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2024 REPORT ON AGGREGATE PRODUCTION IN SONOMA COUNTY



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EXECUTIVE SUMMARY

- 1) Over the past decade Sonoma County has largely completed the shift from instream/terrace mining to hard rock quarries (8 active hard rock quarries), supplemented by modest amounts of recycled and imported materials. The transition from instream/terrace mining to hard rock quarries was a major objective of the 1994 Aggregated Resources Management Plan (ARM Plan).
- 2) Aggregate sales in 2024, at just under 3 million tons, were slightly below the 10 year average of approximately 3.46 million tons/year. In 2024, approximately 15 percent of the aggregate produced in Sonoma County was exported to nearby counties, mainly Napa and Marin Counties. In 2024, the aggregate producers in Sonoma County also exported a modest amount of aggregate to Sacramento County. In 2024 just over 2.5 million tons of aggregate were used in Sonoma County for various projects.
- 3) Even with the new Roblar Quarry coming online in 2024, aggregate production numbers were slightly down year over year. As the Roblar Quarry matures, annual production numbers may be expected to rise over the upcoming years, depending on economic conditions.
- 4) As of the end of May 2025, the previously active Nuns Canyon Quarry ceased operations and commenced with reclamation. Nuns Canyon Quarry produced various decorative volcanic aggregate products which were commonly applied in landscape features throughout Sonoma County and nearby counties.
- 5) Given that only 10 percent of aggregate sold in Sonoma County is from imported sources, the ARM plan goal of aggregate self-sufficiency has largely been satisfied.

Table 1. Summary of Aggregate Production in 2024

Total Aggregate Sold	2,969,963 tons
Aggregate Imported into County	308,138 tons
Aggregate Exported Out of County	459,346 tons
Recycled Materials	230,924 tons
Total Aggregate Mined	2,340,692 tons
Hard Rock Quarry Mined	2,340,692 tons
Instream Mined	0 tons
Terrace Mined	0 tons

This report is required under the 1994 Aggregate Resources Management (ARM) Plan and provides a general overview of aggregate production and demand as well as a summary of aggregate permit activity and reclamation in 2024. Any questions about this report can be directed to Stephen Schurke of the Permit Sonoma Natural Resources Division at (707) 565-3610, or by email at Stephen.Schurke@SonomaCounty.Gov.

AGGREGATE RESOURCES MANAGEMENT PLAN

The Sonoma County Aggregate Resources Management Plan and EIR (ARM Plan) was approved in 1994. The ARM Plan EIR considered various plan alternatives, with the goal to meet the County's need for aggregate while minimizing environmental impacts and land use conflicts in a manner consistent with the requirements of CEQA, SMARA and State Mineral Resource Management policies. Within this context, and to the maximum extent feasible, the ARM Plan's specific objectives are the following:

- **Objective 1** - Assist existing quarry operations to increase production for high-quality uses in an environmentally sound manner.
- **Objective 2** - Facilitate new or expanded quarry operations at designated sites or at other locations with resources which can meet the needs for aggregate in an environmentally sound manner.
- **Objective 3** - Provide for terrace resources to meet the needs for high quality uses for a ten-year period and terminate terrace mining at the end of that period.
- **Objective 4** - Manage instream resources on a sustained yield basis for high quality uses in a manner which reduces bank erosion, maintains flood flow capacities, protects adjacent uses, and minimizes impacts on fisheries, vegetation and wildlife.
- **Objective 5** - Continue and expand monitoring programs so that more information is available for future decisions about terrace and instream impacts and alternative management policies and approaches.
- **Objective 6** -Reevaluate gravel extraction methods and production periodically to assess options which would further reduce environmental impacts and land use conflicts or better meet the County's aggregate needs.
- **Objective 7** - Change specifications, standards and practices where possible so that quarry rock will be more competitive with instream and terrace sources.
- **Objective 8** - Reduce the need for additional aggregate through utilization of recycled and substitute materials, changes in development standards, and other means possible.
- **Objective 9** - Encourage the retention of locally produced aggregate for use within Sonoma County.

MINING PRODUCTION, SALES, AND PRODUCTS

AGGREGATE PRODUCTION

Aggregate production in 2024 (the amount of aggregate material mined or extracted) was below the average production rate of the previous 5 years. A total of 2.34 million tons of aggregate was mined in 2024. The average production rate from 2019 through 2024 was 2.65 million tons, which

is less than production in the 1980s and 90s which averaged closer to 4 million tons per year when terrace mining along the Russian River was fully active.

