MINERAL RESOURCES - INTRODUCTION

Purpose

The purpose of this section is to guide Whatcom County in land use decisions involving lands where mineral resources are present.

Process

To address the mandates of the Growth Management Act, Whatcom County formed a Surface Mining Citizens’ Advisory Committee in the 1990s to produce, through a consensus process, the issues, goals, and policies found in this chapter. Planning staff drafted the sub-section on mineral designations following review and comments from the committee. The committee was comprised of a cross-section of community members including mining operators, foresters, farmers, and rural homeowners representing diverse interests and geographic areas in Whatcom County. The County Council adopted the original mineral resource provisions in the 1997 Comprehensive Plan. These provisions were updated in 2004-2005 after reviewing the GMA, Surface Mining Advisory Committee recommendations and new information.

GMA Requirements

One of the goals of the Growth Management Act is to maintain and enhance resource based industries, including the aggregate and mineral resource industries, with the purpose of assuring the long-term conservation of resource lands for future use. The goals and policies in this section support that goal. In addition, the Act mandates that each county shall classify mineral resource lands and then designate and conserve appropriate areas that are not already characterized by urban growth and that have long-term commercial significance.

MINERAL RESOURCES - BACKGROUND SUMMARY

Mining activities in Whatcom County have taken place since the 1850s, though the nature, scope and extent of such activities has changed considerably through time. These changes have reflected the economics involved at each point in time at least as much as they reflect the geologic character of Whatcom County. Historically, the more important mineral commodities of Whatcom County have been coal, gold (placer and lode), sandstone, clay, peat, limestone, olivine, and sand and gravel aggregate, with the latter three being especially important at present. Many other commodities, however, have been prospected for or extracted.

In 2004, there were 24 Mineral Resource Land (MRL) designations throughout the County, covering 4,204 acres. For planning purposes, the Surface Mining Advisory Committee recommended using an annual demand for sand and gravel of 12.2 cubic yards per capita and annual demand for bedrock of 1.3 cubic yards per capita in the 2004-05 Comprehensive Plan update, consistent with the rates in the 1997 Comprehensive Plan. There were approximately 108 people directly employed by the mining industry in 2000 (Greater Whatcom Comprehensive Economic Development Strategy, p. III-16).

In Whatcom County, sand and gravel mining occurs mainly east of Interstate-5 and north of Bellingham, with some exceptions. The more important areas from east to west include: (1) the Siper and Hopewell Road area two miles north of Nugents Corner; (2) the Breckenridge Road area just east of Nooksack; (3) the Pangborn and Van Buren Road area two and one half miles southwest of Sumas; (4) the Pole and Everson-Goshen Road area to the southwest of Everson;
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(5) the Axton Road area one mile east of Laurel; and (6) the Valley View Road area three miles to the east of Blaine. It is estimated that between 1999-2001 approximately 1.73 million cubic yards of sand and gravel from upland pits were excavated annually in Whatcom County (Report Engineering Geology Evaluation Aggregate Resource Inventory Study Whatcom County, Washington (GeoEngineers, Inc., Sept. 30, 2003, p.7).

Limestone has been mined since the early 1900s in Whatcom County. Historically, the main use for limestone was for portland cement manufacturers and pulp and paper industries. Today, limestone is mined in the Red Mountain area north of Kendall and is primarily used for rip-rap to mitigate effects of flooding, for crushed rock, and for pulp mills. Limestone mining has decreased significantly over the years. In 1966, about 500,000 tons of limestone were produced annually from deposits on Red Mountain and from deposits north of Maple Falls. Since then, limestone mining has decreased significantly.

Whatcom County is home to one of the largest known deposits of olivine in the United States, located in the Twin Sisters Mountain. The extraction of high quality Twin Sisters dunite (olivine) by the Olivine Corporation, largely from the Swen Larsen Quarry, has ranged from 400 tons in the early years of operation to a more recent annual average of approximately 70,000 to 80,000 tons.

In the past extraction of river gravel occurred primarily within the banks of the Nooksack River between Deming and Lynden, as determined by aggregate size and composition. As of March, 1993, 34 gravel bars had approved status for extraction. Between 1990 and 1993, an average of 170,000 cubic yards per year of river gravel were removed from the Nooksack River. Between 1960 and 1987, removal rates averaged about 50,000 cubic yards per year. However, because of federal regulations and decreasing seasonal windows in which gravel could be removed from the river, there has not been any river bar scalping on the Nooksack River since 1995.

