Developed Federal Campground:	131	52.4
Undeveloped Private Campground:	79	31.6
Total Who Specified Type of Undeveloped Campground:	*250*	

**Percentages add up to over 100 since multiple selections allowed*

Suction Dredger Survey Results
California Resident Responses

TIME SPENT DREDGING, VOLUME DREDGED

Average number of days spent dredging	30.06	days per year
Average number of hours spent dredging per day	5.24	hours per day
Average Area Dredged	45.97	square feet per trip
Average Depth Dredged	4.44	feet
Average Cubic Feet Dredged per trip	204.15	cubic feet per trip
Average Cubic Yards Dredged per trip	7.56	cubic yards per trip
Average number of trips in 2008	14.69	trips
Average Cubic Yards Dredged per dredger, 2008	111.08	cubic yards

DREDGE CHARACTERISTICS

	Count	Percent
Total Who Used Only One Dredge	468	69.64
Total Who Used One Dredge Over 75% of Time	574	85.42
Total Who Gave Information About Dredger	*672*	

Suction Dredge Nozzle Size Distribution for All Dredges

	Count	Percent
1" to <2"	21	2.25
2" to <3"	214	22.94
3" to <4"	126	13.50
4" to <5"	313	33.55
5" to <6"	135	14.47
6" to <7"	98	10.5
7" to <8"	3	0.32
8"	23	2.47
*41% Use Multiple Dredges	*Total=933*	

Average Nozzle Size	3.87	Inches

Dredge Horsepower Distribution

Nozzle Size	Mean	Horsepower Median	Min	Max
1" to <2"	2.81	2.5	1.1	5
2" to <3"	3.37	3	0.5	6.5
3" to <4"	5.20	5	2.5	8
4" to <5"	6.18	6	2	13
5" to <6"	9.90	9	5	18
6" to <7"	15.18	13	4	37
7" to <8"	24	18	18	36
8"	38.17	40	16	65

Overall Average Horsepower: *7.65*

Suction Dredger Survey Results
California Resident Responses

Average Volume Dredged Per Day By Nozzle Size for Suction Dredges Used 100% of the Time

Nozzle Size	Count	Average Volume Dredged*
1" to <2"	10	42.05
2" to <3"	103	56.4781553
3" to <4"	58	132.141379
4" to <5"	162	137.814814
5" to <6"	70	280.082142
6" to <7"	28	177.07142
7" to <8"	0	N/A
8"	8	1829.625

**Average volume dredged is based on average area and depth provided specific to dredge sizes*

INCOME FROM DREDGING

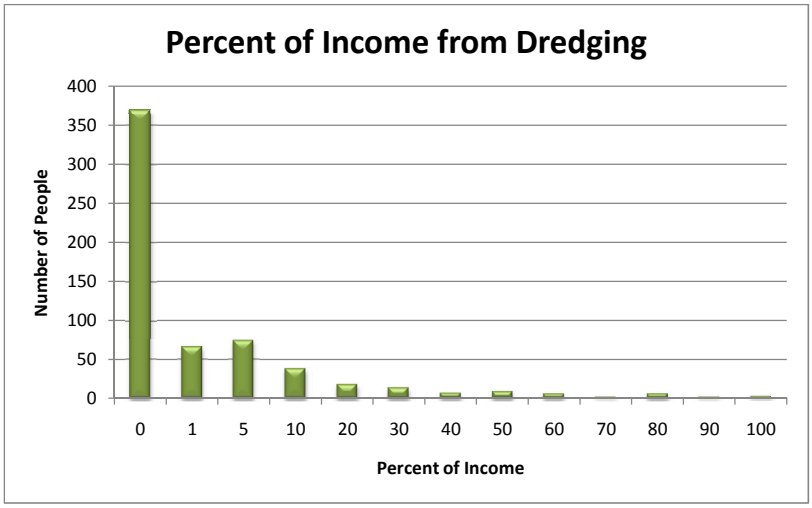
Dredger Self- Identification

	Count	Percent
Recreational Dredger (Not significant source of income)	546	81.74
Semi-commercial dredger (Supplementary source of income)	107	16.02
Commercial dredger (Primary source of income, commercial enterprise)	15	2.25
Total	*668*	*100*

Portion of Income from Dredging

Percentage Bracket	Bin*	Frequency
0	0	369
<=1	1	66
1<x<=5	5	74
5<x<=10	10	38
10<x<=20	20	18
20<x<=30	30	14
30<x<=40	40	7
40<x<=50	50	9
50<x<=60	60	6
60<x<=70	70	2
70<x<=80	80	6
80<x<=90	90	2
<=100	100	3

