

SECTION 9: NATURAL RESOURCES

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I. PURPOSE

The purpose of this section is to identify existing natural resources which comprise the physical environment of the Meadow Vista area and develop goals and policies to allow for their preservation, use, and enhancement. The majority of technical data and descriptive information relating to each of the following sections is contained in the Plan's EIR.

Any discussion of the conservation of natural resources acknowledges that resources are both finite and renewable. Conservation is the planned management of a natural resource to prevent

exploitation, destruction, or neglect. The wise use of these resources depends on the willingness to accept their importance and limitations. There are several resource constraints which, when viewed individually or together as a composite, represent impediments to the use of land, water and air. Policies and implementation programs contained in this section will allow for the necessary compromise in the competition for limited resources while implementing policies contained in other sections of this Community Plan and accommodating expected growth.

II. GOALS, POLICIES, AND IMPLEMENTATION PROGRAMS

GOALS AND POLICIES

Vegetation

Goal 9.A: To preserve and protect the valuable vegetation resources of Meadow Vista. [Goal 6.D]

Policies

- 9.A.1. The County shall encourage landowners and developers to manage the integrity of existing terrain and native vegetation in visually-sensitive areas such as hillsides, ridges, and along important transportation corridors consistent with fire safety standards. (Note: See also fire safe standards, Goal 5.H., and related Policies.) [6.D.1, 12/30]
- 9.A.2. The County shall require developers to use native and compatible non-native species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permits or for project mitigation. [6.D.2.]
- 9.A.3. The County shall support the conservation of a healthy forest including outstanding areas of native vegetation, including, but not limited to, open meadows, oak woodlands, riparian areas, and stands of Sugar Pines. [6.D.3., 12/30]
- 9.A.4. The County shall ensure that landmark trees and major groves of native trees are preserved and protected. In order to maintain these areas in perpetuity, protected areas shall also include younger vegetation with suitable space for growth and reproduction. [6.D.4.]
- 9.A.5. The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. [6.D.5.]
- 9.A.6. The County shall ensure the conservation of sufficiently large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife. [6.D.6.]
- 9.A.7. The County shall support the management of wetland and riparian plant communities and forest-woodland (e.g. Sugar Pine stands, blue oak woodlands, and valley oak stands) for passive

recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored to a healthy forest environment or expanded, where possible. [6.D.7., 12/30]

- 9.A.8. The County shall require that new development protect, restore, rehabilitate, and manage the native forest-woodlands to the maximum extent possible. [6.D.8., 12/30]
- 9.A.9. The County shall require that development on hillsides be limited to maintain valuable native forest vegetation, and to control erosion. [6.D.9., 12/30]
- 9.A.10. The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained. [6.D.10.]
- 9.A.11. The County shall support the continued use of prescribed burning and other methods of brush suppression to mimic the effects of natural fires to reduce fuel volumes and associated fire hazard to human residents and to enhance the health of biotic communities. [6.D.11., 12/30]
- 9.A.12. The County shall support the preservation of native trees and the use of native, seed sources and such seedlings, drought-tolerant plant materials in all revegetation/landscaping projects. [6.D.13, 12/30]
- 9.A.13. The County shall require that new development avoid, as much as possible, ecologically-fragile areas (e.g., areas of rare or endangered species of plants, riparian areas). Where feasible, these areas and heritage trees should be protected through public acquisition of fee title or conservation easements to ensure protection. [6.D.14., 12/30]

Water Resources

Goal 9.B: To protect and enhance the natural qualities of Placer County's streams, creeks and groundwater. [6.A]

Policies

- 9.B.1. The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams as specifically shown on Figure 9.2, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species (see discussion of sensitive habitat buffers in Part I of the PCGP). Based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. In addition, the County may allow exceptions, such as in the following cases:
 - a. Reasonable use of the property would otherwise be denied;
 - b. The location is necessary to avoid or mitigate hazards to the public;
 - c. The location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or
 - d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement. [(6.A.1.)]
- 9.B.2. The County shall require that any permitted development in the 100-year floodplain comply with the provisions of the *Placer County Flood Damage Prevention Ordinance*. [6.A.2.]

- 9.B.3. The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:
- a. Avoid the disturbance of riparian vegetation;
 - b. Replace riparian vegetation (on-site, in-kind);
 - c. Restore another section of creek (in-kind), and/or;
 - d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program). [6.A.3.]
- 9.B.4. Where creek protection is required or proposed, the County should require public and private development to:
- a. Preserve creek corridors and creek setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development) shall be located to optimize resource protection. If a creek is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;
 - b. Designate such easement or dedication areas (as described in a. above) as open space;
 - c. Protect creek corridors and their habitat value by actions such as: 1) providing an adequate creek setback, 2) maintaining creek corridors in an essentially natural state, 3) employing creek restoration techniques where restoration is needed to achieve a natural creek corridor, 4) utilizing riparian vegetation within creek corridors, and where possible, within creek setback areas, 5) prohibiting the planting of invasive, non-native plants (such as vinca major and eucalyptus) within creek corridors or creek setbacks, and 6) avoiding tree removal within creek corridors;
 - d. Provide recreation and public access near creeks consistent with other *General Plan* policies;
 - e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas are stabilized with permanent vegetation that will prevent the transport of sediment off site; and/or 2) temporary vegetation is established sufficient to stabilize disturbed areas, and;
 - f. Provide for long-term creek corridor maintenance by providing a guaranteed financial commitment to the County which accounts for all anticipated maintenance activities. [6.A.4.]
- 9.B.5. The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities. [6.A.5.]
- 9.B.6. The County shall require that natural watercourses are integrated into new development in such a way that they are accessible to the public and provide a positive visual element. [6.A.6.]
- 9.B.7. The County shall prohibit grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat. [6.A.7.]
- 9.B.8. Where the stream environment zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities. [6.A.8.]

