

SECTION 9.200 ENVIRONMENT

The primary **Statewide Planning Goals** (Goals) related to this Section of the Plan are **Goals 5, 6, and 7**, although other Goals also have natural environmental implications.

Goal 5 reads: "To conserve open space and protect natural and scenic resources." In partial response to this goal, this element of the Plan includes an inventory of natural resources including geology, soil and aggregate resources, surface and ground water resources, natural vegetation and fish and wildlife resources. Also included are a series of policies to help insure the wise management of natural resources for future generations and to avoid land use conflicts damaging to the natural environment.

Goal 6 reads: "To maintain and improve the quality of air, water and land resources of the state." In partial response to this goal, this element includes consideration of waste process discharges including water pollutants, air pollutants and noise pollutants (see also the public facilities element). Policies are included to insure that waste and process discharges do not threaten to violate, or violate, state or federal environmental quality statutes, rules and standards, nor exceed the natural environmental carrying capacity of the area.

Goal 7 reads: "To protect life and property from natural disasters and hazards." In response to this goal, this element includes an inventory and map of known areas of natural disaster and hazard. Included in the policies are appropriate safeguards to insure against loss of life and property from natural disasters and hazards. The primary hazards in the Adair Village planning area are localized slope, slippage, ponding and erosion problems.

Finally, this element also includes information pertinent to **Goal 3**, "To preserve and maintain agricultural land," and **Goal 4**, "To preserve forest land for forest uses."

SECTION 9.210 CLIMATE

The climate of Adair Village is similar to that of most Willamette Valley communities although the adjacent hills provide some local microclimate modifications. Adair Village has a temperate climate with moderately warm, dry summers and mild, wet winters.

The average summer temperature ranges between 51 and 82 degrees. The average winter temperature ranges between 46 and 32 degree. Extreme temperatures of -12°F in December and 108°F in August have been recorded.

Annual precipitation averages about 43 inches, most of which occurs as rainfall at low intensities. About 84 percent of annual precipitation occur from October through April. December is the wettest month with 6.8 inches while July is the driest month with only 0.6 inches. An average of 6.5 inches of snow is possible, generally in December and January. The prevalence of moist marine air causes relatively high humidity and heavy dews throughout the year.

The prevailing winds are from the west and northwest during the summer and from the south and southwest during winter storm periods. Occasional easterly winds bring cold,

clear weather in winter and exceptionally dry, warm weather in summer. Wind velocities are generally moderate in the range of 4 to 12 mph from April to September. Winter storm winds of 40 to 50 mph are not uncommon from October to April.

The growing season occurs between March and November for an interval of 263 days.

Climate extremes can produce hazardous conditions. Lightning can cause forest fires. Freezing rain can create hazardous traffic conditions. Strong winds can cause property damage like the 1962 Columbus Day winds that exceeded 70 mph. However, the predominant local hazardous condition is flooding caused by rapid snowmelt or intense rainfall like the floods of 1964 and 1996.

SECTION 9.220 TOPOGRAPHY

The Topography Map contains topographic and slope information for the Adair Village Planning Area.

The area topography is a transitional zone between the almost flat Willamette Valley floor on the northeast to the Coast Range mountains on the west. In the immediate Adair vicinity the topography consists of foothill ridges rising from the valley floor. The City is situated on one of these gentle ridgelines with elevations ranging from a high of approximately 328 feet to a low of 275 feet. Located on the crest of the ridge, the ground slopes away to the north, east and south. The residential area of the City is located on the north facing slope. This rolling topography provides varied topographic features for residents.

Immediately west of Highway 99 West lies the foothills of the Coast Range including Hospital Hill on the west and Poison Oak Hill on the northwest boundary of the Planning Area. The maximum elevation within the Planning Area is 525 feet.

The topography in the Planning Area poses few restrictions to development although there are some limited areas of steep slopes.

Slopes within the Planning Area range from 3 to over 30 percent. There are only limited areas of steep slopes that exceed 30 percent. These are located on Poison Oak Hill, parts of Hospital Hill and the upper reaches of Calloway Creek. Slopes within the Urban Growth Area are generally moderate, in the 3 to 15 percent range, except for the southern face of Poison Oak Hill.

Drainage

The City is located on a drainage divided between two small streams, each flowing westward and eventually feeding into the main channel of Bowers Slough which empties into the Willamette River approximately 3 miles west of Albany. Bowers Slough begins in the Tampico Road area and flows east along the City's present northern boundary. After passing through a small pond and the Adair County Park, this stream eventually feeds into the main channel of Bowers Slough. The southern portion of the Planning Area is drained by Calloway Creek which is also a tributary of Bowers Slough. Calloway Creek drains the Calloway Drive Area, the Oregon State Game Commission site and agricultural lands south of Ryals Avenue.

There are no flood hazards within the Planning Area. High water table and ponding occur at the base of the ridgeline on the valley floor adjacent to the northeast, east and southeast borders of the Planning Area.

