

**COUNTY OF HUMBOLDT EXTRACTION REVIEW TEAM (CHERT)
2004 POST-EXTRACTION REPORT**

DISCUSSION DRAFT

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For the

Humboldt County Board of Supervisors

August 6, 2006

**A Discussion Draft of this report was issued on August 6, 2006,
with a public review ending on October 6, 2006.
No comments were received on the Discussion Draft.
This version represents the Final 2004 CHERT Post Extraction Report.**

SUMMARY

The Humboldt County Board of Supervisors appointed CHERT in 1992 to help Mad River operators plan their annual gravel extraction. In 1996 the CHERT role was expanded to include most riverine extraction sites in Humboldt County. Additional details on CHERT's role have been presented in earlier post-extraction reports and will not be repeated here. There are 15 large (greater than 5,000 cubic yards per year of extraction) riverine gravel mine operators (Appendix A) operating under the Humboldt County CHERT extraction review process. Of these, three did not operate in 2004. The 15 operators have permits to extract from at least 42 sites (Appendix B). Of the 42 sites CHERT reviewed extraction plans at 25 sites during 2004. A total of 440,710 cubic yards of gravel was extracted from 94.7 acres of gravel bar distributed around the County during 2004. The volumes and acreages of extraction approved and actually extracted from the various river reaches are summarized in the following table. Additional summaries are presented below.

Table 1. - CHERT 2004 Pre-and Post-extraction Summary by River Reach

River Reach	Approved Pre-extraction		Actual Post-extraction	
	Volume (cubic yards)	Area (acres)	Volume (cubic yards)	Area (acres)
Mad River	156,540	39.2	141,250	38.2
Lower Eel River	188,840	24.1	120,305	20.9
Lower Van Duzen River	179,045	34.4	92,610	19.7
Middle Reach of Eel River	0	0	0	0
South Fork Eel River	80,730	12.2	50,745	9.8
Trinity River	62,075	5.9	32,700	3.7
Isolated Sites	24,790	3.3	3,100	2.4
Totals	692,020	119.1	440,710	94.7

INTRODUCTION

CHERT uses the concepts of sustained yield and mean annual recruitment to avoid over-extraction and resultant cumulative effects on aquatic and riparian habitat and infrastructure (bridges, levees, etc.). The concepts of sustained yield gravel extraction and mean annual recruitment have been described in earlier CHERT post-extraction reports and will not be repeated here. Site-specific measures recommended by CHERT are used to reduce both local and cumulative (extending beyond the mine site or accumulating through time) effects of mining on riparian and aquatic habitat. CHERT utilizes an adaptive management strategy and these criteria on an annual and multi-year basis to balance the County's primary extraction management objectives of: 1) protecting riverine natural resources and 2) accommodating the needs for construction aggregate for local use. Table 2 describes the primary gravel extraction river reaches referred to in Table 1.

Table 2 - Description of River Reaches Used To Sort and Report Extraction Data

Approximate Length (miles)	River Reaches
7	Mad River The Mad River Reach extends approximately seven miles downstream from the Blue Lake Fish Hatchery to just below the Highway 299 Bridge near Arcata.

6	Lower Eel River The Lower Eel River Reach extends approximately six miles downstream from the mouth of the Van Duzen River to near Fernbridge.
5	Lower Van Duzen River The Lower Van Duzen River Reach extends upstream approximately five miles from the mouth of the Van Duzen River.
26	Middle Reach of Eel River The Middle Reach of the Eel River extends upstream from Scotia (River mile 20) for approximately 26 miles to River Mile 46.
17	South Fork Eel River Reach The South Fork Reach extends from Garberville (River mile 33) upstream to Cooks Valley near the Mendocino County line (River mile 50), a distance of approximately 17 miles.
15	Trinity River Reach The Trinity River Reach extends downstream about 15 miles from near Willow Creek into the Hoopa Valley.
	"Isolated Sites" Five extraction sites are more or less isolated from the rest of project. These are the <i>Satterlee Bar</i> on the main stem of the Eel river at Fort Seward, the <i>PL Bar</i> on the Van Duzen River, the <i>Branstetter Bar</i> on Bear River, the <i>Charles Bar</i> on Larabee Creek, and the <i>Cook Bar</i> on the North Fork of the Mattole River.