- 9.B.9. The County shall require that newly-created parcels include adequate space outside of watercourses' setback areas to ensure that property owners will not place improvements (e.g., pools, patios, and appurtenant structures), within areas that require protection. [6.A.9.]
- 9.B.10. The County shall encourage the preservation and protection of open space located in watersheds which serve reservoirs due to its importance in the adequate performance of those reservoirs for their intended purposes.
- The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect. For Meadow Vista, this includes Combie Lake watershed and the Lake Arthur/Lake Theodore watershed. [6.A.11, 12/30]
- 9.B.11. The County shall encourage the protection of floodplain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation. [6.A.12]
- 9.B.12. The County shall establish a water well monitoring program in areas with known or potential water quality problems or reduced yields and take action to mitigate water quality problems and review development proposals in low water yield areas. [1.6]
- 9.B.13. The County shall improve water quality by eliminating existing water pollution sources and by prohibiting activities which include the use of hazardous materials around wetland and groundwater recharge areas. [1.10, 12/30]

[See also policies/programs under Goal 5.E.; Stormwater Drainage; and Goal 5.F., Flood Protection.]

Wetland and Riparian Areas

Goal 9.C: To protect wetland communities and related riparian areas throughout Meadow Vista as valuable resources. [Goal 6.B, 12/30]

Policies

- 9.C.1. The County shall support the "no net loss" policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. [6.B.1.]
- 9.C.2. The County shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands to achieve "no net loss" through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource; or (3) compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas. [6.B.2.]
- 9.C.3. ~~The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.~~ [6.B.3.]
- 9.C.4. The County shall strive to identify and conserve remaining upland habitat areas adjacent to wetlands and riparian areas that are critical to the survival and nesting of wetland and riparian species. [6.B.4.]

- 9.C.5. The County shall require development that may affect a wetland to employ avoidance, minimization, and/or compensatory mitigation techniques. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site, and in-kind mitigation shall be preferred to out-of-kind; (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan; and (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied, including compensation for temporal losses. The County shall continue to implement and refine criteria for determining when an alteration to a wetland is considered a less-than-significant impact under CEQA. [6.B.5.]

Fish and Wildlife Habitat

Goal 9.D: To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels. [Goal 6.C]

Policies

- 9.D.1. The County shall identify and protect significant ecological resource areas and other unique wildlife habitats critical to protecting and sustaining wildlife populations. Significant ecological resource areas include the following:
- a. Wetland areas including vernal pools.
 - h. Stream environment zones.
 - c. Any habitat for rare, threatened or endangered animals or plants.
 - d. Critical deer winter ranges (winter and summer), migratory routes and fawning habitat.
 - e. Large areas of non-fragmented natural habitat, including Sugar Pine stands, Oak Woodlands, and Valley Foothill Riparian.
 - f. Identifiable wildlife movement zones, including but not limited to, non-fragmented stream environment zones, avian and mammalian migratory routes, and known concentration areas of waterfowl within the Pacific Flyway.
 - g. Important spawning areas for anadromous fish. [6.C.1.*]
- 9.D.2. The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained. [6.C.2.]
- 9.D.3. The County shall require the control of residual pesticides to prevent potential damage to water quality, vegetation, and wildlife. [6.C.3., 12/30]
- 9.D.4. The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by California Department of Fish and Game officials, the U.S. Fish and Wildlife Service, and the Placer County Resource Conservation District. [6.C.4.]
- 9.D.5. The County shall support preservation of the habitats of rare, threatened, endangered, and/or other special status species. Federal and state agencies, as well as other resource conservation organizations, shall be encouraged to acquire and manage endangered species' habitats. [6.C.6.]
- 9.D.6. The County shall support the maintenance of suitable habitats for all indigenous species of wildlife, without preference to game or non-game species, through maintenance of habitat diversity. [6.C.7.]
- 9.D.7. The County shall support the preservation or reestablishment of fisheries in the rivers and streams within Meadow Vista, whenever possible. [6.C.8., 12/30]

- 9.D.8. The County shall require new private or public developments to preserve and enhance existing native riparian habitat unless public safety concerns require removal of habitat for flood control or other public purposes. In cases where new private or public development results in modification or destruction of riparian habitat for purposes of flood control, the developers shall be responsible for acquiring, restoring, and enhancing at least an equivalent amount of like habitat within or near the project area. [6.C.9.]
- 9.D.9. The County will use the California Wildlife Habitat Relationships (WHR) system as a standard descriptive tool and guide for environmental assessment in the absence of a more detailed site-specific system. [6.C.10.]
- 9.D.10. The County shall cooperate with, encourage, and support the plans of other public agencies to acquire fee title or conservation easements to privately-owned lands in order to preserve important wildlife corridors and to provide habitat protection of California Species of Concern and state or federally listed rare, threatened, or endangered plant and animal species. [6.C.12.]
- 9.D.11. The County shall support and cooperate with efforts of other local, state, and federal agencies and private entities engaged in the preservation and protection of significant biological resources from incompatible land uses and development. Significant biological resources include endangered, threatened, or rare species and their habitats, wetland habitats, wildlife migration corridors, and locally-important species/communities. [6.C.13.]

Open Space for the Preservation of Natural Resources

Goal 9.E: To preserve and enhance open space lands to maintain the natural resources of the county. [Goal 6.E]

Policies

- 9.E.1. The County shall support the preservation and enhancement of natural land forms, native vegetation, and natural resources as open space to the maximum extent feasible. The County shall permanently protect, as open space, areas of natural resource value, including Sugar Pine stands, open meadows, mixed conifer forests, wetlands preserves, riparian corridors, oak woodlands, and floodplains. [6.E.1., 12/30]
- 9.E.2. The County shall require that new development be designed and constructed to protect, enhance, rehabilitate, and restore the following types of areas and features as open space to the maximum extent feasible:
- a. To return to the pre-settlement features of natural open stands of Sugar Pine and other mixed conifers;
 - b. High erosion hazard areas;
 - c. Scenic and trail corridors;
 - d. Streams, streamside vegetation;
 - e. Wetlands;
 - f. Other significant stands of vegetation;
 - g. Wildlife corridors, and;
 - f. To coordinate open space desires with the fuel break system needs for public safety fire protection and access to manage wildfires. [6.E.2., 12/30]
- 9.E.3. The County shall support the maintenance of open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement, and sustain ecosystems. [6.E.3.]