SECTION 9.230 GEOLOGY AND SOILS

The underlying geology is significant for a number of reasons. Geologic and soil characteristics indicate load-bearing strength, drainage potential, erodibility and suitability for use as agricultural land, timber land, or for recreational, industrial, commercial or residential development. The geologic characteristics can indicate specific hazards, such as slippage problems, or specific resource values, such as the presence of economically exploitable mineral resources.

Geologic Characteristics

Most of the Planning area is located on a base geology of volcanic origin. The City itself and almost the entire area within the Urban Growth Boundary is volcanic pediment rocks. These rocks are gently inclined and generally covered with thin deposits of unconsolidated material. Drainage is shallow and intermittent. Streams with incised channels flow on the bedrock. Soils are dark-brown to reddish-brown silt and clay, 1 to 10 feet thick with shrink/swell cracks. There may be some creep movement on slopes and near drainage courses and limited mass movement near breaks in the slope.

Poison Oak Hill and Hospital Hill, including the development taking place in the Calloway Drive area, are on Eocene volcanic rock. Soils are dark-brown to reddish-brown silt and clay, 1 to 10 feet thick with shrink/swell cracks. Perched ground water zones provide moderate water yields generally adequate for domestic use. Hazards include local mass movement on steep slopes. The west slopes of Poison Oak Hill, located a quarter mile north of the Planning Area, are subject to mass movement hazard. No specific hazard exists in the Study Area but there could be localized problems on steep terrain.

The rolling hills to the east and south of Adair such as Voss Hill, Spring Hill and Logsdon Ridge are composed of sedimentary rocks. Between the igneous rocks of the ridges on the west and the sedimentary rocks of the hills on the east there are stream and terrace deposits which occupy the flat land of the narrow valley floor channels. Quaternary higher terrace deposits on the eastern fringe of the Planning Area including the agricultural lands to the northeast, the bottomlands in the Adair County Park and the agricultural lands south of the State Game Commission Regional Headquarters site. They consist of semi-consolidated gravel, sand, silt and clay of variable thickness. These rocks yield small to moderate groundwater depending on the depth to bedrock. Soils range from poorly to well-drained loams.

Aggregate Resources

Sand, gravel and crushed rock are important factors in the development of an area. These materials are used in concrete, asphalt, and construction. The economic hauling distance for such materials is approximately 15 to 20 miles. Due to the high cost of hauling, there is a need to preserve such resources, especially close to urban centers.

Quarry stone makes a better base for paved surfaces, and it is better suited to the construction of oiled roads than is stream gravel. However, it is generally not suited for use as concrete aggregate, and it is more costly to produce than sand and gravel.

Information on aggregate resources is contained in "Rock Material Resources of Benton County" by the Oregon Department of Geology and Mineral Industries. There are no economically significant rock material resources within the Planning Area. There are three former Oregon State Highway rock quarries on Coffin Butte, two miles north of Adair. The site is now used for solid waste disposal. There are however, large active rock and sand and gravel extraction operations in the North Albany area and the Corvallis area, both of which are within economical hauling distance of Adair Village.

A major fault occurs just east of the Planning Area near the Southern Pacific Railroad tracks. This "Corvallis Fault zone" occurs between the volcanic and sedimentary formations and is concealed by the stream and terrace deposits in the Adair vicinity. According to available information, this fault zone is no longer active and no seismic activity has been recorded as originating from this fault zone. Earthquake activity affecting Benton county is associated with earthquakes occurring near Portland or off the Oregon Coast or with larger earthquakes occurring in the Puget Sound area. Due to the short period that records have been kept and the difficulty of detecting an active fault, some precaution is necessary. Adherence to the relevant provisions of the Uniform Building Code for Zone II Seismic Risk is required until more detailed data indicates a change.

Soils

The Soil Conservation Service has mapped the soil types in the Adair Village area in detail, and provided soil interpretation data for each type. This information has been used as major criteria in determining the Urban Growth Boundary and future land uses. The Soil Conservation Service uses a classification system of eight capability classes to indicate the suitability of soils for most kinds of field crops. The numerals indicate progressively greater limitations and narrower choices for practical uses.

Class I through Class IV soils can be cultivated. Class I soils have a few limitations while Class IV soils have very severe limitations that: reduce the choice of plants, require very careful management, or both. Classes V through VII soils are usually limited to pasture, range, woodland or wildlife. Classes VIII have limitations which restrict their use to recreation, wildlife, water supply or to esthetic purposes.

The following description of soil types in the Adair Village area begins with the ridge top soils, those having the steepest degree of slope, and is followed by a description of the soils of the foothills and the flatter bottomlands along the creeks. Further details can be obtained from the Soil Conservation Service's "Soil Survey of Benton County Area" and the attached soils map.

Ridge Tops and Upper Slopes

The soils on the upper slopes and ridge tops of Poison Oak Hill and Hospital Hill are either Witzel very cobbly loam with 30 to 75 percent slope (WLG) or Price-Ritner

complex soils, 20 to 30 percent slope (PTE). Both soils are generally unsuitable for development.