EXTRACTION METHODOLOGIES

CHERT classifies extraction techniques into the nine descriptive categories described in Table 3. It will be helpful and cost effective if the operators and their consultants use this terminology when developing and reporting their extraction designs. Also, they should report pre-extraction and post-extraction volumes and acreages separately for each extraction method.

Table 3. - CHERT Extraction Methodology Nomenclature

Narrow Shoreline Skim	Wide Offset Skim	Dry Trench
Wide Shoreline Skim	Overflow Channel Skim	Wetland Pit
Narrow Offset Skim	Wet Trench	Alcove

Extraction Method Terminology:

- **Shoreline Skim:** One edge of the skim is adjacent to or close to the edge of the low flow channel and likely near but not below the 35 % flow elevation level.
- **Offset Skim:** A skim that is somewhat separated from the low flow channel and 35 % flow elevation by perennial vegetation or a substantial vertical or horizontal offset.
- **Narrow Skim:** The skim width is no greater than 1/3 the width of the unvegetated bar surface.
- **Wide Skim:** The skim width is greater than 1/3 the width of the unvegetated bar surface.
- **Overflow Channel Skim:** A skim within a dry overflow channel.

- **Alcove:** A relatively deep excavation strategically located and designed to simulate natural occurring shoreline pools that can provide cool water summer habitat and/or high flow winter refugia.
- **Wetland Pit:** A strategically located and designed pit simulating a remnant channel.
- **Wet Trench:** A trench that is deep enough to intercept the water table at the time of excavation.
- **Dry Trench:** A relatively long linear shallow skim that does not intercept the water table at the time of excavation.

EXTRACTION SUMMARIES

Mad River

O'Neill Bar 2004 (Eureka Ready Mix)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	8,865	2.9	9,315	2.9

CHERT comments regarding O'Neill Bar 2004 extraction:

- The excavations at cross section (XS) 9.5, 10 and 12 exceeded the design specifications by 35, 31 and 42 square feet respectively, yielding the over extraction.

Miller-Almquist Bar 2004 (Miller Family Trust)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	6,300	3.1	4,400	2.6

CHERT comments regarding Miller Almquist Bar 2004 extraction:

- The plan provided no pre-extraction volume calculations.
- According to the photograph, the plan was to end the extraction about 60 feet downstream of XS 7. According to the post-extraction volume calculations the extraction extended 312 feet downstream of XS 7.
- The format of the post-extraction cross sections does not conform to CHERT/LOP requirements. Note the XS scale requirements and that the post-extraction cross sections are to be superimposed on the pre-extraction cross sections. Note also that the previous fall XS should be superimposed.
- Aerial photo scale is absent.
- The placement and spacing of the cross sections on the aerial photograph do not seem to agree with the XS spacing used in the volume calculations.
- From the data presented CHERT cannot determine if the extraction complied with the approved plan.

Johnson-Spini Bar 2004 (Eureka Ready Mix)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	41,400	8.7	43,340	8.7

CHERT comments regarding Johnson-Spini Bar 2004 extraction:

- The excavations at XS 1, 1A, 2, 2A and 3 exceeded the design specifications by 141, 96, 61, 159 and 36 square feet respectively, yielding the over extraction.

Essex Bar 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	2,910	0.5	2,650	0.5

CHERT comments regarding Essex Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre- and post-extraction cross sections and volume calculations indicates that the excavation complied with the plan.

Johnson Bar 2004 (Granite Construction)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Narrow Shoreline Skim	3,445	1.0	2,330	0.9

CHERT comments regarding Johnson Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complied with the plan.

Christie Bar 2004 (Eureka Ready Mix)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
1. Narrow Offset Skim	18,830	5.6	19,220	5.7
2. Narrow Offset Skim	10,915	2.2	9,220	2.2
Totals	29,745	7.7	28,440	7.7

CHERT comments regarding Christie Bar 2004 extraction:

AREA 1

- Pre-extraction volume calculations were incorrect.
- The excavation at XS 2 is too deep.
- The excavation at XS 6 is too wide and too deep.