- 9.E.4. The County shall encourage either private or public ownership and maintenance of open space. [6.E.4., 12/30]
- 9.E.5. The County shall coordinate with local, state, and federal agencies and private organizations to establish visual and physical links among open space areas to form a system that, where appropriate, includes trails. Dedication of easements shall be encouraged, and in many cases, required as lands are developed and built.
- 9.E.6. The County shall encourage the preservation of open space so as to enhance developed areas as well as to maintain the rural character of the area and clear boundaries of the community. [6.E.5.]
- 9.E.7. The County shall prohibit the extraction of natural resources, except for water, from areas of dedicated open space except as meets resource management planning that protects, rehabilitates, maintains and enhances the natural characteristics of such resources (i.e. fire protection, flood prevention, etc.). [1.3, 12/30]
- Goal 9.F:** To preserve, as much as possible, open space lands to maintain the natural resources and rural characteristics of the area, and to protect wildlife habitats and other areas of major or unique ecological significance.

Policies

- 9.F.1. The County shall encourage the preservation and enhancement of natural open space within the riparian areas of the water courses and drainage ways as one means of minimizing the adverse effects of land development upon the chemical and physical quality of waters therein. [3.2]
- 9.F.2. The County shall require that natural open space buffers be maintained in non-riparian areas adjacent to drainage swales and creeks to reduce erosion and to aid in the natural filtration of run-off waters flowing into these waterways. [3.3]
- 9.F.3. The County shall, in cooperation with the Resource Conservation District, identify those segments of watersheds and wetlands affecting waterways important to water resource protection which are in need of rehabilitation through revegetation and implement a plan for same. Wherever development removes vegetation important to watersheds, require as a part of the environmental review process that revegetation methodologies for watershed protection be identified and implemented. [3.10]
- 9.F.4. The County shall encourage the retention and/or creation of open space in Meadow Vista. No land owner should be forced to sell or grant easements for open space purposes except as a condition of project approval and/or where a public safety concern exists.

Goal 9.G: To preserve and enhance open space for outdoor recreation purposes.

Policies

- 9.G.1. The County shall identify and encourage the development of recreation facilities compatible with the Plan area's rural lifestyle and environment. [4.1]
- 9.G.2. The County shall encourage the development of the recreation and open space potential of all water features, including reservoirs, natural streams and other waterways. [4.4]
- 9.G.3. The County shall encourage open spaces to be linked visually and physically as much as possible to form a system of open spaces and recreational uses. Where appropriate, trails shall connect open space areas. Dedication of easements shall be encouraged or required as lands are developed and built. [4.5]

9.G.4. The County shall encourage Nevada Irrigation District to improve access to and increase the recreational use of Combie Lake. [2/9]

GOAL 9.H: To preserve and enhance open space lands for health and safety purposes.

Policies

9.H.1. The County shall require that areas hazardous to public safety and welfare be open or predominantly open. This category includes:

- a. Areas subject to landslide or with severe slope stability problems.
- b. Streams and other areas subject to flooding from a 100-year storm.
- c. Areas with extreme and high fire risk. [5.1, 12/30]

Goal 9.I: To preserve and enhance open space lands for resource production purposes.

Policies

9.I.1. The County shall encourage the preservation of agricultural lands as regional open space, and protect these areas from urban encroachments. [6.1]

9.I.2. The County shall assure that removal of economic mineral resources does not conflict with surrounding land uses or the stated desire for maintaining the natural environment. [7.2]

9.I.3. The County shall assure the removal of biomass and other commercial forest products is done under resource management planning and does not conflict with surrounding land uses or the state desire for maintaining the natural environment. [12/30]

Soils

GOAL 9.J: To promote the conservation of soils as a valuable natural resource.

Policies

9.J.1. The County shall support and encourage existing special district, state, and federal soil conservation and restoration programs. [1.2]

9.J.2. The County shall require slope analysis maps during the environmental review process or at the first available opportunity of project review to judge future grading activity, building location impacts, and road construction impacts. [1.3]

Geology

Goal 9.K: To minimize the loss of life, injury, and property damage due to seismic and geological hazards. [8.A]

Policies

9.K.1. The County shall require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., ground shaking, landslides, liquefaction, critically expansive soils, avalanche). [8.A.1.]

9.K.2. The County shall require submission of a preliminary soils report, prepared by a registered civil engineer and based upon adequate test borings, for every major subdivision and for each individual lot where critically expansive soils have been identified or are expected to exist. [8.A.2.]

- 9.K.3. The County shall prohibit the placement of habitable structures or individual sewage disposal systems on or in critically expansive soils unless suitable mitigation measures are incorporated to prevent the potential risks of these conditions. [8.A.3.]
- 9.K.4. The County shall ensure that areas of slope instability are adequately investigated and that any development in these areas incorporates appropriate design provisions to prevent landsliding. [8.A.4.]
- 9.K.5. In landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems; removal of vegetative cover; and steepening of slopes and undercutting the bases of slopes. [8.A.5.]
- 9.K.6. The County shall require the preparation of drainage plans for development in hillside areas that direct runoff and drainage away from unstable slopes. [8.A.6.]
- 9.K.7. In areas subject to severe groundshaking, the County shall require that new structures intended for human occupancy be designed and constructed to minimize risk to the safety of occupants. [8.A.7.]
- 9.K.8. The County shall continue to support scientific geologic investigations which refine, enlarge, and improve the body of knowledge on active fault zones, unstable areas, severe groundshaking, avalanche potential, and other hazardous conditions in Placer County. [8.A.8.]
- 9.K.9. The County shall require that the location and/or design of any new buildings, facilities, or other development in areas subject to earthquake activity minimize exposure to danger from fault rupture or creep. [8.A.9.]
- 9.K.10. The County shall require that new structures permitted in areas of high liquefaction potential be sited, designed, and constructed to minimize the dangers from damage due to earthquake-induced liquefaction. [8.A.10.]
- 9.K.11. The County shall limit development in areas of steep (in excess of 30%) or unstable slopes to minimize hazards caused by landslides or liquefaction [8.A.11., 2/9]
- 9.K.12. The County shall require septic leachfields and drainage plans during the environmental review process to direct runoff and drainage away from steep and/or unstable slopes. [1.3]