*A number is counted in a particular bin if it is equal to or less than the bin number down to the bin below it (Example: the 80 bin contains all values greater than 70 and less than or equal to 80)

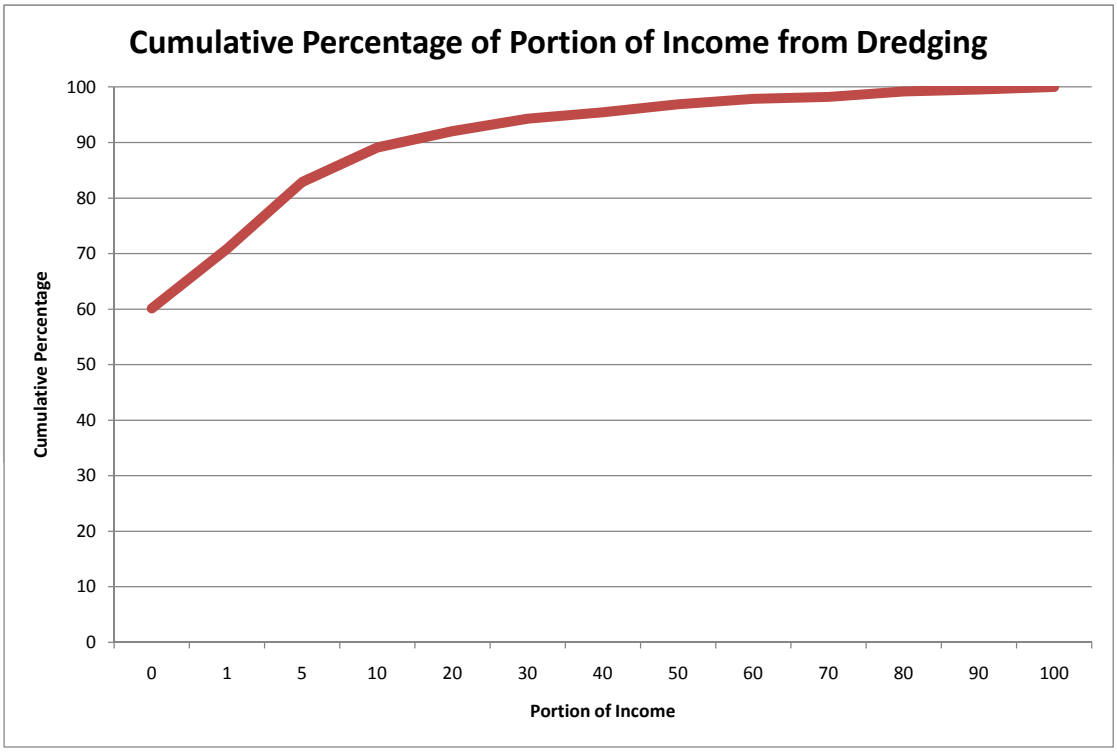


Average Percent of Income from Dredging	5.70	%
Median Percent of Income from Dredging	0	%

Suction Dredger Survey Results
California Resident Responses

Cumulative Percentage of Portion of Income from Dredging

Bin	Cumulative Percent
0	60.10
1	70.85
5	82.90
10	89.09
20	92.02
30	94.30
40	95.44
50	96.91
60	97.88
70	98.21
80	99.19
90	99.51
100	100



Importance of Making a Profit Each Year

	Count	Percent
Very Important	137	20.2962963
Somewhat Important	181	26.8148148
Not at all Important	357	52.8888889
Total	*675*	*100*