AREA 2

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Blue Lake Bar 2004 (Granite Construction)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
1. Narrow Shoreline Skim	2745	2.0	1,860	1.9
3. Wetland Pit	2,850	0.2	1,445	0.2
4. Narrow Shoreline Skim	1,405	0.4	570	0.3
Totals	7,000	2.6	3,875	2.4

CHERT comments regarding Blue Lake Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Emmerson Bar 2004 (Granite Construction)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	24,430	4.4	19,030	4.2

CHERT comments regarding Emmerson Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Guynup Bar 2004 (Mad River Sand and Gravel)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
1. Wide Offset Skim	17,580	4.8	14,910	5.0
2. Wide Shoreline Skim	12,490	2.8	10,510	2.5
3. Overflow Channel Skim	3,000	0.6	2,450	0.6
Totals	33,070	8.2	27,870	8.1

CHERT comments regarding Guynup Bar 2004 extraction:

- The excavations at cross sections 1.3E, 1.6E and 5.3E are too wide

Lower Eel River

Worswick Bar 2004 (Humboldt County)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

Drake Bar 2004 (Mallard Pond)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

Sandy Prairie Plant A 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wet Trench	69,450	3.2	38,080	2.7

CHERT comments Sandy Prairie Plant A 2004 extraction:

- Pre-extraction volume calculations are not included.
- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Sandy Prairie Plant B 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
B1 Overflow Channel Skim	6,505	2.2	1,300	1.0
B2A Narrow Offset Skim	11,185	1.6	3,165	1.0
B2B Narrow Shoreline Skim	14,675	2.1	2,040	1.3
Totals	32,365	5.9	6,505	3.3

CHERT comments Sandy Prairie Plant B 2004 extraction:

- Pre-extraction volume calculations not included.

AREA B1

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

AREA B2

- XS B2-11 has a depression that impedes drainage.

Hauck Bar 2004 (Eureka Ready Mix)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wet Trench	60,105	7.1	50,210	6.9
Narrow Offset Skim	26,920	7.9	25,510	8.0
Totals	87,025	15.0	75,720	14.9

CHERT comments Hauck Bar 2004 extraction:

TRENCH EXCAVATION

- The trench excavation at XS 7 was shifted 50 feet to the left.

OFFSET SKIM:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Van Duzen River

Rock Bar 2004 (Leland Rock)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
A Narrow Offset Skim	51,305	5.9	34,195	5.3
B Narrow Shoreline Skim	11,075	2.2	11,075	2.2
C Narrow Offset Skim	13,070	1.8	4,525	0.7
D Wet Trench	21,160	4.6	21,160	4.6
Totals	96,610	14.5	70,955	12.8

CHERT comments Rock Bar 2004 extraction:

- Pre-extraction volume calculations were not included.
- XS 28C is used for volume calculations in Area C but is not included on the XS sheets.
- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Van Duzen River Ranch 2004 (Jack & Mary Noble)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Bar 6 Narrow Offset Skim	7,705	3.8	0	0
Bar 10 Wide Offset Skim	55,730	11.0	8,440	3.7
Totals	63,435	14.8	8,440	3.7

CHERT comments Van Duzen River Ranch 2004 extraction:

- These extractions are above OHW.
- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.
- The Bar 10 extraction is above OHW. The original design was a wide skim. The actual extraction was “narrow”.

Tom Bess Bar 2004 (Tom Bess)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	19,000	5.1	13,215	3.2

CHERT comments Tom Bess 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Middle Reach of Eel River

Scotia Dam Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
Truck Shop Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
Dinner Creek Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
Three Mile Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
Elinor Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
South Fork Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
Bowlby Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				
Vroman Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

Maynard Bar 2004 (Palco)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

South Fork Eel River

Wallan and Johnson Bar 2004 (Wallan and Johnson)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	10,000	2.8	8,390	2.5

CHERT comments Wallan and Johnson Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Randall Site 2004 (Randall Sand and Gravel)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
1 Wide Offset Skim	25,810	3.2	15,470	2.6
2 Wide Shoreline Skim	4,945	1.2	120	0.3
3 Wide Offset Skim	7,785	1.7	6,460	1.6
Totals	38,540	6.1	22,050	4.5

CHERT comments Randall 2004 extraction:

AREA 1 - HOME BAR

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

AREA 2 – TOOBY BAR

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

AREA 3 – COUNTY BAR

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Cooks Valley: Humboldt County Portion 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
2 Wide Shoreline Skim	10,225	1.8	8,645	1.8
3 Narrow Shoreline Skim	2,110	0.5	0	0
Totals	12,335	2.3	8,645	1.8

CHERT comments on Cooks Valley Humboldt County 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Cooks Valley: Mendocino County Portion 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
1 Wet Trench	19,855	1.0	11,660	1.0

CHERT comments on Cooks Valley Mendocino County 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Trinity River

Rowland Bar 2004 (Klamath-Trinity Aggregates)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	20,380	2.1	19,970	2.4

CHERT comments on Rowland Bar 2004 extraction:

- The excavation at XS 2.5 is 30 feet too wide.