Air Quality

- Goal 9.L:** To minimize particulate and non-particulate air pollution and protect the public's health.
- 9.L.1. The County shall limit wood stoves in new construction or renovations to EPA-certified wood stoves or fireplace inserts.
 - 9.L.2. The County shall encourage lesser-polluting forms of heating such as pellet stoves, active and passive solar heat, natural gas, or heat pumps.
 - 9.L.3. The County shall encourage the Air Pollution Control District to establish a buy-back program for older, non-certified wood burning stoves.
 - 9.L.4. The County shall discourage open burning of leaves (except leaves still attached to branches).
 - 9.L.5. The County shall encourage reuse or alternative disposal of brush and wood, including use as firewood, chipping followed by the use as mulch, compost, or biomass.

- 9.L.6. In new residential construction, the County shall encourage installation of electrical power to accommodate recharging of electric vehicles.
- 9.L.7. The County shall encourage (through elimination of building code barriers, where possible) alternative energy-efficient housing.
- 9.L.8. The County shall encourage public education programs relative to the use of methods other than outdoor burning for disposal of leaves and vegetative material and use of fuel efficient wood stoves.

IMPLEMENTATION PROGRAMS

General

1. Review development projects for compliance with the goals, policies, and specific discussions contained in the Natural Resources Section and throughout the Plan.

Responsible Agency/Department: Land Development Departments/Meadow Vista MAC/Planning Commission/Board of Supervisors

Time frame: Ongoing

Funding: Application fees

Vegetation

2. A mitigation monitoring plan for a minimum of two years shall be required for all oak tree replacement areas proposed as part of land development projects to ensure an 80% success ratio of all new plantings. Revegetation plans shall focus on creating habitat in addition to replacing trees.

Responsible Agency/Department: Planning Department

Time Frame: On-going

Funding: Permit Fees

3. Site specific wetlands delineation surveys utilizing Army Corps of Engineers' criteria shall be required for all new development proposals. All development proposals involving wetlands shall be coordinated with the Department of Fish and Game, Army Corps of Engineers, and U.S. Fish and Wildlife Service. To ensure that a no-net-loss policy is maintained.

Responsible Agency/Department: Planning Department/Trustee Agencies

Time Frame: On-going

Funding: Permit Fees

4. A minimum 100' non-development setback from the centerline of all perennial streams, and a minimum 50' setback from the centerline of intermittent streams, or the outermost limits of the future, fully developed 100-year floodplain, whichever is greater, are required for all new development projects. These areas shall include all riparian vegetation and shall preclude all structures, including pools, spas, gazebos, decks etc., non-native landscaping, tree removal, night lighting, fencing interfering with significant wildlife corridors, and grading. In addition, deed restrictions in the form of easements shall be placed on these setback areas to protect them in perpetuity.

Responsible Agency/Department: Planning Department

Time Frame: On-going

Funding: Permit Fees

5. Implement the Stream Management Guidelines (adopted, 1992) and a wetland banking program when adopted.

Responsible Agency/Department: Department of Public Works/Planning Department/Department of Fish & Game/U.S. Army Corps of Engineers

Time frame: Ongoing

Funding: General Fund/Mitigation fees

6. During the review of future development proposals, require site-specific field surveys wherever the habitat of special-status plant or animal species is known to exist. Said surveys should be conducted by qualified professionals and a report prepared evaluating the site's vegetative and wildlife values.

Responsible Agency/Department: Planning Department

Time Frame: On-going

Funding: Permit Fees

7. Maintain large parcel sizes to minimize the fragmentation of oak woodlands, wetlands, and other plant and animal habitats, etc.

Responsible Agency/Department: Planning Department

Time Frame: On-going

Funding: Permit Fees

8. Maintain large parcel zoning for agricultural uses to protect existing grazing lands.

Responsible Agency/Department: Planning Department

Time frame: As a part of the A/BCP update

Funding: General Fund

9. Assist the Resource Conservation District and California Department of Forestry and Fire Protection in implementing their Meadow Vista Area Resource Plan. Assistance could be in the form of distribution of the Area Resource Plan or summary brochures and other methods to educate the public on managing the forest in the Meadow Vista area.

Responsible Agency/Department: Planning Department

Time frame: Ongoing

Funding: General Fund

Water Resources

9. In consultation with the Placer County Flood Control District, cities in the county, and downstream counties, the County shall develop guidelines for creek maintenance practices that ensure native vegetation is not removed unnecessarily. These guidelines should also ensure that maintenance is scheduled to minimize disruption of wildlife breeding practices.

Responsible Agency/Department: Flood Control District/Resource Conservation District/Planning Department/Open Space Committee

Time Frame: FY 95-96

Funding: General Fund

10. The County shall inform the public and prospective developers about those sections of the *California Fish and Game Code* that apply to diversion or obstruction of stream channels and pollution of waterways with detrimental material. This shall be done through distribution of educational materials with building permits and as a part of project review.

Responsible Agency/Department: Planning Department/Building Department

Time Frame: Ongoing

Funding: Permit fees

11. As funding permits, the Division of Environmental Health will work with water well drilling contractors and others with useful information to study the quality of groundwater in the Plan area. This information will be used to develop and implement a formal groundwater quality management plan with emphasis upon such pollutants as elevated nitrate and coliform bacteria levels and the cause of any elevated levels discovered.