Suction Dredger Survey Results

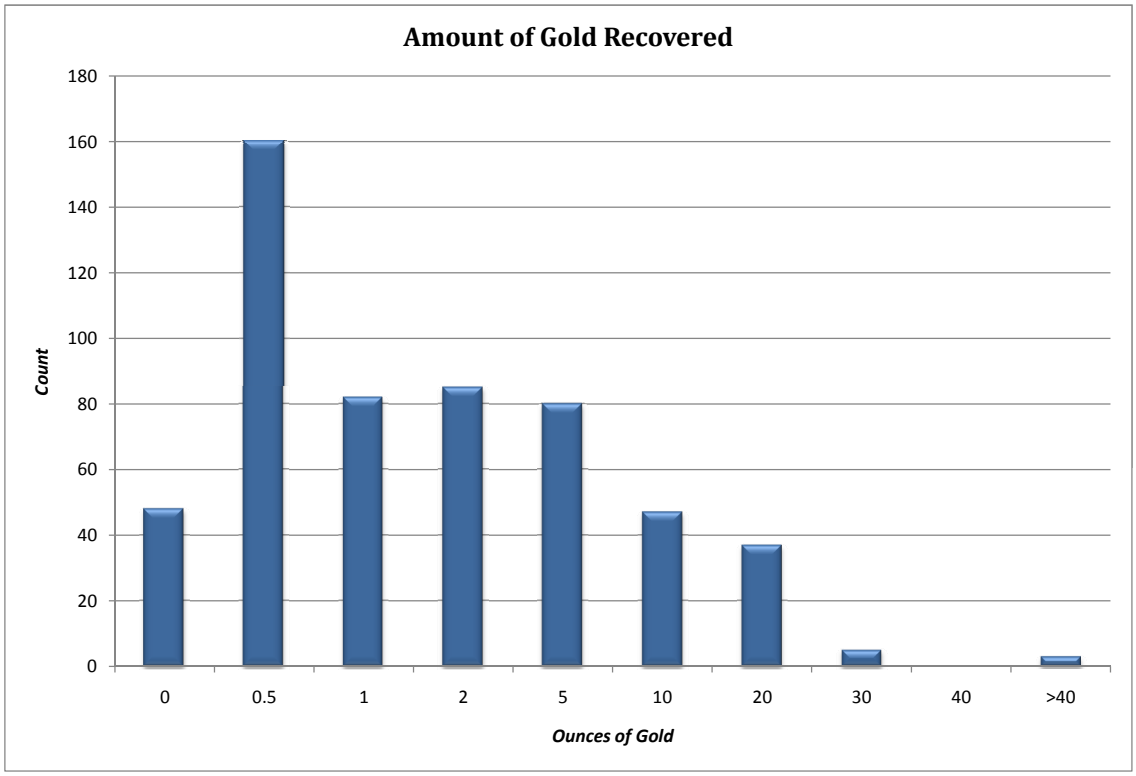
California Resident Responses

Mineral Recovery

Amount of Gold Recovered

	Bin	Frequency
0	0	48
<=0.5	0.5	160
0.5<x<=1	1	82
1<x<=2	2	85
2<x<=5	5	80
5<x<=10	10	47
10<x<=20	20	37
20<x<=30	30	5
30<x<=40	40	0
>40	>40	3

*A number is counted in a particular bin if it is equal to or less than the bin number down to the bin below it (Example: the 10 bin contains all values greater than 5 and less than or equal to 10)



Average Amount of Gold Recovered	3.37	Ounces
Median Amount of Gold Recovered	1	Ounces

Value of Gold Recovered @$1,000 per oz.

Average Value of Gold	3374.58	Dollars
Median Value of Gold	1000	Dollars

Suction Dredger Survey Results
California Resident Responses

MERCURY USE AND RECOVERY

Proportion Who Used Mercury And/Or Nitric Acid
to Process Concentrates in 2008

	Count	Percent
Used Mercury and/or Nitric Acid to Process Concentrates in 2008	17	2.49
Did Not Use Mercury and/or Nitric Acid to Process Concentrates in 2008	667	97.51

Removed Mercury?

	Count	Percent
Removed Mercury from Streams During Suction Dredging	380	56.13
Did Not Remove Mercury from Streams During Suction Dredging	297	43.87

Average Amount of Mercury Removed	2.69	Ounces
Median Amount of Mercury Removed	0.5	Ounces

SOUTH YUBA WATERSHED ANALYSIS

Number of Responses for People Dredging in S Yuba:	56	people
Average Time Spent Dredging in S Yuba Basins:	5.54	hours per day
Estimate of Number of Dredging Days in S Yuba Basins (for those surveyed):	4458	days
Estimated Dredging Hours in S Yuba Basin:	24718.02	hours
Scaled Upwards (3,200 permits/734 responses=4.359 times)	107762.48	hours

Nozzle Size in Inches

Mean	3.90	Inches
Median	4	Inches
Min	1.5	Inches
Max	8	Inches

Nozzle Size Distribution

Number Who Used More than One Dredge	24

Size	Count	Percent
1" to <2"	1	1.15
2" to <3"	18	20.69
3" to <4"	9	10.34
4" to <5"	37	42.53
5" to <6"	14	16.09
6" to <7"	6	6.90
7" to <8"	0	0
8"	2	2.30
TOTAL	*87*	

**43% Used Multiple Dredges*

C. Equipment and Other Questions

This section asks about your suction dredge equipment and maintenance expenditures in 2008

19. **Approximately** how much money did you spend IN TOTAL on the purchase and maintenance of equipment used for suction dredging in California in 2008? $ _____

20. Please tell us **(by checking the appropriate box)** where you purchased most of your suction dredge equipment in 2008?