MINERAL RESOURCES - ISSUES, GOALS, AND POLICIES

General Issues

While urbanization creates demand for sand and gravel resources, it may also encroach upon or build over those same resources, rendering them inaccessible. Strong community opposition to mining near residential, agricultural, or sensitive environmental areas may also limit extractive opportunities. Adequate resource protection could help to assure the long-term conservation of resource lands for future use. It would also help to ensure a competitive market and to guard against inflated land prices by allowing the supply of minerals to respond to the demand of a free market. Helping the aggregate industry and the associated businesses, trades, and export markets creates jobs and stimulates the economy, to the benefit of the county.

Potential conflicts with other land uses, however, may include increased noise, dust, visual blight, traffic, road wear, and neighboring property devaluation. Unreclaimed mines can affect property values while at the same time nearby residents may use the area for shooting, dirt bike riding, and other activities. Controlling trespassing to surface mining can be a significant safety issue for mine operators. Property rights issues range from the right to mine and use the value of mineral resource land to the right to live in an area with a high quality of life and retain home values. Citizens may be generally unaware of the county zoning of surrounding property and the mining uses that are allowed. These and other factors may contribute to a climate of distrust and hostility between the aggregate industry and property owners.

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Environmental issues associated with surface mining include groundwater contamination and disruption of fish and wildlife habitat. Surface mines do have the potential, however, if reclaimed properly, to create wetlands and fish and wildlife habitat, possible productive agricultural land for a limited number of crops, or provide land for parks, housing, industrial and other uses.

As a natural result of geologic forces, it is not uncommon in Whatcom County to have excellent mineral deposits located under prime farmland soil and above an aquifer recharge area. Mining in these areas can substantially reduce the productive capacity of the soil and make the underlying aquifer more susceptible to contamination. Removing the soil overburden eliminates the natural filtration system, exposing the aquifer to direct contamination from turbidity, industrial spills, illegal dumping and agriculture products. Removing, stockpiling and spreading soil creates an unacceptable risk of compromising the productive capacity of the most productive and versatile farmland in the County. Another potential problem is that digging out a side hill and/or through a clay barrier could tap the groundwater and suddenly drain an aquifer. This creates a conflict between competing natural resource industries; agriculture and mining. While agriculture is a sustainable industry, mining is an industry that relies on a fixed, nonrenewable resource.

Associated mining activities such as rock crushing on-site can greatly increase the "industrial atmosphere" experienced by nearby property owners. This activity, however, helps to keep material transportation costs down. In addition, accessory uses are a necessary part of most operations, and to carry them out on site is cost-effective.

**GOAL 8J:** Sustain and enhance, when appropriate, Whatcom County's mineral resource industries, support the conservation of productive mineral lands, and discourage incompatible uses upon or adjacent to these lands.

Policy 8J-1: Conserve for mineral extraction designated mineral resource lands of long-term commercial significance. The use of adjacent lands should not interfere with the continued use of designated mining sites that are being operated in accordance with applicable best management practices and other laws and regulations.

Policy 8J-2: Support the use of new technology and innovative techniques for extraction, processing, recycling and reclamation. Support recycling of concrete and other aggregate materials. Support the efficient use of existing materials and explore the use of other materials which are acceptable substitutes for mineral resources.

Policy 8J-3: Minimize the duplication of authority in the regulation of surface mining.

**GOAL 8K:** Ensure that mineral extraction industries do not adversely affect the quality of life in Whatcom County, by establishing appropriate and beneficial designation and resource conservation policies, while recognizing the rights of all property owners.

Policy 8K-1: Avoid significant mineral extraction impacts on adjacent or nearby land uses, public health and safety, or natural resources.

Policy 8K-2: Consider the maintenance and upgrade of public roads. Address all truck traffic on county roads in a fair and equitable fashion.
Policy 8K-3: Avoid adversely impacting water quality. The protection of aquifers and recharge zones should have precedence over surface mining in the event it is determined by the county that adverse impacts cannot be avoided through the standard use of best management practices. Avoid contamination of aquifers by using uncontaminated material for reclamation or on-site storage.