Responsible Agency/Department: Division of Environmental Health

Time frame: As funding permits

Funding: Permit fees

12. In compliance with the Uniform Plumbing Code, Section 1001, in areas of potential groundwater contamination (such as heavily fertilized agriculture), the County will seek to require bacteriological, and in appropriate instances chemical, analyses of well water prior to building permit issuance.

Responsible Agency/Department: Division of Environmental Health

Time frame: Ongoing

Funding: Permit fees

13. Modify existing ordinances regulating land development activities to incorporate and formalize policies related to land use, grading operations, and vegetation removal adjacent to all drainageways, canals and significant water features.

Responsible Agency/Department: Planning Department/Department of Public Works/Division of Environmental Health/Board of Supervisors

Time frame: Ongoing

Funding: General Fund

14. Prepare and adopt a stream management plan and ordinance to protect and enhance waterways and stream channels.

Responsible Agency/Department: Planning Department/Resource Conservation District/Department of Public Works/Placer County Flood Control and Water Conservation District

Time frame: 1995

Funding: General Fund

15. Develop brochures and other methods to educate the public and developers regarding the potential impacts of development on drainage, flooding, and water quality.

Responsible Agency/Department: Department of Public Works/Placer County Flood Control and Water Conservation District/Division of Environmental Health

Time frame: Ongoing

Funding: General Fund

Fish & Wildlife

16. Prior to approval of discretionary development permits involving parcels within a significant ecological resource area, the County shall require, as part of the environmental review process, a biotic resources evaluation of the sites by a wildlife biologist, the evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of rare, threatened, or endangered species of plants or animals. Such evaluation will consider the potential for significant impact

on these resources, and will identify feasible measures to mitigate such impacts or indicate why mitigation is not feasible. In approving any such discretionary development permit, the decision making body shall determine the feasibility of the identified mitigation measures.

Significant ecological resource areas shall, at a minimum, include the following:

- a. Wetland areas including vernal pools.
- b. Stream environment zones.
- c. Any habitat for rare, threatened or endangered animals or plants.
- d. Critical deer winter ranges (winter and summer), migratory routes and fawning habitat.
- e. Large areas of non-fragmented natural habitat, including Sugar Pine stands, Blue Oak Woodlands, Mixed Conifer Forests, Valley Oak stands, Valley Foothill Riparian, vernal pool habitat.
- f. Identifiable wildlife movement zones, including but not limited to, nonfragmented stream environment zones, avian and mammalian migratory routes, and known concentration areas of waterfowl within the Pacific Flyway.
- g. Important spawning areas for anadromous fish. [6.C.11.]

Responsible Agency/Department: Planning Department

Time frame: Ongoing

Funding: Application fees

17. Designate parcels of 2.5 to 5 acres or larger in open woodland areas.

Responsible Agency/Department: Planning Department

Time frame: As a part of the MVCP update

Funding: General Fund

18. Make the public aware of the sections of the Fish and Game Code which apply to diversion or obstruction of stream channels and pollution of waterways with detrimental material through educational materials distributed with building permits and as a part of project review.

Responsible Agency/Department: Planning Department/Department of Public Works

Time frame: Ongoing

Funding: General Fund

19. Include mitigation measures for new development projects adopted pursuant to the Department of Fish and Game's Streambed Alteration Agreements and permits issued under Section 404 of the Federal Clean Water Act.

Responsible Agency/Department: Development Review Committee

Time Frame: On-going

Funding: Permit Fees

Open Space

20. Encourage PUDs where appropriate as a tool to preserve environmentally sensitive open space areas.

Responsible Agency/Department: Planning Department

Time Frame: On-going

Funding: Permit Fees

21. Use specific zoning classification to implement appropriate land use development criteria including minimum parcel size, setbacks, height restrictions, maximum lot coverage and limitations on the use of land.

Responsible Agency/Department: Planning Department
Time frame: As part of the MVCP update
Funding: General Fund

22. Require appropriate conditions of approval to provide open space where appropriate as a component of the land development review procedure.

Responsible Agency/Department: Development Review Committee
Time frame: Ongoing
Funding: Permit fees

23. Require dedication of open space easements where appropriate within development projects to preserve and protect open space resources.

Responsible Agency/Department: Development Review Committee
Time frame: Ongoing
Funding: Permit fees

24. Adopt an ordinance requiring the dedication of open space lands or payment of open space mitigation fees where appropriate to provide and maintain open space consistent with the park standard requiring five acres of passive park land for every 1000 persons. The existing park land dedication standard of 5 acres per 1000 people (for active recreation only) shall remain until a revised ordinance is adopted.

Responsible Agency/Department: Planning Department/County Parks Department
Time frame: 1995/96
Funding: General Fund

25. Require the preparation of a reclamation plan for all surface mining operations to assure land use conflicts are minimized, to protect the natural environment, and to achieve other requirements as specified in Zoning Ordinance Section 15.780, Surface Mining and Reclamation.

Responsible Agency: Planning Department
Time frame: Ongoing
Funding: Permit fees/plan review fees

Soils

25. During the review of private development projects, site specific studies shall be prepared including soil reports, slope analysis, grading plans, and erosion control and rehabilitation plans during environmental review, or at the first available opportunity, as needed.

Responsible Agency/Department: Development Review Committee
Time Frame: On-going
Funding: Permit Fees/Plan Review Fees

26. Through environmental review and project approval, avoid development on highly erosive soils and slopes over 15%, if possible. Where development does occur in these areas, require the application of BMPs.

Responsible Agency/Department: Development Review Committee
Time frame: Ongoing
Funding: Permit fees

27. Desirable development densities on steep slopes are large-lot rural residential uses (5+ acres), or higher densities (PUDs) clustered to avoid impact areas.