Soils on the upper slopes of Poison Oak Hill are Witzel very cobbly loam with 30 to 75 percent slope. This is a Class VII soil. This soil is used for timber production, grazing, water supply and wildlife habitat. It has severe limitations to use because of shallow depth, a high content of coarse fragments and very steep slopes; and it is unsuited for cultivation. Because of the shallow depth the rooting zone for trees is very limited.

Run off is very rapid, and the hazard of erosion is high. Available water capacity is 1 to 2 inches. Permeability is moderately slow. Root penetration is limited to a depth of about 12 to 20 inches by the underlying basalt bedrock.

The upper slopes of Hospital Hill in McDonald State Forest and the small wooded hill south of Calloway Drive, which is presently being developed, are Price-Ritner complex soils with 20 to 30 percent slope. Runoff is rapid, the hazard of erosion is high. The soils of this complex are suitable mainly for pasture, timber, water supply and wildlife habitat. Because of the steepness and the high hazard of erosion, these soils have severe limitations to use for cultivated crops.

Price-Ritner complex with 20 to 30 percent slopes is a Class IV agricultural soil but has high productivity for woodland use.

Uplands and Foothills

The middle and lower slopes of Poison Oak Hill are Dixonville silty clay loam with 12 to 20 percent slopes (DnD) and Price silty clay loam with 12 to 20 percent slopes (PrD). Runoff is medium and erosion hazard is moderate. Permeability is moderately slow. Both are Class III agricultural soils, the Dixonville silty clay loam is only moderately productive for woodland but the Price silty clay loam has a high woodland productivity.

The most prevalent of all the upland and foothill soils is Jory Silty clay loam with 2 to 12 percent slope (JoC). This soil underlies the western half of the City of Adair Village, Part of the State Game Commission Regional Headquarters site, almost half of the Tampico Road area, plus most of the developed part of Calloway Drive. The Urban Growth Area west of Highway 99 West is underlain by this soil. It is classified as a Class II agricultural soil which is also highly productive for woodland use.

The Jory soil series consists of deep, well-drained soils that formed in colluvium weathered from sedimentary and basic igneous rocks. These soils are on the higher rolling uplands that border the steeper mountainous area.

This soil occupies broad ridges and side slopes. Slopes average about 7 percent. Runoff is medium and the hazard of erosion is slight. Available water capacity is 7 to 11 inches. Permeability is moderately slow. Root penetration is deep.

This soil, when used for agriculture, is suitable for cereal grain, grass seed, orchards, hay and pasture. Some areas are used for timber production, water supply, wildlife habitat and recreation.

The eastern part of Adair Village, plus a third of the State Game Commissions site and a very small area of Tampico Road are Dixonville silty clay loam with 3 to 12 percent slope (DnC). Runoff is medium and the hazard of erosion is slight. This is a Class II agricultural soil suited for unimproved and improved pasture, cereal grain, woodland, water supply and wildlife.

Lower Slopes and Bottomlands

The agricultural land immediately south of the State Game Commissions site consists of Amity silt loam (Am), McAlpine silty clay loam (Mn), Waldo silty clay loam (Wa), and Willamette silt loam of 3 to 12 percent slopes (WeC), all of which are agricultural Class II or III soils.

The rural residential development immediately north of Adair Village is on Witham Silty Clam loam with 2 to 7 percent slopes (WkB), McAlpin silty clay loam (Mn), Concord silt loam (Co), Woodburn silt loam with 0 to 3 percent slopes (WoA) and Waldo silty clay loam (Wa).

These soils share a common characteristic in that they pose moderate to severe limitations for the use of septic tank absorption fields, especially the Witham silty clay loam which underlies most of the existing development, and the more extensive Waldo silty clay loam which is largely undeveloped. Waldo silty clay loam and McAlpin silty clay loam occupy narrow bands along Bowers Slough and Calloway Creek.

McAlpin silty clay loam (Mn) is a Class II agricultural soil which occupies alluvial terraces and slopes are 0 to 3 percent. Runoff is slow and the hazard of erosion is slight. Available water capacity is 8 to 10 inches. Permeability is moderately slow. Rooting depth is deep but is somewhat restricted by a seasonal, temporary high water table.

The soil is used mainly for cereal grain, grass seed, hay and pasture, wildlife habitat and recreation. Some areas on alluvial bottom land are subject to stream overflow.

Waldo silty clay loam (Wa), a Class III agricultural soil, is in areas along the streams and drainage ways of the foothills. Runoff is slow and the hazard of erosion is slight. Rooting depth is limited by a seasonal high water table. Permeability is slow. Available water capacity is 9 to 11 inches.

This soil is suitable for pasture, hay, small grain, grass seed, wildlife habitat and recreation.

The agricultural area northeast of Adair Village and immediately east of the Urban Growth Boundary is predominantly Woodburn silt loam (WoA) with 0 to 3 percent slope. This is a Class II soil suitable for pasture, hay, small grain, grass seed, vegetables, berries, wildlife habitat and recreation. Runoff is slow to medium, the hazard or erosion is none to slight. Permeability is slow. Rooting depth is somewhat restricted by a seasonal water table in winter and spring.