Policy 8K-4: Require, where there exists County jurisdiction, the reclamation of mineral resource lands on an ongoing basis as mineral deposits are depleted. Best Management Practices should be used to achieve this.

Policy 8K-5: Have an ultimate use for land used for mineral extraction which will complement and preserve the value of adjoining land.

Policy 8K-6: Require security to cover the costs of reclamation prior to extraction activity, and insurance policies or a similar type of protection as appropriate to cover other potential liabilities associated with the proposed activity.

Rural and Urban Areas

Many of the rural areas in Whatcom County have been and are being used for mineral extraction. Low density rural areas with potential natural resources such as sand and gravel may be able to accommodate a variety of uses, and surface mining has been a traditional use. Significant mineral deposits occur in certain parts of the rural areas. Some of these areas have higher surrounding residential densities than others, and many rural residents expect less intrusive forms of land uses. Determining which areas are the most appropriate for mineral extraction is a difficult and challenging task.

GOAL 8L: Achieve a balance between the conservation of productive mineral lands and the quality of life expected by residents within and near the rural and urban zones of Whatcom County.

Policy 8L-1: Discourage new residential uses from locating near designated mineral deposit sites until mineral extraction is completed unless adequate buffering is provided by the residential developer.

Policy 8L-2: Protect areas where existing residential uses predominate against intrusion by mineral extraction and processing operations.

Policy 8L-3: Allow accessory uses to locate near or on the site of the mineral extraction source when appropriate. Authorize crushing equipment to locate near the mineral extraction source as a conditional use provided that all pertinent regulatory standards are maintained. Site asphalt and concrete batch plants as a conditional use, addressing potential impacts for the site.

Policy 8L-4: Buffer mineral resource areas adjacent to existing residential areas. Buffers preferably should consist of berms and vegetation to minimize impacts to adjacent property owners. Buffers should be reduced for a limited period of time during reclamation if quality minerals are contained therein.

Agricultural Areas

There is considerable overlap between high quality aggregate lands and high quality agriculture lands. Several deposits represent a primary source for sand and gravel and, as well, form the...
parent material for prime agricultural soils. Both large, deep, open pit mines and smaller projects removing ridges and high ground have been operating in these overlap areas in the agricultural district. The smaller projects usually occur on dairy farms where corn or grass is cultivated. Potential drawbacks from commercial mining in agricultural areas may include reclamation problems, the loss of scenic terrain, an increased risk of groundwater contamination from future agricultural practices, soil rehabilitation difficulties, negative cost-benefit balance and drainage may also be adversely affected.

Some farmers want the freedom of choice to use their land for farming or surface mining, especially in cases where mining income could "save the farm." Others want to preserve farmland. Some questions to consider are the extent to which surface mining should occur on farmland and the extent to which it should be reclaimed back to farmland if it does occur.

The agriculture zone is sparsely populated and there are fewer conflicts between homeowners and mining industries than in urban or rural zones. Nevertheless, mining activities can significantly impact nearby landowners.

**GOAL 8M:** Recognize the importance of conserving productive mineral lands and conserving productive agricultural lands within or near the agricultural zones of Whatcom County without jeopardizing the critical land base that is necessary for a viable agricultural industry.

Policy 8M-1: Allow mining in the agriculture zone that would enhance farming by leveling knolls and ridges when appropriate. In these areas, reclamation of mineral extraction sites should occur in a timely fashion. The site should also be restored for uses allowed in an agricultural zone and blend with the adjacent landscape and contours.

Policy 8M-2: Avoid the use of designated agricultural land for mineral or soil mining purposes unless the soils can be restored to their original productive capabilities as soon as possible after mining occurs.

Policy 8M-3: Allow accessory uses such as washing and/or screening of material to locate near or on the site of the mineral extraction source when appropriate. Within MRL designations, authorize application for mineral processing facilities such as rock crushers and concrete plants through the conditional use process.

**Forestry Areas**

Surface mining of gravel and rock resources is an integral part of a forest landowner's forest management. Adequate supplies of gravel and rock not only add to the economics of forest management, but also reduce environmental impacts of forest roads. Rock crushing helps conserve a valuable commodity by reducing the amount of material necessary for road construction. The use of crushed rock on roads reduces the amount of sediment developed and better protects water quality.