- ☐ At stores in the **county where you live**
- ☐ At stores in counties **other than** where you live
- ☐ Ordered by telephone
- ☐ Ordered over the internet
- ☐ Mail order
- ☐ Other (Please explain: _____)

21. Do you consider yourself to be a recreational dredger, semi-commercial dredger, or commercial dredger? **(Please check only one.)**

- ☐ Recreational dredger (not a significant source of income)
- ☐ Semi-commercial dredger (supplementary source of income)
- ☐ Commercial dredger (primary source of income, commercial enterprise)

22. About what percentage of your annual income do you derive from suction dredging? _____%

23. How important is it that you make a profit each year on your suction dredging activities?

- ☐ Very important
- ☐ Somewhat important
- ☐ Not at all important

D. Comments (please provide comments about the survey or any other concerns below)

_____

_____

_____

_____

THANK YOU FOR PARTICIPATING IN THIS SURVEY

Please Return Survey in the Enclosed Envelope – Mailing Postage is Prepaid

Suction Dredger Survey

(Non-Residents of California)

This brief survey is being conducted to better understand participation in suction dredging activities in California. ***ALL QUESTIONS PERTAIN TO YOUR SUCTION DREDGING ACTIVITIES IN CALIFORNIA IN 2008.*** *Your participation is important to the study. Please answer all questions completely and accurately.*

IMPORTANT: What was the **ZIP CODE** of your primary residence in 2008? _____

A. Suction Dredging Activity in California in 2008

This section asks about your suction dredging activity in California in 2008.

1. How many **separate trips from your primary place of residence** did you make to suction dredge in California in 2008? _____ trips

   (If none or "0" trips, this completes the survey. Please return the questionnaire in the postage paid envelope provided.)

2. About how many days did you operate a suction dredge in California in 2008? _____ days

3. In which California **county(ies)** did you operate your suction dredge in 2008? (please list all counties)

   _____Co. _____Co. _____Co. _____Co. _____Co.

4. In which California streams did you operate a suction dredge in 2008 and what **town** is closest to that location?

Stream	*Nearby Town*
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5. **OPTIONAL:** **Approximately** how many ounces of gold did you recover in 2008? _____ ounces *(**Please note:** Your response to this question and all other questions are considered confidential and will be combined with responses from all other respondents for summary purposes only.)*

6. Did you use mercury and/or nitric acid to process the concentrates in 2008?

   ☐ Yes ☐ No

7. Did you collect and remove any mercury from any streams during your suction dredging activities in 2008?

☐ Yes *(go to Q7a)* ☐ No *(skip to Q8)*

7a. If YES, approximately how much mercury did you personally collect and remove from streams during your suction dredging activities in California in 2008? _____ounces

8. For each dredge that you used in California streams in 2008, please tell us the **nozzle size, horsepower, and the approximate percent of your suction dredging time** spent in California that each dredge was used over that year.

	Nozzle Size	*Horsepower*	*% of Time Used*
Dredge #1	_____	_____	_____
Dredge #2	_____	_____	_____
Dredge #3	_____	_____	_____
Dredge #4	_____	_____	_____
Dredge #5	_____	_____	_____
			= 100%

B. Typical (or Last) Trip in 2008

This section asks about your "typical trip" made in California in 2008 (that is, the trip that you made most of the time). We recognize that, for some dredgers, it may be difficult to generalize about their "typical trip" because each trip was different. ***If you did not have a typical trip in 2008, please tell us about your last trip in 2008 (and check the appropriate response in the box below).***

Please check one of the following responses:

☐ The following describes my typical suction dredging trip in California in 2008.

☐ I did not have a typical trip, so the following describes my last suction dredging trip in California in 2008.

9. On average, how many **hours per day** were you in the water operating your suction dredge on your typical trip in California in 2008? _____ hours per day

10. On average, how much area (in square feet) did you dredge per day on your typical trip? _____ square feet

11. On average, how deep (in feet) did you typically dredge? _____ feet

12. On the typical suction dredging trip in California, did you use more than one suction dredge in 2008?

☐ Yes *(go to Q12a)* ☐ No *(skip to Q13)*

12a. IF YES, how many suction dredges did you typically use in 2008? _____ dredges

13. How many people (including friends and family members who did not participate in suction dredging activities) typically accompanied you on your trips to conduct suction dredging in California in 2008?

☐ no other people, went by myself ☐ 6-10 other people

☐ 1-2 other people ☐ more then 10 other people

☐ 3-5 other people

14. Did you typically work as a team with other suction dredge permit holders to operate a single suction dredge on your trips to conduct suction dredging in California in 2008?