Agricultural Suitability

Statewide Planning Goal reads, "To preserve and maintain agricultural lands". To help achieve this goal, the Goal calls for "the retention of Class I, II, III and IV soils for farm use".

The dominant soil class in the Planning Area is Class II with small areas of Class III and IV located on the north, west and south edges of the Planning Area.

Although most of the area has a good agricultural soils rating, much of this land is not in agricultural use. Most of the area is in public uses, urban use or rural residential use. Commercial agricultural operations exist mainly in the south and northeast, and future urban development has been directed away from both areas.

There are approximately 206 acres within the Planning Area that are presently in agricultural use. Of this total less than 20 acres, currently in pasture, are included within the Urban Growth Boundary. Within the Planning Area, four partial parcels totaling about 40 acres northeast of Adair Village and about 80 acres south of the Game Commission property are presently zoned Exclusive Farm Use (EFU) by the County. The 40 acres of EFU property contiguous to the City contains lots partially within the City and the City's UGB and partially with the County's EFU District. This area is the only immediately available area that could be included into the City's UGB if needed.

Woodland Suitability

Soils for the Planning Area have been rated for woodland suitability from Site Class 1 to 5, with 1 being the most suitable for timber production. The western half of the Planning Area is almost exclusively Class 2. The eastern half is about equally divided by Class 3, 4, and unclassified soils, with a small area of Class 2 in the Adair County Park. The most significant Fir growth is in the McDonald State Forest west of the City with scattered Oak growth throughout the Tampico Road rural residential area and around the Adair County Park.

Except for public lands, only 65 acres in the extreme northwest corner of the Planning Area has been recommended for Forest Conservation (FC40) by the County, a change from a previous Rural Residential (RR-5) designation.

Development Suitability

Soils Maps identify soil limitations for the construction of buildings without basements and for the operation of septic tank absorption fields. The maps are based on the Benton County soil survey. In addition, the Benton County Sanitarians Office was consulted regarding septic suitability.

Septic suitability ranges from "generally unsuitable" to "always unsuitable". Most of the Planning Area is generally suitable to marginal. Unsuitable areas are the low drainage areas north and south of the City and the steep hillsides on the west and northwest. The area east of the City is "generally unsuitable" due to high water table and slow permeability, although in each area on-site inspections may alter these general findings. The preliminary Urban Growth Area immediately north of the City limits was specifically

identified by the County Sanitarian as a poor septic suitability area on the basis of existing land use patterns and the poor suitability of soils in the area.

SECTION 9.240 WATER RESOURCES

Surface Water Hydrology

The only surface water features in the area are Bowers Slough on the northern City boundary and Calloway Creek south of the City and small tributaries of these streams. There are also three small ponds, two on Bowers Slough in the Adair County Park and one on a tributary of Calloway Creek located on the State Game Commission Regional Headquarters site. There are also 28 acres of wetlands in the Adair County Park. The streams in this area are intermittent streams and are dry part of the year.

Water Quality Standards

Water Quality standards governing these streams are set forth in the "State-wide Water Quality Management Plan". They are included in the plan for the Willamette Basin under "All Other Streams and Tributaries". Beneficial uses to be protected include all uses except "commercial navigation and transportation". The standards state "the highest and best practicable treatment and/or control of wastes, activities and flows shall in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor and other deleterious factors at the lowest possible levels".

Waste Discharge Permits

Waste discharge permits are issued by the Department of Environmental Quality (DEQ) for the construction and operation of new or modified sewage and industrial waste treatment facilities and related effluent disposal.

A National Pollutant Discharge Elimination System (NPDES) permit for discharges into public waters is issued pursuant to both federal and state requirements. The permit gives the permissible limits for plant operations.

Issued permits must meet applicable federal standards and guidelines as well as applicable portions of the State Water Quality Plan for the Willamette Basin.

The DEQ intends that any further applications for permits will be submitted to the appropriate local planning agency for certification of land use plan and goal conformance.

The DEQ has issued a NPDES permits for the operation of the Adair Sewage Treatment Plant. The DEQ concluded that the Adair Village NPDES Permits were being adequately addressed.

Water Quality Standards, Plans and Compliance

Standards and rules necessary to insure that beneficial used of public waters are not impaired by inadequate water quality are adopted by the Environmental Quality Commission and implemented by the DEQ.

The Statewide Water Quality Management Plan (OAR 340, Division 41) developed by DEQ includes beneficial water uses to be protected, water quality standards, minimum design criteria for point source controls and general policies.

The State Water Quality Management Plan contains standards for 19 drainage basins. Adair Village is within the Willamette Basin. All beneficial uses except commercial navigation and transportation are to be protected in the Willamette Basin.

The Statewide Water Quality Management Plan must be reviewed and updated every three years. Water quality standards are revised periodically based on new information or to meet new federal requirements.

To insure protection of water quality standards, the DEQ must issue a certification that standards will not be violated by anyone applying for a federal permit for actions in or adjacent to a waterway which may result in a discharge of pollutants to the waterway.