Responsible Agency/Department: Planning Department
Time frame: As part of the MVCP update
Funding: General Fund

28. Continue the program of monitoring mitigation measures that relate to accelerated erosion and attendant problems. Arrange with public agencies and/or acceptable consultants to assist in implementing the mitigation monitoring program.

Responsible Agency/Department: Department of Public Works
Time frame: Ongoing
Funding: Permit fees

29. Require Best Management Practices of the Placer County Resource Conservation District and the USDA Soil Conservation Service through developer participation, discretionary fees, general fund monies, etc.

Responsible Agency/Department: Department of Public Works
Time frame: Ongoing
Funding: Permit Fees/General Fund

Geology

30. Require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., groundshaking, landslides, liquefaction, critically expansive soils).

Responsible Agency/Department: Department of Public Works
Time Frame: On-going
Funding: Permit Fees/Plan Review Fees

31. Continue to enforce the Placer County Grading Ordinance to ensure that areas of slope instability are adequately investigated and that any development incorporates appropriate design provisions to prevent landsliding.

Responsible Agency/Department: Department of Public Works
Time Frame: On-going
Funding: Permit Fees/Plan Review Fees

32. Require the preparation of drainage plans that direct runoff and drainage away from unstable slopes for construction in hillside areas.

Responsible Agency/Department: Department of Public Works
Time Frame: On-going
Funding: Permit Fees/Plan Review Fees

33. Enforce the Uniform Building Code for seismic concerns, including masonry building design requirements.

Responsible Agency/Department: Building Department
Time frame: Ongoing
Funding: Permit fees

Air Quality

34. Opportunities exist during discretionary project review to analyze air quality impacts and apply appropriate mitigation measures in compliance with PCAPCD's 1991 Air Quality Attainment Plan. In order to ensure

that the requirement of an air quality analysis and application of mitigation measures are consistently applied to projects with significant air quality impacts, the APCD has established project size/type thresholds. Development projects with air quality impacts below the threshold limit will not be required to produce an air quality analysis, however the project will be subject to APCD's standard project conditions.

Responsible Agency/Department: Air Pollution Control District

Time Frame: On-going

Funding: Permit Fees

35. Apply mitigation measures during the review of projects from a list developed by the APCD. The list includes measures related to project design/construction, traffic flow improvements, public/private trip reduction programs, parking, ridesharing, telecommunications, alternative transportation, transit, and bicycle/pedestrian use.

Responsible Agency/Department: Air Pollution Control District

Time Frame: On-going

Funding: Permit Fees and AB2766 Fees

36. Review development project proposals for compliance with the County's Trip Reduction Ordinance.

Responsible Agency/Department: Department of Public Works

Time frame: Ongoing

Funding: Permit fees

III. DISCUSSION

1. Vegetation

1.1 Sensitive Natural Communities and Wildlife Habitats

The term "sensitive natural community" refers to those communities that are regionally diverse, are uncommon, or have been identified as a sensitive resource issue by local, state, or federal agencies. In the Plan area, riparian and stream habitat, valley oak woodland, and wetlands are considered sensitive natural communities. These sensitive natural communities are given special consideration because they provide important ecological functions, including providing water quality maintenance, streambank stabilization, and essential habitat for wildlife and fisheries resources (the Plan's EIR contains information about specific species of wildlife and fish within the Plan area). Additionally, because of development activities, the distribution of these plant communities is limited locally and throughout California (compared to historical distribution). For these reasons, sensitive natural communities are

afforded special protection or consideration under federal, state, and county laws and policies.

1.1.1 Wetlands (Wetlands include a variety of communities that are characterized by hydrophytic vegetation [water-loving plants], hydric soils, and wetland hydrology.)

Natural wet meadows and artificially created wetlands and ponds occur throughout the Plan area (Figure 9.1). Wetland communities located in the Plan area include marshes, wet meadows, ponds, and seasonal wetlands. These plant communities generally include a combination of such species as cattail, spike rush, rush, sedge, pond weed, curly dock, common streamside monkeyflower, creeping wildrye, fescue, and deer grass.

Policies contained in the Plan state that avoidance and protection of wetlands should be a first priority, and where avoidance is not possible, wetland disturbance should be mitigated with in-kind, on-site resources.

When on-site mitigation is not feasible, the County has determined that "mitigation shall occur at designated wetland mitigation bank sites once a wetland mitigation banking program has been established." In addition, Plan policies strive to reduce degradation of wetlands by either prohibiting or limiting the effects of disposal of trash or toxic fluids, alteration or development of surrounding watersheds that sustain seasonal runoff to wetlands, and improper use of motorized or non-motorized vehicles in wetland areas.

1.1.2 Riparian and Stream Habitat

Riparian communities develop in areas with high water tables or areas that support seasonal or perennial surface water. In the Plan area, riparian communities occur along perennial and seasonal streams, ponds, low-lying swales in irrigated pastureland, and the shore of Lake Combie. Based on limited field observations, the highest quality (i.e., multilayered vegetation) riparian habitat appears to occur along Wooley Creek and a tributary of Wooley Creek that runs parallel to Placer Hills Road.

Mixed riparian forest and willow scrub are the primary types of riparian communities identified in the Plan area. Riparian communities that occur along streams in the Plan area are presented in Figure 9.2.

1.1.3 Valley Oak Woodland

Valley oak woodland occurs as narrow bands along drainages and as clusters in drainage floodplains in the Plan area (Figure 9.1). In some regions of the Plan area, valley oak woodland would be characterized more appropriately as a valley oak riparian habitat based on its location along drainages. Examples of this sensitive community in the Plan area occur just north of Lake Arthur and at the southwest corner of the Volley Road/Combie Road intersection.

Valley oak woodland is dominated by large valley oaks and sometimes contains interspersed interior live oak. The understory is dominated by annual grassland species or perennial pasture grasses. Valley oak woodland is considered a sensitive natural community because it is locally and regionally uncommon.