Willow Creek Bar 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wet Trench	32,975	1.9	12,730	1.3

CHERT comments on Willow Creek Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.
- The operator made an error when calculating the pre-extraction volume estimate. The reported volume was 22,425 cubic yards. The designed extraction would have produced 32,975 cubic yards had it been carried out. The actual extraction width and depth was less than the designed width and depth, producing a volume of 12,730 cubic yards. The calculation error was not but should have been noted during the pre-extraction CHERT review.

McKnight Bar 2004 (Mercer Fraser)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	8,720	1.9	0	0

CHERT comments on McKnight Bar 2004 extraction:

- The proposed extraction did not occur.

ISOLATED SITES

Upper Reach of Eel River

Fort Seward Ranch Satterlee Bar 2004 (Satterlee)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

Larabee Creek

Charles Bar 2004 (Humboldt County)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
Wide Shoreline Skim	6,620	1.9	1,855	1.7
Dry Trench	18,170	1.4	1,245	0.7
Totals	24,790	3.3	3,100	2.4

CHERT comments on Charles Bar 2004 extraction:

- A CHERT post-extraction site visit and an off site review of pre-and post-extraction cross sections and volume calculations indicates that the excavation complies with the plan.

Van Duzen River

PL Bar 2004 (Humboldt County)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

Bear River

Branstetter Bar 2004 (Humboldt County)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

North Fork of the Mattole

Cook Bar 2004 (Humboldt County)				
Extraction Method	Approved Pre-extraction		Actual Post-extraction	
	Volume (cy)	Area (acres)	Volume (cy)	Area (acres)
No Extraction in 2004				

APPENDIX A
LIST OF HUMBOLDT COUNTY GRAVEL EXTRACTION OPERATORS

1	Drake Materials (Mallard Pond)
2	Eureka Ready Mix
3	Fort Seward Ranch
4	Granite Construction
5	Humboldt County Dept. of Public Works
6	Klamath-Trinity aggregates
7	Leland Rock
8	Mad River Sand and Gravel
9	Mercer Fraser Corporation
10	Miller Family Trust
11	Palco
12	Randall Sand & Gravel
13	Tom Bess
14	Van Duzen River Ranch
15	Wallan & Johnson

APPENDIX B
LIST OF CHERT REVIEWED EXTRACTION SITES

Bess Bar East Site	Fort Seward Bar	Rock Bar
Bess Bar West Site	Guynup Bar	Rowland Bar
Blue Lake Bar	Hauck Bar	Sandy Prairie Plant A
Bowlby Bar	Johnson Bar	Sandy Prairie Plant B
Branstetter Bar	Johnson-Spini Bar	Scotia Dam Bar
Charles Bar	Maynard Bar	South Fork Bar
Christie Bar	McKnight Bar	Three Mile Bar
Cook Bar	Miller-Almquist Bar	Truck Shop Bar
Cooks Valley Humboldt	Noble Bar 10	Vroman Bar
Cooks Valley Mendocino	Noble Bar 6	Wallan Bar
Dinner Creek	O'Neill Bar	Willow Creek Bar
Drake Bar	PL Bar	Worswick Bar
Elinor Bar	Randall County Bar	
Emmerson Bar	Randall Home Bar	
Essex Bar	Randall Tooby Bar	

APPENDIX C

CHERT EXTRACTION VOLUME SUMMARY OVER TIME.