Groundwater

The volcanic rocks that comprise the foothills of the Coast Range yield small quantities of water which are usually adequate for domestic use. Records for wells in the nearby Lewisburg area show yields of 30 to 60 gallons per minute (gpm). Wells tapping the sedimentary rocks of marine sandstone and shale east of Adair produce small quantities of good-quality water adequate for domestic uses.

Groundwater resources should be protected from potential pollution. Pollution can result from septic tank wastes, urban runoff, solid waste leachates, and irrigation return water when wastes are allowed to percolate into the soil in areas of groundwater recharge.

Septic tanks particularly pose a pollution hazard to groundwater resources; and in areas of dense development on individual wells, the result can be a serious health hazard.

SECTION 9.250 VEGETATION AND OPEN SPACE

Natural Vegetation Values

Vegetation provides a number of important values for the community. In addition to the obvious economic value, woodlands, forests and other areas of natural vegetation serve to conserve, protect and enhance other resources. On steep slopes the natural vegetative cover helps stabilize the soil and thereby protects water resources from excessive sedimentation. The protection of water quality by natural vegetation also helps protect fishery resources and provides habitat for a wide variety of wildlife. Natural vegetation supports outdoor recreation activities, provides an open space resource for the urban environment, and generally enhances the esthetic quality of the community.

Existing Natural Vegetation Resources

Within the City of Adair Village itself there is relatively little natural vegetation except on the eastern edge of the City. The surrounding area, however, contains significant

natural vegetation resources including stands of coniferous, hardwoods, and mixed trees.

East of Highway 99 natural vegetation is confined largely to the eastern edge of the City and the Adair County Park which contains 18 acres of oak groves, and 28 acres of wetland. A natural vegetative buffer, consisting of oaks and other deciduous trees, separates the park activity areas from the residential portion of Adair Village. The only other notable natural vegetation east of Highway 99 is limited to a very narrow band of mixed hardwood riparian vegetation adjacent to the small creeks.

West of Highway 99 much of the land is either forested or wooded. Poison Oak Hill is covered with stands of Oregon Oak. The area along Tampico Road is a mixture of open lands, brush lands and wooded areas of predominantly Douglas Fir or Oregon Oak. McDonald State Forest, south of the Tampico Road area, is heavily wooded with stands of Douglas Fir and hardwoods. Finally, the southwest corner of the Planning Area adjacent to Calloway Creek is covered by residual Douglas Fir from previous logging and Oregon Oak and brush.

The Riparian Zone

The riparian zone is that band of land adjacent to and influenced by water bodies including lakes, ponds, marshes and intermittent and perennial streams.

Much of the best wildlife habitat is found in riparian zones. The most significant attribute of major riparian zones is variety. The mix of habitats, combined with the productive aquatic environment, is suited to the needs of virtually all wildlife species in the Willamette Valley.

The productivity of the riparian zone for wildlife is directly related to the diversity and quality of vegetation present. The larger the vegetated zone adjacent to the water, and the more diverse that vegetation, the greater its productivity.

All riparian zones, however, merit protection, owing to the particular importance to wildlife of diverse habitat near water.

Fish and wildlife requires undisturbed riparian areas as sources of food, water and/or habitat, and significant changes in these areas result in partial or total loss of fish and wildlife.

Although very limited in extent the riparian zones along Bowers Slough, Calloway Creek and other small streams and ponds should be protected.

SECTION 9.260

FISH AND WILDLIFE

The key to maintaining a diverse and abundant wildlife population is simply to provide an abundance of diverse habitats.

The Oregon Department of Fish and Wildlife identifies ten habitat types:

- Slow still waters
- Fast moving waters
- Marsh
- Riparian
- Open Areas
- Edges
- Deciduous trees
- Coniferous trees
- Coniferous and Deciduous mixed trees
- Dead defective trees

Nearly all areas can provide some habitat for non-game wildlife of some kind. Some species can adapt to a variety of habitats but others are restricted to specific habitat types. For example, the spotted owl is restricted to old growth timber areas while woodpeckers need dead or defective trees for nesting.

To insure an abundance and variety of wildlife, development proposals should be reviewed to insure the maximum feasible preservation of habitat types identified above. Preservation of riparian zones, particularly along streams, is of outstanding importance for wildlife. Provision and preservation of parks, open space and water areas is important.

Threatened or Endangered Wildlife Species

The Oregon Department of Fish and Wildlife has not identified any known "threatened or endangered species, or any specialized habitats" within the Adair Village Planning Area. There are also no significant fisheries resources though the pond in the Adair County Park is used by children fishing for crappies.

While there is no specially significant habitat within the Planning Area there are important wildlife areas nearby.

State Game Commission Lands and State Fisheries

The E. E. Wilson Game Management Area immediately adjacent to the northern boundary of the Planning Area is the only facility in the state where gamebirds are reared annually for release to the wild.

In addition, juvenile hunting of upland birds is permitted annually, other small game hunting is allowed by permit, and the area is used for bird dog trials. The area is one of the largest blocks of undisturbed wildlife habitat remaining in the Willamette Valley and has been the site of numerous wildlife field research projects.