Hard rock quarries are presently the main local source of aggregate, producing nearly 100% of mined material from 2013 to 2024. Currently, only one mining operation has an active permit for instream mining in Sonoma County. A small amount of stockpiled aggregate was sold from that operation in 2024. However, that operation did not perform any instream mining in 2024.

No terrace mining occurred in 2024, and terrace mining is no longer allowed according to the approved ARM Plan.

Table 2 displays the changes in aggregate sources over time from 1960-2024. Figure 1 shows total aggregate production (mining) by year from 1981 through 2024.

Data on historic Aggregate Production is provided in Appendix A.

Table 2. Aggregate Production for Terrace, Quarry, and Instream Mine Sites as percent of average annual production

	1960 to 1976	1981 to 1990	1991 to 2000	2001 to 2010	2011 to 2015	2016 to 2021	2022	2023	2024
Terraces	68%	47%	37%	26%	8%	0%	0%	0%	0%
Quarries	15%	34%	51%	69%	91%	99%	99%	100%	100%
Instream	17%	19%	12%	5%	1%	1%	1%	0%	0%

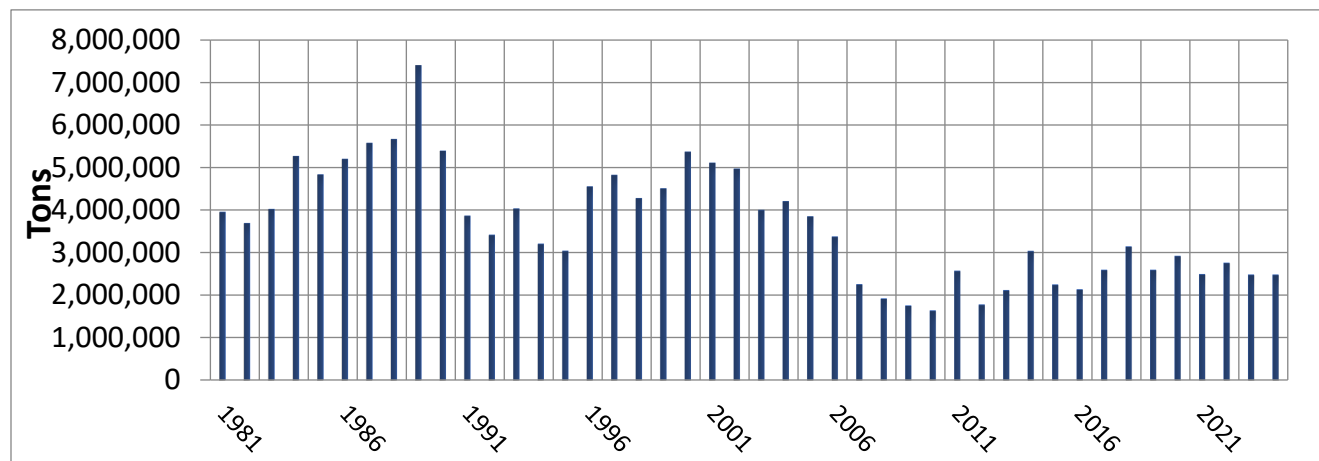


Figure 1: Total Aggregate Production (Mining) by Year from 1981 through 2024.

REPORTED AGGREGATE SALES

A total of 2.97 million tons of aggregate was reported to be sold in 2024, below the average sales of the previous last 10 years. Average annual aggregate sales from 2014 through 2024 was approximately 3.47 million tons.

Note, these figures represent the amount of aggregate sold from operations within the unincorporated Sonoma County that are monitored under the ARM Program. These amounts do

not include material sold from all aggregate distribution sites, or material sold within the cities. There is also some potential for double reporting of sales, as one operator may import material from another operator, in which case the same material would be sold and reported twice. Beginning in 2011, monitoring information included the reported sales of material imported to the Petaluma Landing Way facility, which imports Portland Cement Concrete (PCC) grade aggregate by barge from British Columbia, Canada. The reporting of imports to the Landing Way site provides a more complete understanding of Sonoma County's Aggregate demand. Reported material sold is expected to be close to the actual total aggregate demand.

Data on historic aggregate sales is provided in Appendix A.

AGGREGATE IMPORTATION

Aggregate operators reported importing 308,138 tons into the County in 2024, representing 10% percent of the reported sales. Imported material is mostly for Portland Concrete Cement (PCC) and Asphalt Cement (AC) grade materials (Table 3).

Data on historic imports of aggregate into the County is provided in Appendix A.