☐ Yes ☐ No

15. About how far in distance (miles) did you typically travel **(one-way)** from your residence to the primary site where you suction dredged in California in 2008? _____ miles

16. Did you typically stay overnight when you were away from home on suction dredging trips in California in 2008?

☐ Yes *(go to Q16a)* ☐ No *(skip to Q17)*

16a. If YES, where did you typically stay? **(Check all that apply.)**

☐ Developed campground → **(circle one or more)**: State, Federal, Private

☐ Undeveloped campsite → **(circle one or more)**: State, Federal, Private

☐ Hotel/motel

☐ Friend or family

☐ Other (please explain: _____)

17. Did you typically drive off of paved roads to get to/from your usual suction dredge site(s) or camping location on your typical trip in California?

☐ Yes *(go to Q17a)* ☐ No *(skip to Q18)*

17a. If YES, did you typically use a car/truck or off-highway vehicle when driving off of paved roads?

☐ car/truck ☐ off-highway vehicle

18. On your typical trip in California in 2008, what were your **TOTAL personal** expenditures on the following?

Gasoline:	$ _____ per trip
Food and beverages:	$ _____ per trip
Restaurants:	$ _____ per trip
Miscellaneous trip supplies:	$ _____ per trip
Miscellaneous services:	$ _____ per trip
TOTAL TRIP-RELATED	**$ _____ per trip**

Suction Dredger Survey Results
Non-California Resident Responses

LOCATIONS

Counties Visited For Suction Dredging

County Name	Frequency Mentioned
Siskiyou	172
Sierra	45
Plumas	43
Placer	20
Trinity	15
Tuolumne	14
Yuba	10
Calaveras	7
Humboldt	6
Nevada	6
El Dorado	5
Mariposa	5
Butte	4
Kern	4
Lassen	2
Los Angeles	2
Shasta	2
Stanislaus	2
Amador	1
Del Norte	1
Madera	1
Total responses	*367*

(Over the 334 response total since some survey respondents visited multiple counties)

SUCTION DREDGING INTENSITY BY BASIN

Basin	Estimated Dredging Days	Category	Intensity*
Klamath River	7124.07	Over 1500	3
Yuba River	1993.26	Over 1500	3
Feather River	1624.14	Over 1500	3
Scott River	1587.23	Over 1500	3
Salmon River	1439.58	200 to 1500	2
Trinity River	1033.54	200 to 1500	2
American River	701.33	200 to 1500	2
Stanislaus River	590.60	200 to 1500	2
Cosumnes River	295.30	200 to 1500	2
Merced River	221.47	200 to 1500	2
Sacramento River	184.56	0 to 200	1
Kern River	147.65	0 to 200	1
Mokelumne River	147.65	0 to 200	1
San Gabriel River	73.82	0 to 200	1
Fresno River	36.91	0 to 200	1
Tuolumne River	36.91	0 to 200	1
Calaveras River	0	0	0
Honey Lake	0	0	0
San Joaquin River	0	0	0
Santa Ana River	0	0	0
Smith River	0	0	0
Suisun Bay	0	0	0

**Intensity: 0=No Dredging, 3=Most Dredging*
For Mapping Purposes, Basins With Zero Intensity Left Out

Suction Dredger Survey Results
Non-California Resident Responses

TRANSPORTATION

Number Who Drive Off Paved Roads

	Count	Percent
Yes, typically drive off paved roads	212	67.95
No, don't typically drive off paved roads	109	34.94

Of 212 "Yes, typically drive off paved roads":

	Count	Percent
Car/Truck	186	87.74
Off-Highway Vehicle	14	6.60
Other	12	5.66

ESTIMATED TRANSPORTATION IMPACTS

Estimated Vehicle Miles Traveled	850.65	Miles
Average number of trips in 2008	4.10	trips
Average Number of Miles Driven in 2008	6969.19	Miles per Year
Average Number of SD Permits Issued (ES-2)	450.00	Permits
Estimate of VMT	3136136	Miles per Year

Camping/Overnight

LOCATIONS STAYED AT WHILE SUCTION DREDGING

Percent Who Stayed Overnight When Dredging

Stayed Overnight	315	People
Didn't Stay Overnight	6	People
Percent Who Stayed Overnight When Dredging	98.13	Percent

Of 315 "Yes, stay overnight":

	Count	Percent
Developed Campground	162	51.43
Undeveloped Campsite	171	54.29
Hotel/Motel	86	27.30
Friends or Family	25	7.94
Other	58	18.41

**Percentages add up to over 100 since multiple selections allowed*

Types of Developed Campsites Stayed In:

	Count	Percent
Developed State Campground:	57	37.75
Developed Federal Campground:	39	25.83
Developed Private Campground:	94	62.25
Total Who Specified Type of Developed Campground:	151	

**Percentages add up to over 100 since multiple selections allowed*

Types of Undeveloped Campsites Stayed In:

	Count	Percent
Undeveloped State Campground:	60	36.8
Undeveloped Federal Campground:	93	57.1
Undeveloped Private Campground:	46	28.2
Total Who Specified Type of Undeveloped Campground:	163	

**Percentages add up to over 100 since multiple selections allowed*

Suction Dredger Survey Results
Non-California Resident Responses

TIME SPENT DREDGING, VOLUME DREDGED

Average number of days spent dredging	33.39	days per year
Average number of hours spent dredging per day	5.43	hours per day
Average Area Dredged	37.03	square feet per trip
Average Depth Dredged	4.49	feet
Average Cubic Feet Dredged per trip	166.28	cubic feet per trip
Average Cubic Yards Dredged per trip	6.16	cubic yards per trip
Average number of trips in 2008	4.10	trips
Average Cubic Yards Dredged per dredger, 2008	25.23	cubic yards

DREDGE CHARACTERISTICS

	Count	Percent
Total Who Used Only One Dredge	210	67.09
Total Who Used One Dredge Over 75% of Time	253	80.83
Total Who Gave Information About Dredger	313	

Suction Dredge Nozzle Size Distribution for All Dredges	Count	Percent
1" to <2"	4	0.96
2" to <3"	53	12.74
3" to <4"	40	9.62
4" to <5"	173	41.59
5" to <6"	80	19.23
6" to <7"	59	14.2
7" to <8"	2	0.48
8"	5	1.20
*43% Use Multiple Dredges	*Total=416*	

Average Nozzle Size	4.19	Inches

Dredge Horsepower Distribution

Nozzle Size	Mean	Horsepower Median	Min	Max
1" to <2"	2	2.25	1.0	2.5
2" to <3"	3.38	2.56	0.5	16
3" to <4"	5.49	5.5	3.0	10
4" to <5"	6.55	6.5	4	16
5" to <6"	10.01	9.5	4	18
6" to <7"	15.97	14	3	46
7" to <8"	34	33.5	22	45
8"	40.20	40	36	45

Overall Average Horsepower:	8.53

Suction Dredger Survey Results
Non-California Resident Responses

Average Volume Dredged Per Day By Nozzle Size for Suction Dredges Used 100% of the Time

Nozzle Size	Count	Average Volume Dredged*
1" to <2"	2	25
2" to <3"	19	76.20
3" to <4"	21	39.74
4" to <5"	114	160.15
5" to <6"	39	105.09
6" to <7"	26	493.81
7" to <8"	0	N/A
8"	0	N/A

**Average volume dredged is based on average area and depth provided specific to dredge sizes*

INCOME FROM DREDGING

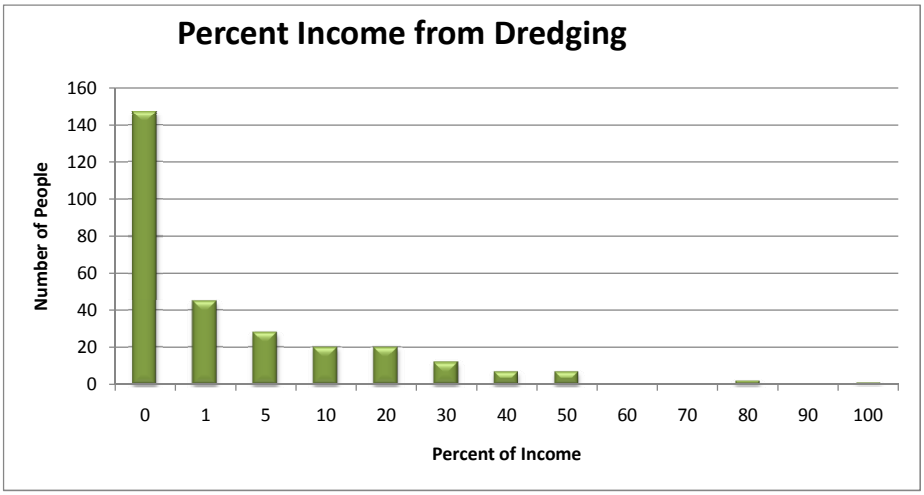
Dredger Self- Identification

	Count	Percent
Recreational Dredger (Not significant source of income)	237	73.83
Semi-commercial dredger (Supplementary source of income)	77	23.99
Commercial dredger (Primary source of income, commercial enterprise)	7	2.18
Total	321	

Portion of Income from Dredging

Percentage Bracket	Bin*	Frequency
0	0	147
<=1	1	45
1<x<=5	5	28
5<x<=10	10	20
10<x<=20	20	20
20<x<=30	30	12
30<x<=40	40	7
40<x<=50	50	7
50<x<=60	60	0
60<x<=70	70	0
70<x<=80	80	2
80<x<=90	90	0
<=100	100	1