Mad River Extraction (1992-2005)

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1992	115,000	115,000	100
1993	122,100	138,400	113
1994	134,500	134,898	100
1995	210,637	226,265	107
1996	203,998	189,517	93
1997	252,926	210,976	83
1998	265,795	223,352	84
1999	196,212	174,974	89
2000	204,748	146,534	72
2001	199,215	167,719	84
2002	204,991	171,937	84
2003	150,390	136,790	91
2004	156,540	141,250	90
2005	138,475	127,200	92
Totals	2,260,512	2,036,362	90
Averages	188,376	169,697	90

Lower Eel River Extraction (1997-2005)

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	561,700	326,500	58
1998	399,100	273,000	68
1999	471,400	290,500	62
2000	291,300	208,600	72
2001	389,900	119,300	31
2002	387,300	220,000	57
2003	318,300	163,900	51
2004	188,840	120,305	64
2005	199,370	166,280	83
Totals	3,207,210	1,601,800	50
Averages	356,357	228,829	64

Van Duzen River Extraction (1997-2005)

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	120,000	81,600	68
1998	119,100	103,700	87
1999	159,900	108,800	68
2000	194,800	121,300	62
2001	161,700	85,600	53
2002	202,500	167,400	83
2003	175,100	123,000	70
2004	179,045	92,610	52
2005	159,090	123,170	77
Totals	1,133,100	791,400	70
Averages	161,871	113,057	70

Middle Reach of Lower Eel River Extraction (1996-2005)

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1996	?	66,300	?
1997	147,300	84,900	58
1998	157,900	99,400	63
1999	134,900	124,900	93
2000	160,100	131,000	82
2001	116,100	64,000	55
2002	132,767	121,608	92
2003	74,030	54,060	73
2004	0	0	
2005	0	0	
Totals	923,097	746,168	?
Averages	102,566	74,617	?

South Fork Eel River Extraction (1997-2005)

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	67,700	74,700	110
1998	75,400	70,100	93
1999	85,400	75,900	89
2000	75,700	53,700	71
2001	66,000	43,100	65
2002	58,163	48,122	83
2003	87,060	54,660	63
2004	80,730	50,745	63
2005	82,770	36,480	44
Totals	515,423	420,282	82
Averages	73,632	60,040	82

Trinity River Extractions (1997-2005)

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	47,500	40,000	84
1998	35,000	28,100	80
1999	64,300	66,900	104
2000	18,000	22,200	123
2001	46,600	15,100	32
2002	38,145	19,394	51
2003	76,210	49,390	65
2004	62,075	32,700	53
2005	64,100	30,570	48
Totals	325,755	241,084	74
Averages	46,536	34,441	74

Does not include Tribal extractions.

Isolated Sites Gravel Extraction (1997-2005)

Extraction Volumes 1997-2005
Branstetter Bar on Bear River

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	0	0	
1998	0	0	
1999	0	0	
2000	0	0	
2001	0	0	
2002	0	0	
2003	0	0	
2004	0	0	
2005	0	0	
Totals	0	0	
Averages	0	0	

Extraction Volumes 1997-2005
Cook Bar on the North Fork of the Mattole

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	0	0	
1998	0	0	
1999	30,100	19,000	63
2000	0	0	
2001	0	0	
2002	0	0	
2003	0	0	
2004	0	0	
2005	0	0	
Totals	30,100	19,000	63
Averages	3,345	2,110	63

Extraction Volumes 1996-2005
Charles Bar on Larabee Creek

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1996	None	3,300	?
1997	0	0	
1998	22,800	23,300	102
1999	0	0	
2000	0	0	
2001	0	0	
2002	0	0	
2003	0	0	
2004	24,790	3,100	13
2005	20,760	9,540	46
Totals	68,350	39,240	?
Averages	7,595	3,925	?

Extraction Volumes 1996-2005
PL Bar on the Van Duzen River

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1996	None	3,400	?
1997	0	0	
1998	0	0	
1999	0	0	
2000	0	0	
2001	0	0	
2002	0	0	
2003	0	0	
2004	0	0	
2005	0	0	
Totals	0	3,400	?
Averages	0	340	?

Extraction Volumes 1997-2005
Satterlee Bar on the Eel River

	Recommended	Extracted	
	Volume	Volume	Percent
Year	(cy)	(cy)	Extracted
1997	5,000	4,200	84
1998	0	0	
1999	0	0	
2000	43,200	22,900	53
2001	0	0	
2002	0	0	
2003	0	0	
2004	0	0	
2005	0	0	
Totals	48,200	27,100	56
Averages	5,355	3,010	56