EXPORTATION

Aggregate operators reported exporting 459,349 tons of aggregate out of the County in 2024, representing 15% percent of the reported sales (Table 3). Consistent with previous years, most of the exported aggregate was sold to sites in Napa and Marin counties. In 2024, the aggregate producers in Sonoma County also exported a modest amount of aggregate to Sacramento County. Data on historic exports of aggregate out of the County is provided in Appendix A.

Table 3. Aggregate Sales, Importation, and Exportation from 2011-2024 (in millions of tons)

Year	Sales	Importation	Importation as Percent of Sales	Exportation	Exportation as Percent of Sales
2011	2.22	0.37	17%	0.22	10%
2012	2.93	0.49	17%	0.20	7%
2013	3.16	0.72	23%	0.34	11%
2014	3.03	0.32	10%	0.26	8%
2015	3.15	0.38	12%	0.40	13%
2016	3.08	0.27	9%	0.19	6%
2017	3.08	0.29	9%	0.52	17%
2018	4.32	0.41	10%	0.46	11%
2019	3.52	0.38	11%	0.42	12%
2020	4.08	0.41	10%	0.45	11%
2021	3.54	0.40	11%	0.47	13%
2022	3.77	0.42	11%	0.27	7%
2023	3.17	0.31	10%	0.26	8%
2024	2.97	0.31	10%	0.46	15%

AGGREGATE RECYCLING

Aggregate operators reported importing 230,924 tons of recycled material in 2024, representing 7.8% percent of the reported sales. Recycled material is predominantly concrete with lesser volumes of porcelain, brick and other materials. Recycled materials have varied in tonnage over the year, peaking in 2019 (Table 4). Concrete recycling at sites reporting through the ARM program continues to greatly outweigh disposal in landfills. Data on historic imports of material for recycling is provided in Appendix A.

Table 4. Recycled Materials from 2011-2024

2011	87,049 tons
2012	115,763 tons
2013	171,945 tons
2014	87,140 tons
2015	15,123 tons
2016	201,460 tons
2017	262,572 tons
2018	387,148 tons
2019	604,758 tons
2020	242,516 tons
2021	289,830 tons
2022	224,462 tons
2023	232,365 tons
2024	230,924 tons

HARDROCK QUARRY MINING

Hard rock quarries are nearly the sole source of local aggregate and have produced over 99% of aggregate from 2013 to 2024. Within Sonoma County there are currently 8 active quarries (Table 5), with reported mining of 2,340,692 tons in 2024. Two hard rock quarries are inactive and recently closed (Table 6). Trinity Quarry was determined fully reclaimed and released from the ARM program in 2024.

Table 5. Sonoma County Active Hard Rock Quarries

Quarry Name	Status
Austin Creek Materials (Owned by Canyon Rock)	Active, Vested Rights
BoDean Forestville (formerly Blue Rock)	Active, Use Permit
Canyon Rock Quarry Forestville	Active, Use Permit
Lakeville Quarry	Active, Vested Rights
Mark West Quarry (BoDean)	Active, Use Permit
Roblar Quarry	Active, Use Permit
Soils Plus	Active, Vested Rights
Stony Point Rock Quarry- Cotati	Active, Use Permit

Table 6. Non-Active and Recently Closed Hard Rock Quarries

Quarry Name	Status
Brooks Quarry	Closed, Under Reclamation
Nuns Canyon Quarry	Closed, Under Reclamation

INSTREAM MINING

In-stream mining no longer accounts for a significant source of aggregate materials in Sonoma County.

Instream mining on the Russian River was last conducted in the Upper Alexander Valley reach in 2006, the Lower Alexander Valley in 2001, and the Middle Reach in 2007. In 2010, the Board of Supervisors approved a major instream mining permit in the Alexander Valley; however, that permit expired due to inactivity.

No mining on the Gualala River occurred in 2024. Instream mining on the Gualala River was last conducted in 2018. The Use Permit for mining expired in 2018, and the operator has closed and largely reclaimed the aggregate processing plant and associated yard.

Instream mining was not conducted in Austin Creek in 2024. Austin Creek has vested rights to mine select bars. The operator also has a pending Use Permit application to mine one additional bar and establish a storage facility for stockpiling gravel.

Data on historic instream mining is provided in Appendix A.