Zoning densities in the Forestry Districts protect the access to mineral resources in the future. These regions contain most of the county's hard rock reserves, such as olivine and limestone. In some areas, the soils overlaying mineral deposits may have a lower productivity for growing timber compared to the high mineral resource value.
As lowland sand and gravel resources become exhausted or unavailable, the commercial potential of mining in forest zones increases enough to warrant the expense of hauling. While this would increase the potential for impacts, such as heavier truck traffic, land use conflicts may be minimal based on the lack of or low residential densities in these zones.

**GOAL 8N:** Maintain the conservation of productive mineral lands and of productive forestry lands within or near the forestry zones of Whatcom County.

**Policy 8N-1:** Recognize the importance of forest lands in the county and the importance and appropriateness of surface mining as part of conducting forest practices within the forest zones.

**Policy 8N-2:** Allow rock crushing, washing and sorting in the forest zones when appropriate as long as conflicts with other land uses can be mitigated.

**Policy 8N-3:** Allow commercial surface mining operations in the forest zones when appropriate as long as conflicts with other land use zones can be mitigated.

**Policy 8N-4:** Carefully consider the siting of asphalt and concrete batch plants due to possible adverse impacts.

**Riverine Areas**

Proponents of river bar scalping support it for both economic and flood control purposes. River bar aggregate supplies high quality rock material (although it produces poor quality sand due to excessive organic material). In addition, if done properly, bar scalping can stabilize a section of the river channel and decrease flood damage immediately downstream.

Although the public believes river bar scalping will significantly reduce flooding along the entire river, in fact its benefits are local and it may have negative effects in areas surrounding the mining site. For example, if done improperly gravel removal can de-stabilize the river channel locally and increase, rather than decrease, flood damage downstream. After intensive bar scalping, floodwater that is normally stored on the floodplain of the mined reach can be concentrated and dumped on the reach immediately downstream. If gravel mining exceeds the rate of replenishment from upstream, the river bed may lower both upstream and downstream; this bed degradation can undermine bridge supports and other structures, cause adjacent banks to erode (or stabilize, depending on how much and where gravel is removed), lower groundwater tables adjacent to the river, and damage riparian vegetation.

Improper mining methods in fish spawning reaches can de-stabilize spawning gravel or clog it with silt, remove cover vegetation or trap smolts during out-migration. Over harvesting of gravel can erode the river bed and expose the underlying substrate, reducing or eliminating pool and riffle habitat for fish and other aquatic animals. Finally, petroleum spills from mining equipment can degrade local surface water quality if not responded to properly.

While river gravel is a renewable resource that could extend the life of other Whatcom County gravel resources, river bars are not a reliable source from year to year. The amount of gravel that can be mined varies with seasonal and yearly rates of gravel deposition; high and low water levels and timing; and fish migration, spawning and out-migration timing. Various costs raise the price of river bar gravel. For example, there are several streams (e.g. Boulder Creek, Porter Creek, Glacier Creek, etc.) which may offer significant quantities of sand and gravel, but which are not currently...
being mined due to prohibitive transportation costs. Other factors include the cost and limited availability of access easements to the river, the repeated handling that is necessary for extraction and processing of the material, and the cost of complying with regulations.

Finally, many state and federal regulations restrict scalping locations and practices. The cost and time delay of duplicate regulation, environmental restrictions, royalty charges and the regulatory process are deterrents to river bar mining.

**GOAL 8O:** Support the extraction of gravel from river bars and stream channels in Whatcom County for flood control purposes and market demands where adverse hydrologic and other environmental effects are avoided or minimized.

**Policy 8O-1:** Designate river gravel as a supplemental source to upland reserves.

**Policy 8O-2:** Allow, when appropriate, the stockpiling, screening, and washing of river gravel in all zone districts when associated with river gravel extraction as close to the extraction site as possible to keep handling and transportation costs to a minimum.

**Policy 8O-3:** Design river gravel extraction to work with natural river processes so that no adverse flood, erosion, or degradation impacts occur either upstream or downstream of extraction sites. Base mining extraction amounts, rates, timing, and locations on a scientifically determined sediment budget adjusted periodically according to data provided by a regular monitoring plan.

**Policy 8O-4:** Locate and operate river gravel extraction to provide long-term protection of water quality and quantity, fish and wildlife populations and habitat, and riparian vegetation.