Under the Placer County Tree Ordinance, all native trees (with the exception of Foothill [Digger] Pines) are considered important resources and are therefore

covered under the ordinance (i.e., a tree permit and mitigation may be required by the County for removal of native trees from these communities).

1.2 Common Natural Communities

Common natural communities are native or naturalized habitats that have not been altered by farming or other extreme land disturbance. Common natural communities that occur in the Plan area include yellow pine forest, foothill woodland, mixed chaparral, and grassland (Figure 9.1). A complete description of these common natural communities is contained in the Plan's EIR. These communities are common in the region and throughout northern California and are therefore not considered sensitive. However, yellow pine forest and foothill woodland, are considered important resources by Placer County and are therefore covered under the Placer County Tree Protection Ordinance.

2. Water Resources

Seasonal and perennial streams and drainages located in the Plan area are shown in Figure 9.2. Protecting these waterways from any disturbance will also protect water quality, wildlife, and riparian vegetation for future generations to enjoy and appreciate. Thus, the Plan includes policies which require new development to be setback a minimum 100' from the centerline of perennial streams, and 50' from seasonal streams or the outermost limits of the 100-year floodplain.

In addition, approximately 102 acres have been included in the Riparian Drainage land use designation designed to identify the major riparian creek corridors located in the Plan area.

3. Special-Status Plant and Wildlife Species

Special-status species are plants and animals legally protected under the state and federal Endangered Species Acts (ESAs) or other regulations and species considered sufficiently rare by the scientific community to qualify for such listing. The Plan's policies and implementation programs require the protection of these species and their habitat by means of identification and avoidance.

3.1 Special-Status Plants

Based on a review of existing environmental documents and the Department of Fish and Game's (DFG) Natural Diversity Data Base (NDDC) (1994),

one special-status plant population (Sanborn's onion) has been reported in the Plan area. Sanborn's onion was located on the Winchester project site during a 1982 survey conducted for the Winchester development project. This species is considered rare but not endangered by the California Native Plant Society (CNPS) (List 4). No other special-status plants have been reported in the Plan area. However, because DFG is continually adding new locations into the NDDDB and because the Plan area has not been fully surveyed, other as-yet undiscovered special-status plant populations probably occur in the Plan area.

According to CNP's Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994), 36 special-status plants have the potential to occur in Placer County. Of these plants, 22 species have a low to high potential to occur in the Plan area. This assessment is based on the presence of potentially suitable habitat in the Plan area and distribution information on special-status plants in the region.

3.2 Special-Status Wildlife

Based on a review of DFG's NDDB (1994), no special-status wildlife species have been reported in the Plan area. However, intensive special-status wildlife species surveys have not been conducted in the Plan area; therefore, undiscovered special-status wildlife species could be present.

Based on known habitat requirements and distributions, 10 special-status wildlife species occur in the general region of the Plan area, but suitable or potential habitat exists for only five of these species (i.e., valley elderberry longhorn beetle [VELB], northwestern pond turtle, California horned lizard, Cooper's hawk, and yellow warbler). Suitable habitat (elderberries) for VELB has been identified in the Winchester project area.

4. Open Space

Open Space is any parcel or area of land or water essentially unimproved and/or designated for any of the following open space uses defined in Section 65560 of the Government Code: Open space for the preservation of natural resources; open space for the management and production of resources; open space for outdoor recreation, and; open space for health and safety. In addition, open space can be used to protect outstanding scenic and historic areas.

Meadow Vista contains a significant open space resource that is currently used for a variety of purposes, including agriculture, recreation, mineral resource extraction, and resource preservation. This Plan recognizes that open space is needed to create a sense of well being and a high quality of life. In order to use open space in community design, it must first be recognized. Once recognized, it should be incorporated into programs for the preservation of natural resources, managed for the production of resources, used for outdoor recreation, and set aside, where appropriate, for public health and safety.

Projects which can provide the greatest amount of benefit (i.e. broadest range of open space amenities) should be highest on the priority list for acquisition and development. Open space lands can be protected through a variety of measures available to Placer County which can be used to regulate the use of both public and private land. One such measure is Placer County's Planned Residential Development (PD) section of the Zoning Ordinance. PD projects are required to dedicate a minimum of 20% of the site to open space. Open space in PDs is more broadly defined to include common areas, recreation improvement (both public and any owned by a homeowners' association), areas transferred to public or non-profit land trusts for the preservation of environmental, cultural, or historical resources, and other areas subject to easements created by the PD that restrict residential development and which are left as open space or recreational land. Open space does not include roads, or undeveloped portions of subdivision lots held in the ownership of private individuals.

4.1 Preservation of Natural Resources

The primary focus of management for open space lands in this category is on preservation rather than resource production. These areas include land and water resources providing habitat for fish and wildlife species. The Plan's policies include establishment of nondevelopment setback buffers along the Plan area's perennial and intermittent streams and water bodies to protect these environmentally sensitive areas from development encroachment. In addition, Plan policies require the identification and avoidance, if possible, of other environmentally sensitive areas. Where avoidance is not possible, the Plan requires mitigation.

4.2 Management and Production of Resources

This classification includes significant sand and gravel or mineral extraction sites. These types of land are generally committed to long-term management for production of natural resources.

Areas along the Bear River and Lake Combie contain extensive high quality mineral resources; both hard rock, and silt, sand and gravel. These mineral resources have been mined in the area since 1946 by the Joe Chevreaux Company. The mineral resources in this area are of significant economic importance to Placer County. Therefore, much of the area is maintained as open space through placement of land use restrictions on property with the mineral resources, and on adjacent and nearby properties to acknowledge the existence of mineral resources and to put landowners on notice that mining is occurring on an on-going basis or will occur in the future.

4.3 Outdoor Recreation

This open space category recognizes public parklands, namely Meadow Vista's parks and public school properties. Also included are open space areas along major County roadways which provide a scenic drive and trail corridors.