TERRACE MINING

There are no active terrace pit mines, and terrace pit mining is no longer permitted under the ARM Plan. Several terrace pits within the Middle Reach of the Russian River (Wohler narrows to Healdsburg) have not been reclaimed. Permit Sonoma is working closely with Syar, Hanson, regulatory agencies, and other stakeholders to develop plans that are approvable under the County's mining ordinance and state and federal laws. In Spring 2025, the Board of Supervisors approved a Use Permit (PLP23-0014) for major floodplain restoration of the Hanson Pits along the Russian River. The project applicant is currently exploring funding sources.

Table 7. Terrace Pits Requiring Reclamation

Operator and Site	Activity	Status
SYAR – Phase I/II, Basalt, Phase IV	Closed, Under Reclamation	Partially reclaimed. Weir structure between Phase I/II pits and Russian River is outstanding. Syar is actively developing permit applications for the submittal to the Resource Agencies.
Hanson – Piombo, Mariani	Closed, Under Reclamation	Partially reclaimed. Weir structure between Piombo and Mariani Pit is outstanding. Restoration plan submitted with Use Permit (UPE23-0014) for major floodplain restoration.

AGGREGATE PERMIT AND RECLAMATION ACTIVITY

Table 8. Recent Aggregate Permit Activity

Operation Name	PRMD File	Activity	Status
Lakeville Quarry	UPE10-0055	Use Permit for 21 acre expansion on vested parcel	Staff report and CEQA document in progress
Roblar Quarry	UPE16-0058	New Mining and Reclamation Plan for a 70 acre mine site	Approved in 2019. Commercial sales began January 2024
Austin Creek Instream	UPE18-0042	Use Permit for instream mining and stockpile area. Previous Use Permit expired in 2014	Under review
Hanson – Piombo, Mariani	UPE23-0014	Use Permit (PLP23-0014) for major floodplain restoration	Board of Supervisors approved in Spring 2025, currently exploring funding sources

Table 9. Aggregate Reclamation and Closure

Operation	Status
Petaluma Quarry	Reclamation performance standards met. Site released December 02, 2015
Zamaroni Quarry	Reclamation performance standards met. Site released December 22, 2017
Hanson Richardson-Argonaut Pit	Reclamation performance standards met. Site released December 21, 2020
Trinity Quarry	Reclamation performance standards met. Site was released in June 2024
Brooks Quarry	All equipment removed. Disturbed areas replanted and 2-year monitoring period began November 18, 2024. Expected to be released in November 18, 2026
Gualala Quarry	All equipment removed. Disturbed areas replanted and 5-year monitoring period began January 2024. Expected to be released in 2029
Nuns Canyon Quarry	Reclamation commenced June 2025. Expected to start the 5-year monitoring period Fall 2025. Expected to be released in 2030

AGGREGATE ROAD MITIGATION FUND

As part of the 1981 ARM Plan a fee program was established to collect fees to be used for road mitigation purposes. Fees were collected until a \$500,000 cap was reached and the program was temporarily suspended until the next ARM Plan update. The 1994 ARM Plan revised and readopted the mitigation fee program.

In 2008 a technical report was released entitled Impacts of Aggregate Hauling on County Roads, which detailed the nexus between the impacts of heavy trucks from aggregate hauling and road degradation. The report suggested the fee pay only for the actual cost of the additional pavement thickness needed to mitigate impact over and above normal wear and tear.

In 2009 the Board of Supervisors approved an updated fee of 10 cents per ton. The Aggregate Road Mitigation Fee is adjusted annually by the Consumer Price Index. This fee has been applied to all aggregate sales and exports from production sites, including imports at Landing Way, since January 1, 2010 as shown in Table 10.

Table 10. Annual Road Mitigation Fee Billing Activity, 2010-2024

Year	Rate/Ton	Amount Billed
2010	0.100	\$203,760
2011	0.100	\$224,294
2012	0.103	\$270,665
2013	0.105	\$331,878
2014	0.106	\$321,024
2015	0.107	\$286,660
2016	0.108	\$332,732
2017	0.110	\$388,022
2018	0.113	\$488,580
2019	0.127	\$447,008
2020	0.131	\$533,839
2021	0.133	\$471,251
2022	0.137	\$515,953
2023	0.144	\$456,881
2024	0.148	\$484,633

RUSSIAN RIVER GRAVEL MITIGATION FUND

The 1994 ARM Plan established the Russian River Gravel Mitigation Fund (RRGM) to collect fees from terrace and instream mine sites along the Russian River: The RRGM consists of four funds:

1. Agricultural Support;
2. Recreation Enhancement;
3. Flood Protection;
4. Stream Restoration.

As specified in Board Resolution 95-0450, fees are assessed per ton, per area, or at a rate specific to a project for each of the funds under the RRGM. There is currently a \$0.0 balance in all funds, and there is currently no anticipated instream or terrace mining projects that would pay into these funds.

