

# 7 Mineral and Energy Resources

This chapter examines Humboldt County’s mineral (including sand and gravel extraction) and energy (oil, gas, and geothermal) resources. Existing General Plan policies and future policy options are also discussed. The Appendices include policy evaluation worksheets for mineral and energy resources. This worksheet is provided as a tool for members of the public to evaluate policy options and indicate preferences for accepting, modifying or rejecting these options.

## 7.1 MINERAL EXTRACTION

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Humboldt County is gifted with a wealth of mineral resources. Ninety-three extraction sites around the County produce sand and gravel, metals, and stone and clay. Mining provides an input of vital importance to a number of key activities in the construction industry, primarily the raw materials for concrete used in foundations. Mining materials are also used for road construction, maintenance and repair. Other important uses include fill materials, snow and ice control, railroad grade ballast and as a filtration system for individual sewage disposal.

### SAND AND GRAVEL

Sand and gravel extraction constitute the major portion of the County’s mining activity, both in terms of quantity of material produced and value of extracted resource. In-stream gravel and sand extraction in 2000 was 680,426 cubic yards—71 percent of the 962,826 cubic yards approved for extraction—with the majority of activity taking place along the Mad River (22 percent) and the Eel River-Van Duzen River complex (76 percent).<sup>1</sup> The remainder was extracted from Willow Creek and the Trinity River.

The County of Humboldt Extraction Review Team (CHERT) states that sand and gravel extraction has been increasing in recent years. While sand and gravel currently are not exported from the County, Pacific Lumber Company has expressed interest in exporting jetty rock to the San Francisco Bay Area once an EIR is completed.<sup>2</sup>

### ROCK AND METALS

Extraction sites—mines, pits, and quarries—for mineral extraction are located throughout the County and are illustrated in Figure 7-1. Mines and quarries in Humboldt County primarily produce shale, stone (base and subbase), and clay. Almost all of these, except the

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<sup>1</sup> County of Humboldt Extraction Review Team, *Final 200 Post-Extraction Report*, 9 May 2001.

<sup>2</sup> Michael Wheeler, Humboldt County Community Development Services, personal communication, 22 April 2002.

clay quarries, are hard rock quarries. Information on extraction totals is considered proprietary. However, there are 32 active hard rock quarries permitted in the County, with a permitted annual potential yield of approximately 660,000 cubic yards per year. Actual extraction amounts vary depending on local demand. Rock quarries are a significant augmentation of the in-stream sand and gravel mining operations in the county. These quarries provide rock products of various sizes that may not be obtainable from in-stream operations or may be able to provide sand and gravel at more competitive rates due to location or reduced permitting expenses. Most recent surface mining applications in the county have been for upland rock quarry operations due to these factors.

Of particular importance are the rock quarries that mine blue schist. This material is highly resistant to erosion, and therefore makes good fortification where erosive action from waves or river waters is a concern.

## **7.2 ENERGY RESOURCES**

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Energy resources in Humboldt County are primarily natural gas deposits. Active gas wells in Humboldt County are concentrated in the Tompkin Hills Gas Field. Of the County's 39 gas wells, 31 are currently producing and 8 are considered shut in, meaning they cannot produce gas at their current depths and are sealed off in order to maintain the pressure on remaining deposits.<sup>3</sup> In 2000, net gas production was 1,337,796 million cubic feet (mcf); this represents a 31 percent decrease in gas production since 1992, when net production was 1,927,787 mcf. Also in 1992, 34 gas wells were in production and 5 were shut in.<sup>4</sup> Humboldt County contains three inactive oil wells and has not produced oil in at least the past ten years. There is no record of geothermal production in Humboldt County.