**Policy 8O-5:** Plan and conduct operations on rivers and streams so that short- and long-term impacts and hazardous conditions are either prevented or held to minimum levels which are not harmful to the general public. Create as little adverse impact on the environment and surrounding uses as possible.

**Policy 8O-6:** Fully consider the recommendations of the Flood Hazard Management Committee to encourage gravel bar scalping that decreases the likelihood of flooding and lowers the costs of flood damage and repair, flood management, and emergency services.

**Policy 8O-7:** Support the use of gravel from tributary streams for flood hazard control, provided environmental impacts are fully addressed.

**Policy 8O-8:** Support the use of public access easements that exist to allow gravel removal.

**Policy 8O-9:** Work with other jurisdictions and related agencies to reduce or eliminate redundant regulations, streamline the permitting process, and provide greater opportunities for appropriate river gravel extraction to enhance other important resources, specifically agricultural.
Mineral Designations

Whatcom County's interim designation work, accomplished in 1992, was based upon the following statutory direction:

"On or before September 1, 1991, each county [required to plan under the Act] shall designate where appropriate: ... Mineral resource lands that are not already characterized by urban growth and that have long-term significance for the extraction of minerals ..." (RCW 36.70A.170).

""Minerals" include gravel, sand, and valuable metallic substances" [RCW 36.70A.030(11)].

The Growth Management Act also directed counties to:

"adopt development regulations ...to assure the conservation of... [designated] mineral resource lands..." [RCW 36.70A.060(1)].

Whatcom County responded to the above mandates as follows:

- By adopting interim Mineral Resource Lands (MRL) designations covering 1,250 acres of lowland sand and gravel deposits. All of these areas had existing reclamation permits from the Washington State DNR covering at least twenty acres.
- By restricting density to one unit per twenty acres within MRL designations and, more recently, by requiring disclosure notices on property and development within three five feet of the MRLs.

The GMA goes on to state that counties:

"shall review these designations...when adopting their comprehensive plans ...and may alter such designations...to insure consistency" [36.70A.060(3)].

This is the most pertinent part of the Act in terms of plan direction.

The Washington State Department of Community Development was required to produce "Procedural Criteria," (Chapter 365-195 WAC), to further assist interpretation of the act by counties and cities. This helped to further elucidate the link between mineral designations and the GMA comprehensive plan. The "Procedural Criteria" provides guidance in Section 400, Natural Resource Lands, as follows:

Prior to the development of comprehensive plans, cities and counties planning under the Act ought to have designated natural resource lands of long-term commercial significance and adopted development regulations to assure their conservation. Such lands include agricultural lands, forest lands and mineral resource lands. The previous designations and development regulations shall be reviewed in connection with the comprehensive plan adoption process and where necessary be altered to ensure consistency.

Generally, natural resource lands should be located beyond the boundaries of urban growth areas. In most cases, the designated purposes of such lands are incompatible with urban densities.
The review of existing designations should, in most cases, be limited to the question of consistency with the comprehensive plan, rather than revisiting the entire prior designation and regulation process. However, to the extent that new information is available or errors have been discovered, the review process should take this information into account.

Review for consistency in this context should include whether the planned use of lands adjacent to agriculture, forest or mineral resource lands will interfere with the continued use in an accustomed manner and in accordance with the best management practices of the designated lands for the production of food, agricultural products, timber, or for the extraction of minerals.

If these guidelines are followed, then the comprehensive plan should address mineral designations by asking the following questions: Is there new information that might lead to different designations at this point and have errors been made?

Interim designations, as discussed above, were based upon minimal criteria. A more complete set of designation criteria is necessary in order to better define which areas in the county are appropriate for mineral designations. These designations should also include quarry rock and valuable metallic mineral sites because interim designations did not include these resources.

The interim designations were also based more upon a twenty year planning horizon than a fifty year planning horizon. The Minimum Guidelines to Classify Agriculture, Forest, and Mineral Lands (Chapter 365-190 WAC) state that "the Department of Natural Resources has a detailed minerals classification system counties and cities may choose to use" (section 070(b). This classification system recommends a fifty year planning horizon. The Surface Mining Advisory Committee also has recommended planning for a fifty year supply. Implementing this goal would require the adoption of criteria allowing for additional mineral resource areas.