4.4 Public Health and Safety

These open space areas include public agency water reservoirs, flood plains, and open space area along major County roadways which provide mitigation to some degree, for traffic noise.

5. Soils

Soil is defined as the aggregate of weathered minerals and decaying organic matter which covers the earth in a thin layer. Population pressures and a shrinking land base make knowledge of the potential and limitations of soil mandatory for all planning activities.

5.1 Soil Survey

According to the U.S.D. A. Soil Conservation Service (SCS) soils in the Meadow Vista community are within the Class VI Soil Region, meaning that the land is generally not suitable for cultivation but is best adapted to pasture woodland, or wildlife habitat. The reason for this is that there is a predominance of steep slopes, susceptibility to erosion, shallow soils and other unfavorable conditions. The SCS has also

placed the Meadow Vista area into the Nevns-Boomer-Sites mapping unit.

Soil of this region have undergone considerable erosion, particularly in the localities of the softer granite rocks, although the streams are deeply entrenched and very little recently deposited alluvium is present. The bulk of the soils are shallow with scattered amounts of clay loam, stoney clay loam and stoney loam. All of these generally display a low degree of porosity.

5.2 Erosion

Erosion is the gradual wearing away of soil. The degree to which erosion occurs depends on soil type, topography, climate, land use and vegetation. If an area experiences high intensity rainfall with precipitation rates in excess of the infiltration capacity of the soil this will produce large amounts of overland flow which will cause more erosion than gentle rains. Steep slopes cause runoff to move at a high velocity and thus produce greater erosion rates than gentle slopes. Vegetation growth will decrease the erosion rate since it reduces raindrop impact and puddling of the soil surface, along with helping to hold the soil together by its root system. Care should be taken to ensure that land is not overgrazed since this can be a primary source of erosion along with the use of off-road vehicles and cultivation of the soil.

6. Geology

The geologic units in the Meadow Vista area consist predominantly of metamorphic rocks common to the "Mother Lode Belt" of the Sierra Nevada foothills. A circular mass of granitic rock occurs at Sugar Pine Mountain.

6.1 Metamorphic Rocks

Metamorphic rocks in the area originally were deposited as volcanic lava flows, volcanic ash falls (tuffs), and sedimentary rocks. They were compressed, hardened, and tilted on edge due to great forces in the earth acting over long periods of time to create the present metavolcanic and metasedimentary rock units.

Metavolcanic rocks are generally massive and show no bedding structure, although they are intensely fractured by joints. The rock is iron-rich and produces thin, dark red, iron rich soil. In areas where weathering has not penetrated deeply the

material may be suitable for quarrying and crushing for road base and aggregate.

Metatuffs (volcanic ash falls), which occur in the immediate vicinity of Meadow Vista, are platy, thinly bedded, intensely fractured and deeply weathered. The bedding trends nearly north-south and is vertical. In open cuts the unit is highly susceptible to raveling and shallow slips along bedding and fracture planes. Soil formed on the unit ranges from 1.5 to 3 feet thick, generally is light orange and composed mostly of clay and small rock chips. Soil permeability appears to be very low.

Metasedimentary rocks occur about ½ mile east of Meadow Vista in a band parallel to I-80. Mostly the rocks are soft, intensely jointed metashales and metasandstones with scattered hard ribs of black slate. Soil thickness and nature varies with the underlying parent rock. The units are susceptible to raveling and shallow slips along fracture planes in open cuts.

6.2 Granitic Rocks

Granitic rocks of the granodiorite variety occur at Sugar Pine Mountain over a 3-mile circular area extending from ½ mile to 3½ miles west of Meadow Vista. Mostly the rock is moderately weathered at the surface, therefore is a limited source of decomposed granite. Outcrops occur extensively on steep slopes which may limit septic tank disposal in those areas. The moderately weathered material is relatively stable in steep cuts. Decomposed granitic rock is susceptible to slumping and gullying from runoff over steep cut slopes.

6.3 Slope

Slope is a term used to describe the degree of vertical rise or fall of a hill or mountain. It is a major factor in the planning process as it relates to access and suitability of building sites.

Meadow Vista, located in the Sierra Nevada foothills, has a significant percentage of its lands with steep slopes. Figure 9.3 illustrates the topographic features of the community. The Plan area is characterized by long, narrow valleys with moderate to steep sloping hillsides. These features reflect the foothill-type topography in which Meadow Vista is located.

The majority of the existing residential development in Meadow Vista has taken place on the flat or gently sloping areas of the terrain. Development on steep slopes (in excess of 30%) should be discouraged as much as possible so as to prevent excessive road

grades, cuts and fills and attendant environmental problems.

7. Air Quality

The Placer County Air Pollution Control District (APCD) is responsible for air quality in the Meadow Vista area, which is within the boundaries of the Sacramento Valley Air Basin. The Sacramento Valley Air Basin portion of Placer County is non-attainment for both the state and federal ozone standards. In addition, this area is non-attainment for the state particulate matter standard.

The two pollutants listed above are of concern in this area. The ozone problem is a regional one resulting from mainly mobile source emissions. These pollutants are precursors to the formation of ozone. Particulate emissions are mainly a result of human activities such as urban construction, backyard burning and woodstove smoke.

Since this area has a tremendous amount of vegetative material, smoke from open burning may be a problem. Widespread open burning is used to dispose of this material. Open burning can cause minor nuisance problems for residents in the area. Also, many residents burn wood in order to heat their homes. The smoke from woodburning devices, like open burning, increases particulate emissions in the area. But unlike open burning, woodstove smoke is created primarily in the evenings. During this time, warm air aloft holds in cold air below creating an inversion where all ground based pollution is trapped. Since no particulate monitoring has been done in this area, it is unknown whether or not there are exceedences of the federal or state particulate air quality standards.

In summary woodburning and open burning are the primary concerns which are of importance in the Meadow Vista area, with an increase in vehicular emissions being secondary.