## **7.3 REGULATORY FRAMEWORK**

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The County has adopted regulations to implement the provisions of the Surface Mining and Reclamation Act of 1975 (Public Resources Code Sections 2710 et seq.) for the Coastal Zone. These regulations are intended to protect the quality of the County's environment, to restrict land uses that would be incompatible with preservation and use of natural resources and to assure the community of adequate supply of these resources for present and future generations. A conditional use permit and reclamation plan is required, and development standards are set for surface mining operations. These regulations apply to all surface mining throughout the County, not just in the Coastal Zone.

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<sup>3</sup> California Department of Conservation, personal communication, 19 April 2002.

<sup>4</sup> California Department of Finance, *California Statistical Abstract*, 1993 and 2001.

**Figure 7-1: Rock and Mineral Extraction Sites**

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## **7.4 POLICY ISSUES**

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This section focuses on mineral and energy resource issues from a public policy perspective, starting with existing standards and policies in the General Plan. Although no issues related to mineral and energy resources were identified in the Critical Choices Report, a policy option is included for consideration. The policy evaluation worksheets that will be used to guide discussion of these issues are included in the Appendix. These worksheets are provided as a tool for members of the public to evaluate policy options and indicate preferences for accepting, modifying or rejecting these options.

### **EXISTING GOALS AND POLICIES**

#### *GOALS*

1. To assure the long-term availability of adequate supplies of mineral resources, to protect mineral resource areas from incompatible land uses and to minimize adverse environmental impacts.
2. To move toward self-sufficiency in energy use, with maximum reliance on local renewable resources for local energy needs.

#### *POLICIES*

1. Maintain and update maps of the County's identified mineral deposits.
2. Plan future development such that it will not interfere with the utilization of identified mineral deposits.
3. Ensure adverse environmental effects are prevented or mitigated to the fullest extent feasible and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses under the General Plan.
4. Encourage the production and conservation of minerals, while preserving to the maximum extent feasible the values relating to recreation, watershed, wildlife, range and forage, science, and aesthetic enjoyment.
5. Ensure elimination of residual hazards to the public health and safety.
6. Prevent the disruption of community character in siting and planning mineral resource extraction operations.
7. Require mineral haul routes to avoid incompatible areas such as landslides, highly erodible soils, residential areas, and schools, if feasible.

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8. Permit conditions for mineral extraction operations should address allowable dust and noise levels, hours of operation, fencing, traffic, access, setbacks and other means to reduce conflicts with adjacent development.
9. Extraction of instream sand and gravel is not to exceed the average annual replenishment level (annual bedload), except when the bedload left from a previous flood is greater than the average annual replenishment or if the projects emphasize fishery enhancement, flood control or bank protection.
10. Bank protection shall be permitted to: (1) Maintain necessary public or private roads, (2) Protect principal structures in danger from erosion, (3) Protect lands designated Agriculture-Exclusive from erosion.
11. Evaluate significant water diversion projects which would reduce the replenishment rate of gravel in streams as to the impact they would have on local mineral supply in Humboldt County.
12. The operation of borrow pits on Resource Production Lands (timber, agriculture) for non-commercial purposes (such as supporting timber production road development or agriculture production) is considered a principle use necessary to maintain the primary use of the land.
13. The subdivision to create parcels which are for the primary purpose of providing road and construction materials shall be consistent with this plan.
14. Oil and gas development shall be permitted consistent with the following:
  - A. The development is performed safely and consistent with the geologic conditions of the well site.
  - B. New or expanded facilities related to such development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.
  - C. Such development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.

## **POLICY OPTIONS**

The Critical Choices Report identified no issues associated with mineral and energy resources. However, the following policy option is offered to identify mineral resource sites and put neighbors on notice about the boundaries of these activities.

**Option 7.1 Establish provisions for a “MR” Mineral Resource combining zone to facilitate implementation of the County’s regulations for surface mining and reclamation.** This overlay zone could protect mining operations from incompatible land uses and also requiring appropriate buffering standards and from riparian areas and sensitive habitat. It could be a “win-win” policy, benefiting both the mining industry and the environment, while also protecting adjacent land uses.

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