Additional MRLs were, in fact, designated when the Comprehensive Plan was adopted in 1997 in an attempt to plan for a fifty-year supply of mineral resources. However, in 2004, the Surface Mining Advisory Committee concluded that the existing MRLs do not contain a fifty-year supply of mineral resources. The Surface Mining Advisory Committee estimated that, as of 2005, there will be a supply of approximately 60.7 million cubic yards of sand and gravel and 8.7 million cubic yards of bedrock in existing MRLs that will be available for future use.

The fifty year demand for minerals in Whatcom County is difficult to project and requires many assumptions. Based upon Whatcom County's per capita rate of consumption of 12.2 cubic yards of sand & gravel and 1.3 cubic yards of bedrock that is being utilized for official planning purposes, approximately 174.4 million cubic yards would be required over the fifty year planning period from 2005-2054. The Washington State Department of Natural Resources, however, has recommended a per capita rate that would result in a fifty year demand of approximately 129 million cubic yards in Whatcom County. This estimate assumes that conservation, recycling, increased cost, high density development (which requires less rock per person), and political decisions will result in reduced demand despite continued population growth. Conversely, some factors may increase demand for aggregate such as the construction of mass transportation systems, the possible substitution of masonry materials for wood products, and increased exports to Canada or other United States counties.

Meeting the demand for construction aggregate in Whatcom County requires expansion of the mineral resource land designations and the consideration of the importation of aggregates. The policies and criteria below are meant to guide meeting the demand for construction aggregate.
GOAL 8P: Designate Mineral Resource Lands (MRLs) containing commercially significant deposits throughout the county in proximity to markets in order to avoid construction aggregate shortages, higher transport costs, future land use conflicts and environmental degradation. Balance MRL designations with other competing land uses and resources.

Policy 8P-1: Seek to designate a 50 year supply of commercially significant construction aggregate supply to the extent compatible with protection of water resources, agricultural lands, and forest lands.

Policy 8P-2: Ensure that at least 50% of the total areas designated for construction aggregate is within ten miles from cities and urban growth areas where feasible.

Policy 8P-3: Ensure that designations of urban growth boundaries are consistent with mineral designations by considering existing and planned uses for the designated areas and adjacent properties. Intergovernmental agreements should demonstrate how future land uses of mined areas will protect underlying aquifers, given the increased groundwater vulnerability to contamination.

Policy 8P-4: Allow mining within designated MRLs through an administrative approval use permit process requiring:

1. on-site environmental review, with county as lead agency, and
2. application of appropriate site specific conditions, and
3. notification to neighboring property owners within 1,000 feet to insure opportunity for written input and/or appeal, and
4. access to de novo review by the Hearing Examiner if administrative approval or denial is appealed.


Policy 8P-6: Work with the Port of Bellingham, the City of Bellingham, or waterfront property owners to facilitate the importation of mineral resources necessary to provide County citizens with adequate mineral resources at reasonable prices.

Fish and Wildlife

Utilization of mineral resource lands can impact habitat, including riparian areas, stream flows, channel habitat structure and water quality.

Goal 8Q: Ensure that mining avoids adverse impacts to the habitat of threatened and endangered fish and wildlife species.

Policy 8Q-1: Ensure that adequate riparian buffers are maintained along rivers and streams.
Policy 8Q-2: Ensure proper treatment of wastewater prior to discharge.

Policy 8Q-3: Provide and maintain best management practices for erosion control to prevent sedimentation.

Policy 8Q-4: Provide proper storage and containment of hazardous materials, and provide for appropriate on-site spill response and clean-up materials and personnel.

Policy 8Q-5: Avoid surface mining in the floodplain.

Policy 8Q-6: Allow river bar scalping, except where it would adversely affect spawning or critical habitat areas.

Policy 8Q-7: Work with state and federal agencies to develop policies and regulations regarding in-stream gravel extraction to ensure that spawning or critical habitat is not adversely impacted and that flooding or erosion in surrounding areas is not increased.
MINERAL RESOURCE LANDS (MRL) - DESIGNATION CRITERIA

I. Non-Metallic Mineral Deposits

General Criteria

1. Non-metallic deposits must contain at least one million cubic yards of proven and extractable sand, gravel, or rock material per new MRL Designation.

2. Minimum MRL Designation size is twenty acres.

3. Expansion of an existing MRL does not need to meet criteria 1 or 2.

4. MRL Designation status does not apply to surface mines permitted as an accessory or conditional use for the purpose of enhancing agriculture or facilitating forestry resource operations.