The 117 acre site occupied by the Oregon State Game Commission Regional Headquarters on the south border of the City is not used very extensively for wildlife habitat or hunting purposes at this time although there is a small pond utilized by water fowl. There are no specific plans for more extensive use of this site for game purposes and the Commission has been in negotiation with the City and the Santiam Christian School to sell or trade some portions of this site.

West of Adair Village lies the extensive McDonald State Forest and the Paul Dunn State Forest. The McDonald State Forest borders Highway 99 West from Arnold Way almost to Ryals Avenue, while the Paul Dunn State Forest borders segments of Tampico Road. These state forests provide significant wildlife habitat immediately adjacent to the community.

Land Use Conflicts

The guidelines for achieving Statewide Goal 5, "Open Spaces, Scenic and Historic Areas and Natural Resources," states that "Fish and Wildlife areas and habitats should be protected and managed in accordance with the Oregon Wildlife Commission's Fish and Wildlife Management Plans.

Most of the policies and recommendations concerning fish and wildlife are based on those made by the Department of Fish and Wildlife in the Benton County fish and wildlife habitat protection plans. Preservation of the riparian zone and prevention of pollution are among the most critical concerns for both fish and wildlife.

Changes in land use from open land uses to more intensive development are reducing the total wildlife habitat base, resulting in a net loss of both numbers and types of wildlife. Any activity that removes or alters existing habitat adversely affects the wildlife which requires that habitat. Those activities and land uses that can have adverse affects on fish and wildlife are:

- Filling or draining of aquatic habitats.
- Water pollution.
- Clearing of riparian zones.
- High density development in or adjacent to sensitive habitats.
- Field burning and other practices which remove vegetation from roadsides, fence rows, and other unused areas.
- Conversion of forest and agricultural land to small parcels.

The extension of urban development northward from the present city limits to the southern end of the E.E. Wilson Game Management Area has been restricted to include only those properties already developed at rural residential densities.

Farm use is considered the land use most compatible with the management area. However, even farm use pose problems including livestock trespass and transmission of parasites and disease from domestic fowl. Residential development could result in negative reaction from adjacent residents to hunting and depredations on wildlife by cats and dogs. To prevent future conflicts a land use buffer should be maintained between the two uses.

SECTION 9.270

AIR QUALITY AND NOISE CONTROL

Air Quality

Winds are important in land use planning in a number of ways. In locating industrial plants, for example, it is necessary to consider the prevailing wind directions so that the harmful effects of air-polluting emissions will be reduced. Wind direction also has

significance for the application of fertilizers, insecticides and chemicals for weed control on agricultural and forest lands. The nearest location for which wind information is available is Salem airport which should be fairly representative of the Adair Village Area. Winds are out of the south and southwest at Salem for 40 percent of the time; out of the north and northeast for 20 percent of the time; and out of the west and northwest for 20 percent of the time. Conditions are calm 11 percent of the time and winds from the east are fairly rare. The average wind speed ranges from 4.2 miles per hour, for winds from the east, to 8.2 miles per hour for winds from the south. Further information on climatic characteristics is contained in the "Soil Survey of Benton County" by the Soil Conservation Service.

The Adair Village Urban Growth Area is a Class II Prevention of Significant Deterioration (PSD) air quality area. The Environmental Protection Agency regulations designate three classes of PSD areas. Class I increments permit only insignificant air quality deterioration; Class II increments permit moderate deterioration; Class III allows for the greatest amount of deterioration, but in no case beyond the national air quality standards.

Under the federal regulations, all areas of the state are automatically classified as Class II areas except for mandatory Class I areas and "non-attainment" areas. The enforcement program is administered by a pre-construction and pre-modification permit program for certain types of stationary sources. The permit program insures that emission sources do not exceed numerical increments applicable to that class and that they use the best available control technology.

No Air Contaminant Discharge Permits have been issued in the Planning Area as there are no significant stationary sources of air pollution. The Department of Environmental Quality has classified the various communities in the state according to the "increment" available for total suspended particulate (TSP) and sulfur dioxide (SO₂), carbon monoxide (CO) and other significant pollutants. With no significant industrial development or other stationary source of air pollution in Adair Village the City has almost a full "increment" available of both TSP and/or SO₂ and there is no apparent danger of "closing out" of the airshed.

No specific sites have been identified in the plan for future industrial or major commercial development. Should an industry or commercial development wish to locate in Adair Village it would be subject to the Planned Development review procedures of the zoning ordinance which include provision for full consideration of potential environmental impacts, including air pollution.

Motor vehicle traffic cause anywhere from 80 to 90 percent of the CO generated in most urban areas of the state. Accordingly, the DEQ has devised a procedure, used on average speed and volume of cars, to determine if there is a possibility of violations of the 8-hour CO standards.

The DEQ's 8-hour CO standards for urban areas with a population of under 50,000 show that traffic would have to reach an average weekday level of 69,200 at 55 miles per hour for there to be a possible violation of the 8-hour carbon monoxide standard.