*A number is counted in a particular bin if it is equal to or less than the bin number down to the bin below it (Example: the 80 bin contains all values greater than 70 and less than or equal to 80)

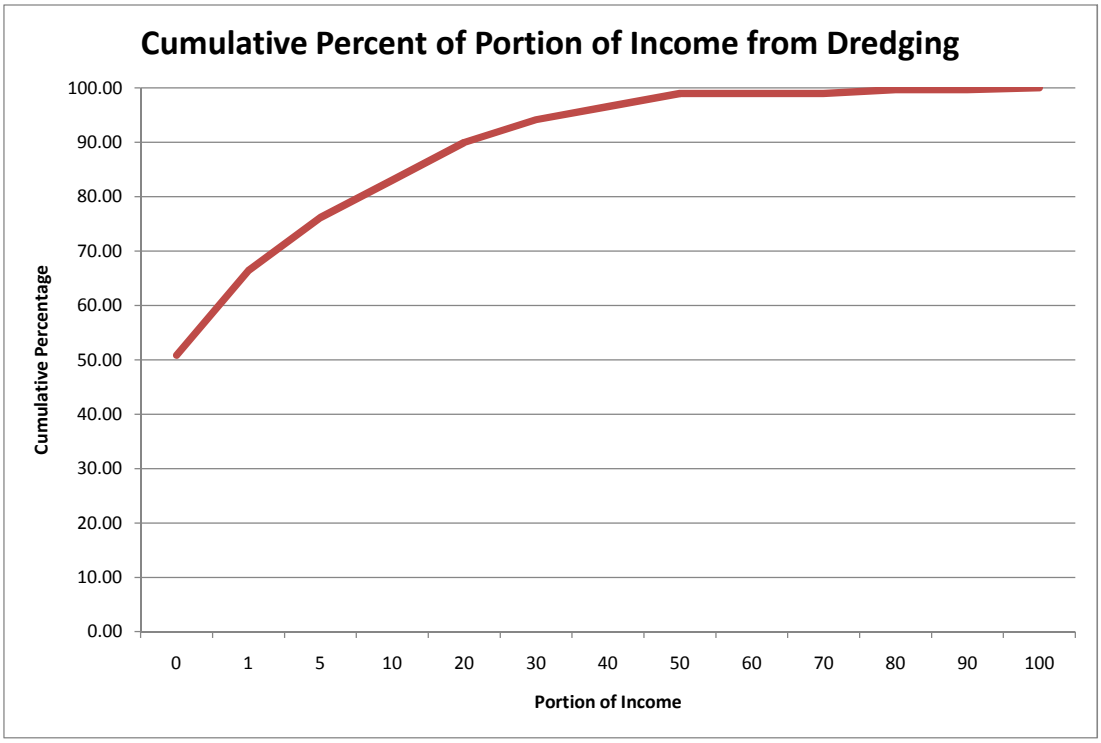


Average Percent of Income from Dredging	6.38	%
Median Percent of Income from Dredging	0	%

Suction Dredger Survey Results
Non-California Resident Responses

Cumulative Percentage of Portion of Income from Dredging

Bin	Cumulative Percent
0	50.87
1	66.44
5	76.12
10	83.04
20	89.97
30	94.12
40	96.54
50	98.96
60	98.96
70	98.96
80	99.65
90	99.65
100	100



Importance of Making a Profit Each Year

	Count	Percent
Very Important	69	21.56
Somewhat Important	121	37.81
Not at all Important	130	40.63
Total	320	