5. All pre-existing legal permitted sites meeting the above criteria will be designated.

6. The site shall have a proven resource that meets the following criteria:
   - Construction material must meet WSDOT Standard Specifications for common borrow criteria for road, bridge and municipal construction, or Whatcom County standards for other uses.
   - Sand and gravel deposits must have a net to gross ratio greater than 80% (1290 cy/acre/foot).

7. MRL Designations must not be within nor abut developed residential zones or subdivisions platted at urban densities.

8. MRL Designations must not occur within the 10 year zone of contribution for designated wellhead protection areas, as approved by the State Department of Health for Group A systems, and by the Whatcom County Health Department for Group B systems, in accordance with source control provisions of the regulations on water system comprehensive planning. MRL designations may be modified if a wellhead protection area delineated subsequent to MRL designation encompasses areas within a designated MRL. If a fixed radii method is used to delineate a wellhead protection area, the applicant may elect to more precisely delineate the wellhead protection boundary using an analytical model; provided, that the delineated boundary proposed by the applicant is prepared by a professional hydrogeologist; and further provided, that the delineated boundary has been reviewed and approved by the Washington State Department of Health for Group A systems, and by the Whatcom County Health Department for Group B systems. The hydrogeologist shall be selected by mutual agreement of the county, water purveyor, and applicant; provided, if agreement cannot be reached the applicant shall select a consultant from a list of no less than three qualified consultants supplied by the county and water purveyor.

9. MRL Designation should not enclose by more than 50% non-designated parcels.
Additional Criteria for Designated Urban and Rural Areas

10. Abutting parcel size density must not exceed one unit per nominal five acres for more than 25% of the perimeter of the site unless project specific mitigation is created.

Additional Criteria for Designated Forestry Areas

11. Must demonstrate higher value as mineral resource than forestry resource based upon:
   - soil conditions
   - accessibility to market
   - quality of mineral resource
   - sustainable productivity of forest resource

Additional Criteria for Designated Agricultural Areas


II. River and Stream Gravel

13. MRL Designation status applies to river gravel bars possessing necessary permits and containing significant quality reserves.

14. MRL Designation status may apply to those upland sites located in proximity to river gravel sources and used primarily for handling and processing significant amounts of river gravel.

III. Metallic and Industrial Mineral Deposits

15. For metallic and rare minerals, mineral designation status extends to all patented mining claims.


17. All other non-patented mineral deposits must meet the non-metallic MRL Designation criteria, numbers 6 through 12, as applicable.

MINERAL RESOURCES - SITE SELECTION METHOD

1. Sites meeting Mineral Resources Designation Criteria 1-5 (and areas enclosed by these sites greater than 50%).

2. Sites requested by owner or operator meeting designation criteria.

3. Sites that are regionally significant meeting designation criteria.

4. Sites adjacent to both roads and other proposed MRL sites meeting designation criteria.
RESOURCE LANDS - ACTION PLAN

Agricultural Lands

1. Direct the Advisory Committee to review the existing Comprehensive Plan and zoning designations for Agriculture during subarea review to determine whether any adjustments in these boundaries are warranted. The review should include parcels within the Agriculture designation to determine if they should no longer be designated Agriculture, and should include parcels in the Rural designation (and possibly other designations) to determine if they should be designated Agriculture. The review should also include areas outside the immediate Agriculture boundary as available research and data indicate. Designation as "Agriculture Protection Overlay" may be one tool to implement this recommendation.

2. Direct the Advisory Committee to develop a process that conserves and enhances the Agricultural resource land base.

3. To assist staff and public in evaluating lands for possible inclusion in the Agriculture zone, develop a system such as the LESA (Land Evaluation and Site Assessment) system or a similar mechanism. This system will consider County-wide Planning Policies and Growth Management Act goals for the conservation of the agricultural resource. Other uses for such a system could include:
   - Evaluating requests for agricultural land divisions pursuant to the exceptions to the 40 acre minimum parcel size in the Agriculture zone district of Title 20.
   - Evaluating applications for Conditional Use Permits for non-agricultural production uses in the Agriculture zone district of Title 20.

4. Establish buffers or setback requirements on non-agricultural lands when they are adjacent to agricultural lands. As a part of this task, establish the quality and type of buffers or setbacks.