APPENDIX - AGGREGATE PRODUCTION, IMPORTATION, EXPORTATION, AND SALES

Aggregate Production from Quarries, Terrace, and Instream mine sites, aggregate imported and exported, and total sales from 1981 to 2024 (in millions of tons). Reported values generally do not include imports, exports or sales from operators not regulated through the Sonoma County Aggregate Resources Program. Beginning in 2011, monitoring information includes importation and sales of material delivered to the Petaluma Landing Way facility.

Year	Quarry	Terrace	Instream	Total Mined	Imported to County	Exported from County	Recycled Material	Total Sold
1981	1.45	1.70	0.81	3.96	NA	NA	NA	NA
1982	1.52	1.27	0.90	3.70	NA	NA	NA	NA
1983	1.33	1.84	0.87	4.03	NA	NA	NA	NA
1984	1.74	2.39	1.15	5.28	NA	NA	NA	NA
1985	1.34	2.18	1.32	4.84	NA	NA	NA	NA
1986	1.53	2.35	1.33	5.21	NA	NA	NA	NA
1987	1.81	2.79	0.99	5.58	NA	NA	NA	NA
1988	1.73	2.89	1.05	5.67	NA	NA	NA	NA
1989	2.40	3.94	1.07	7.41	NA	NA	NA	NA
1990	2.10	2.86	0.43	5.40	NA	NA	NA	NA
1991	1.85	1.37	0.54	3.75	NA	NA	0.06	5.15
1992	1.77	0.21	0.92	2.88	NA	NA	0.06	3.85
1993	1.80	1.94	0.43	4.17	NA	NA	0.06	3.49
1994	1.72	1.47	0.36	3.55	NA	NA	0.05	3.24
1995	2.15	0.19	0.71	3.05	NA	NA	0.11	4.03
1996	2.20	2.05	0.31	4.56	NA	NA	0.13	4.03
1997	2.24	1.81	0.78	4.83	NA	0.60	0.13	4.61
1998	2.33	1.62	0.33	4.29	NA	0.61	0.14	5.10
1999	2.31	1.94	0.26	4.51	NA	NA	0.22	5.18
2000	1.88	1.95	0.15	3.98	0.27	0.65	0.20	5.38
2001	1.84	2.17	0.08	4.10	0.26	0.72	0.21	5.11
2002	2.55	1.93	0.52	5.00	0.25	0.64	0.28	4.92
2003	2.42	0.98	0.28	3.60	0.30	0.51	0.17	3.89
2004	2.38	0.87	0.16	3.41	0.51	0.51	0.28	4.21
2005	2.31	1.51	0.09	3.91	0.48	0.48	0.27	3.85
2006	2.25	0.62	0.15	3.02	0.12	0.39	0.15	3.62
2007	2.19	0.00	0.24	2.44	0.27	0.57	0.32	2.81
2008	1.86	0.00	0.06	1.92	0.12	0.26	0.28	2.27
2009	1.66	0.00	0.10	1.76	0.12	0.11	0.18	2.25
2010	1.64	0.00	0.00	1.64	0.46	0.03	0.21	2.06
2011	1.49	1.07	0.00	2.56	0.37	0.22	0.09	2.22
2012	1.73	0.00	0.05	1.78	0.49	0.20	0.12	2.93
2013	2.10	0.00	0.02	2.12	0.72	0.34	0.17	3.16
2014	2.10	0.00	0.00	2.10	0.32	0.26	0.09	3.03
2015	2.23	0.00	0.02	2.25	0.38	0.40	NA	3.15
2016	2.13	0.00	0.01	2.14	0.27	0.19	0.20	3.08
2017	2.58	0.00	0.02	2.60	0.29	0.52	0.25	3.08
2018	3.12	0.00	0.02	3.15	0.41	0.46	0.38	4.32
2019	2.58	0.00	0.01	2.60	0.38	0.42	0.60	3.52
2020	2.91	0.00	0.01	2.92	0.41	0.45	0.24	4.08
2021	2.50	0.00	0.01	2.50	0.40	U/A	0.29	3.45
2022	2.76	0.00	0.01	2.76	0.42	0.27	0.24	3.77
2023	2.48	0.00	0.00	2.48	0.31	0.27	0.23	3.17
2024	2.34	0.00	0.00	2.34	0.30	0.46	0.23	2.97