Therefore, it has been determined that the Adair Village Comprehensive Plan does not appear to conflict with Class II air quality standards and the roads in the Adair Village Comprehensive area do not cause existing violations, and will not cause future violations, of the 8-hour carbon monoxide standard.

Field Burning

The field burning program is administered by the DEQ with guidance from the Advisory Committee on Field Burning. The program seeks to minimize the impacts of field burning activities within safety and meteorological constraints. The program also involves coordination with fire districts to insure that field and other burning activities are performed in a safe manner.

Field burning is widespread in the Willamette Valley and occurs in the Adair Village vicinity. The location of Adair Village on the western edge of the Willamette Valley and the prevailing wind patterns provides adequate protection from field burning problems most of the time. DEQ standards for field burning should also reduce future impacts.

Coordination with Department of Environmental Quality

The DEQ requires that a Notice of Intent to Construct (NC) must be filed by all persons proposing to construct an air contaminant source. The NC is used to identify facilities which are considered air contaminant sources and which will require an Air Containment Discharge Permit (ACDP). Not all sources requiring NC's need an Air Containment Discharge Permit. Certain types of air contaminant sources are required to have a DEQ-issued ACDP before operation of that source can begin.

Certain types of parking facilities, highways, airports and other types of indirect sources of pollution require a DEQ Indirect Source Construction Permit (ISCP) prior to construction and operation.

The City of Adair Village will coordinate actions with the DEQ regarding the above site-specific permit activities. Specifically upon request from the DEQ, the Planning Commission will prepare a statement, to be forwarded to the DEQ, regarding compatibility of applications with the City's Comprehensive Plan and local ordinances.

DEQ Rule-Making Practices and Procedures

The DEQ is required to make public notification of and solicit public comment on all proposed regulations, e.g., ambient air and emission standards and programs, prior to adoption.

The DEQ presently notifies the City of Adair Village of all applicable rule-making actions of the DEQ.

Noise

In larger urban centers noise is an increasingly serious pollution problem. One of the reasons people live in a smaller city like Adair Village is to avoid the noise and other pollution problems of the larger cities.

Statewide Goal 6, to maintain and improve the quality of the state's resources and to insure future developments do not violate, or threaten to violate, applicable state or federal environmental quality statutes, rules or standards, includes noise concerns.

Federal and State Policy

Both the state and federal governments have adopted policies concerning noise. Federal Public Law 92-574, 2(b) states, "It is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare."

The Oregon Legislature in adopting the Oregon Noise Control Act of 1971 found that the noise at "unreasonable levels is as much a threat to the environmental quality of life and the health, safety and welfare of the people of this state as is pollution of the air and water." (ORS Chapter 467). The legislature accordingly authorized the DEQ, through the Environmental Quality Commission, to adopt and enforce statewide standards of noise control (OAR 340-35).

The DEQ, for example, requires vehicles operating on public roads to meet noise emission standards (ORS 467.030). Industrial and commercial sources also must meet DEQ noise standards for all sources are contained in OAR 340-35-005 through 340-35-100.

The main noise problem in Adair Village is traffic related noise, especially traffic on Highway 99 West. Other minor sources include the Southern Pacific Railroad and potential activities within the Adair County Park in addition to the normal residential sources within the community.

Adair Village does not have a serious noise problem although there is a need to ensure that such problems do not arise in the future.

SECTION 9.280 PLANNING OPPORTUNITIES AND CONSTRAINTS

There are no major hazards and few constraints for development in the Planning Area. The uniqueness of the areas natural environment, however, should be preserved to the maximum extent possible and future developments should be limited to the environments capacity to absorb growth and maintain the area's environmental values and resources.

A few areas, notably Poison Oak Hill and the Calloway Drive area, have some slope constraints. But the topography of the area, including ridges, rolling hills and bottomlands is generally a strong positive attribute, providing a varied and visually attractive environment. There are no economically significant geologic deposits in the area and the geology also poses no major constraints, except in the nearby areas of Poison Oak Hill. The soils of the Planning Area are generally good agricultural soils and urban growth has specifically been directed away from the most productive agricultural lands.

The water resources in the area are relatively few, with no rivers or lakes, and just two limited drainage courses, with small ponds. Their scarcity and the limited capacity to

absorb development impacts from construction or pollution strongly suggest care must be taken to protect these resources. The area is rich in natural vegetation resources and associated wildlife. Development should also respect the need to preserve these values. Finally, both air and noise pollution are not serious problems and are not expected to be a problem in The Adair Village area.

There are several specific and general measures the City can take to reduce and prevent noise problems.

The impact of traffic noise from Highway 99 West can be reduced with the provision of a vegetative buffer. Currently there is a 25 foot strip between 99 West and Wm. R. Carr Avenue. This strip is owned by the City and is presently sparsely vegetated. Additional planting would greatly reduce any noise impact from 99 West.

The Planning Commission should include consideration of potential noise impacts from future development proposals in the planning review process. Projects with potential adverse impacts should be submitted to the DEQ for review and comment to insure that new noise sources do not violate state noise standards.

In exercising the planning review function, the Planning Commission should seek to insure that future noise-sensitive land uses such as residential areas, are not located near existing noise sources. Future noise-generating facilities should not be located near noise-sensitive areas.