5. Implement strategies that reduce negative impacts by agricultural uses on natural systems.

6. Coordinate with the members of the agricultural community when addressing issues that affect agriculture in Whatcom County. Representative entities such as the Whatcom Conservation District, the Natural Resource Conservation Service, the Whatcom County Agricultural Preservation Committee, the Whatcom County Farm Bureau, the Whatcom County Dairy Federation, the Whatcom County Cooperative Extension Service and other agriculture related organizations should be included.

7. Support educational short courses which address methods of structuring agricultural estates to minimize inheritance taxes; give special emphasis to utilization of Land Trust as a mechanism by which to protect their farmlands in perpetuity for agricultural uses by their heirs or other farmers.

8. Work with the drainage districts and the Washington State Department of Fish and Wildlife to resolve conflicting interests associated with fish and wildlife habitat.

9. Encourage equity in present tax assessment systems relating to agricultural land use.
**Forest Resource Lands**

Within two years, complete the following items:

1. Reaffirm the Rural Forestry and Commercial Forestry zoning designations as permanent zoning designations of forest land of long-term commercial significance.

2. Review criteria for Rural Forestry and Commercial Forestry and make amendments as necessary in order to conform with the requirements of the Growth Management Act. Work with the Forest Resource Lands Citizens Advisory Committee in the development of revised criteria.

3. Review Title 20.42 (Rural Forestry) and 20.43 (Commercial Forestry) for opportunities to provide for compatible, non-forest uses which encourage forest landowners to keep their land in productive forest uses.

4. Review special district boundaries (e.g. fire districts, water districts) for conformance with forestry designations and make recommendations to appropriate agencies for adjustments.

5. Establish a comprehensive program of forest land conservation incentives to offer to landowners who wish to keep their land in long-term productive forest use. Coordinate this program with private land trusts, state agencies, and federal programs.

6. Adopt a memorandum of agreement with the Washington State Department of Natural Resources outlining the roles and responsibilities of Whatcom County and the Department of Natural Resources with regard to regulating forest practice activities in Whatcom County.

7. Develop criteria and best management practices for establishing minimum fire prevention measures for development that takes place outside of a fire district boundary.

8. Consider amendments to the Commercial Forestry Zone (WCC 20.43) to reduce the minimum parcel size to 80 acres and to provide criteria for constructing one single-family residence per lot of record while protecting the forest resource.

Within seven years, complete the following item:

9. Formally review designations of productive forest land to determine if changes are necessary to meet forest land designation criteria.

**Mineral Resources**

1. Investigate the problems associated with inactive and non-permitted mining sites and work with the appropriate government agencies to resolve such problems.

2. Encourage mineral extraction operators in the county to voluntarily provide resource use information to nearby landowners, and to develop a good neighbor policy.

3. Make regulatory processes more efficient and timely, while protecting the land use rights of those affected.
4. Implement a surface mining regulatory program, consistent with the comprehensive plan, that addresses those areas where there is a conflict between land uses. Maintain an ongoing advisory committee consisting of representatives of diverse interests.

5. Develop and/or implement standards that optimize the life cycles of roads, bridges, and buildings, favoring durability over low, initial cost. Such standards can include improved road sub-base preparation (better compaction), thicker road bases, reinforcement, alternative materials, and concrete surfaces for some applications.

6. Encourage the use of alternative materials through educational programs.

7. Develop a program for use of alternative methods and materials in County projects.

8. The Mineral Resource Land map designations and/or designation criteria should be reviewed at least once every seven years to determine if changes are necessary to meet mineral resource goals and policies. Such review should include consideration of the removal of land from Mineral Resource Designation after mining activity is completed and the addition of new designations in order to maintain a 50-year supply of mineral resources. Review may occur through subarea plan updates provided a complete review will occur within the seven year time frame.

9. Investigate and implement methods to reduce inefficient uses of high quality gravel deposits.

10. Budget for and update the Aggregate Resource Inventory study to document the short and long range availability and location of quality mineral resources, to be completed by 2010.

11. Support and encourage legislation streamlining regulatory processes and other actions to encourage appropriate utilization of gravel from the Nooksack drainage as a resource where appropriate and a method to stabilize and/or reduce flooding events and/or reduce the loss of agricultural land to erosion.