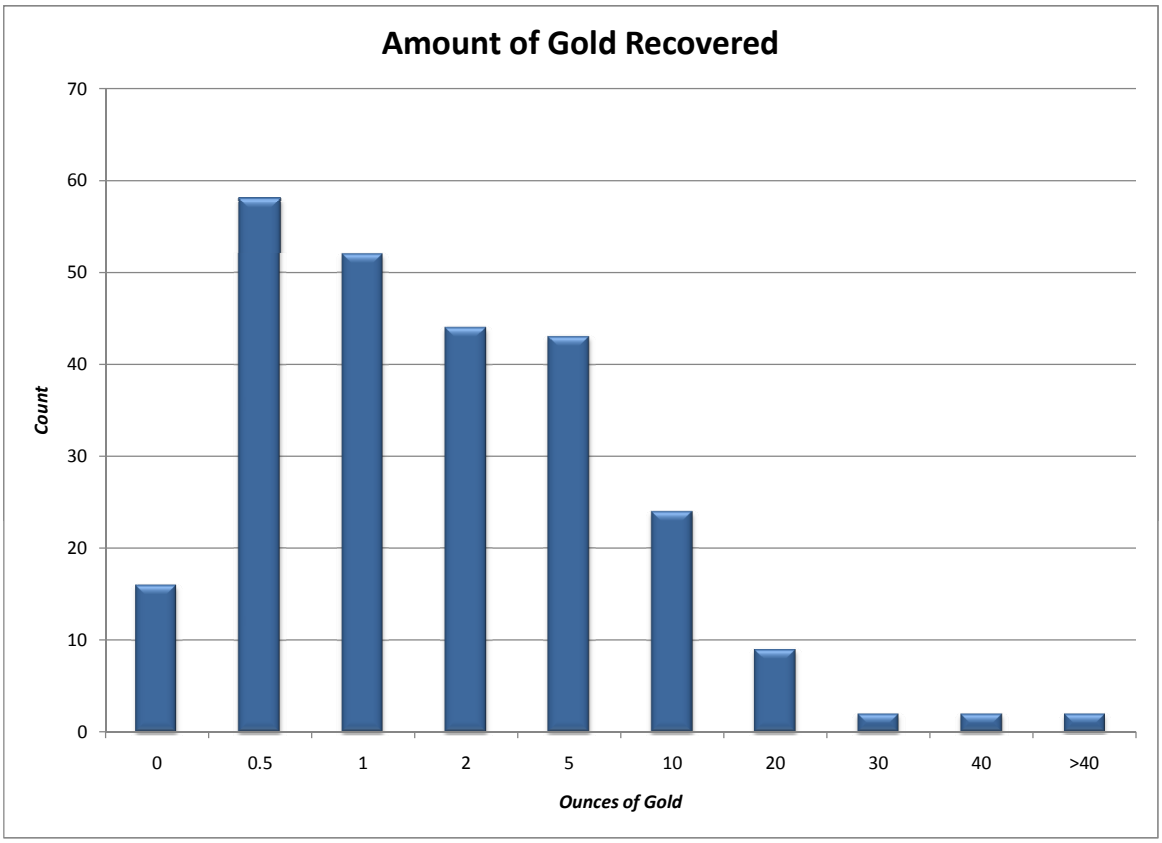
Suction Dredger Survey Results

Non-California Resident Responses

Amount of Gold Recovered

	Bin	Frequency
0	0	16
<=0.5	0.5	58
0.5<x<=1	1	52
1<x<=2	2	44
2<x<=5	5	43
5<x<=10	10	24
10<x<=20	20	9
20<x<=30	30	2
30<x<=40	40	2
>40	>40	2

*A number is counted in a particular bin if it is equal to or less than the bin number down to the bin below it (Example: the 10 bin contains all values greater than 5 and less than or equal to 10)



Average Amount of Gold Recovered	3.41	Ounces
Median Amount of Gold Recovered	1.03	Ounces

Value of Gold Recovered @$1,000 per oz.

Average Value of Gold	3406.36	Dollars
Median Value of Gold	1025	Dollars

Suction Dredger Survey Results

Non-California Resident Responses

MERCURY USE AND RECOVERY

Proportion Who Used Mercury And/Or Nitric Acid to Process Concentrates in 2008

	Count	Percent
Used Mercury and/or Nitric Acid to Process Concentrates in 2008	5	1.56
Did Not Use Mercury and/or Nitric Acid to Process Concentrates in 2008	315	98.44

Removed Mercury?

	Count	Percent
Removed Mercury from Streams During Suction Dredging	192	60
Did Not Remove Mercury from Streams During Suction Dredging	128	40

Average Amount of Mercury Removed	1.59	Ounces
Median Amount of Mercury Removed	0.28	Ounces

SOUTH YUBA WATERSHED ANALYSIS

Number of Responses for People Dredging in S Yuba:	12	people
Average Time Spent Dredging in S Yuba Basins:	5.21	hours per day
Estimate of Number of Dredging Days in S Yuba Basins (for those surveyed):	443	days
Estimated Dredging Hours in S Yuba Basin:	2307.29	hours
Scaled Upwards (3,200 permits/734 responses=4.359 times)	3108.63	hours

Nozzle Size in Inches

Mean	3.70	Inches
Median	4	Inches
Min	2	Inches
Max	5	Inches

Nozzle Size Distribution

Number Who Used More than One Dredge: 3

Size	Count	Percent
1" to <2"	0	0
2" to <3"	2	13.33
3" to <4"	3	20
4" to <5"	8	53.33
5" to <6"	2	13.33
6" to <7"	0	0
7" to <8"	0	0
8"	0	0
TOTAL	*15*	

*25% Used Multiple Dredges