SECTION 9.290 ENVIRONMENTAL GOALS AND POLICIES

Goals and Objectives

1. To recognize the opportunities and constraints posed by the natural environment
2. To protect the unique resources of the Adair Village area.
3. To insure that future development will not result in adverse impacts on the natural resource base.

Policies and Recommendations

Topography

1. Development proposals on slopes in excess of 15 percent shall submit engineering investigations of the site for project review to insure that no environmental problems will result from development.
2. Development on slopes in excess of 15 percent shall maintain the maximum vegetative cover to protect soils and prevent land slippage problems.
3. Undeveloped steep-slope areas exceeding 30 percent shall be maintained as natural open space to protect soils, vegetation, water, wildlife and open space resource value.

Geology and Soils

1. Development proposals in areas considered to pose geologic hazards, such as land slippage, poor drainage, ponding and high water table, shall submit engineering investigations of the site for project review to insure that no environmental problems will result from development.
2. The City and the County shall coordinate plans to insure preservation of adequate economical aggregate resources necessary for the development of the Adair Village area.
3. Urban growth in the Adair Village area shall be contained within the Adair Village Urban Growth Boundary. As additional land is needed to accommodate the City's growth needs the Urban Growth Boundary may be expanded. Preservation of the most productive agricultural soils shall be a factor in determining the revised Urban Growth Boundary.
4. Developments in the Urban Growth Area on soils with severe limitations for septic tank absorption fields shall be discouraged unless sewer service can be provided.

Water Resources

1. The City of Adair Village shall seek to comply with state and federal water quality protection requirements and regulations recognizing the City's limited resources to address these issues.
2. Applications for National Pollutant Discharge Elimination System (NPDES) permits shall be reviewed for conformance with the goals and policies of the Comprehensive Plan.
3. Groundwater resources shall be protected from potential pollution from septic tank wastes, urban run-off, solid waste leachates and irrigation.
4. The City shall seek to protect ponds, sloughs, wetlands and streams as a natural resource for the community.

Natural Vegetation, Fish and Wildlife

1. The remaining areas of native vegetation shall be preserved to the maximum extent possible.
2. Riparian vegetation shall be preserved or restored to the maximum extent possible to protect water quality and the wildlife habitat associated with riparian corridors.
3. In-channel vegetation, i.e., the bank vegetation between the water's edge and the topographic break at the level of the surrounding terrain, shall be protected through the development standards and the project review procedures of the City.

4. Designated greenways along water courses shall be used to protect natural vegetation and water resource values (see sections on parks and trails).
5. Development of land uses that require channelization, excessive removal of streamside vegetation, alteration of stream banks and filling of stream channels shall be restricted to maintain stream integrity.
6. Public access to rivers and stream areas shall be secured and maintained wherever appropriate.
7. Parks and open areas shall be managed to protect existing native vegetation. Undeveloped natural areas in existing and future parks shall be protected to the maximum extent possible while still meeting the recreational needs of the community.
8. Development proposals for residential, commercial or industrial developments shall recognize the value of existing on-site native vegetation and shall inventory and preserve these resources to the maximum extent feasible.
9. During development, large live trees should be preserved wherever possible, and dead trees of any size should be preserved for wildlife habitat when there is little hazard or obstruction to doing so.

Air Quality

1. The City of Adair Village shall seek to comply with state and federal air quality protection requirements and regulations recognizing the City's limited resources to address these issues.
2. The City shall coordinate with the Department of Environmental Quality regarding air quality issues within the community.
3. Future development in the Adair Village area should not conflict with regional air quality standards.

Noise

1. The City and all other applicants for development approval shall comply with the DEQ Noise Control regulations, the Oregon Noise Control Act and all other applicable federal, state and local noise control regulations.
2. The noise impact of future development proposals shall be considered in the planning review process.
3. Proposals for new and improved street and highways shall include consideration of noise impacts on nearby properties and measures such as vegetative buffers, berms, etc., to minimize any adverse noise impacts.
4. Vegetative buffers shall be encouraged for any future proposed stationary noise source, such as an industrial operation.

5. Development proposals, including major highway proposals, with adverse noise impacts shall be submitted to the DEQ for review and comment.

New Environment Policies**ORD 06 - #2 - 2/28/06**

New policy 1: Any expansion of the urban growth boundary will identify and classify existing natural conditions such as wetlands and riparian corridors that require preservation, protection, and restoration.

New policy 2: New development adjacent to rivers, stream, springs, or other waterways shall be protected by a buffer no less than 25 feet from the top of bank.

New policy 3: Significant large-scale trees characterize the City of Adair Village. The City shall work toward establishing a tree plan and inventory to protect significant trees that represent a contribution to the heritage of the City. The City shall work toward establishing a tree plan that identifies new locations for tree planting to provide the next generation of tree canopy for the City –including a program for street tree planting and maintenance.

New policy 4: Water resources shall be preserved wherever possible. Street standards shall be adjusted to accommodate programs for “green” infrastructure where possible.