

# **CHAPTER 1: NATURAL RESOURCES**

## **GOAL 5: OPEN SPACES, SCENIC & HISTORIC AREAS, & NATURAL RESOURCES**

### **VEGETATION AND WILDLIFE HABITAT BACKGROUND SUMMARY**

The Albany area exists within a highly diverse natural vegetation zone which over the years has undergone extensive changes. Agriculture and urban development have displaced most of the natural vegetation within the Albany urban growth boundary. Most of the Willamette Valley's native woodlands and prairies have been replaced by croplands. Vegetation within urban areas is comprised of mostly imported trees and shrubs.

However, rivers and other drainageways within the Albany area are lined with a narrow fringe of natural riparian vegetation. Other significant natural vegetation includes isolated stands of native Oregon Oaks and a mixture of deciduous and evergreen trees on the hillsides of North Albany and Knox Butte. These woodlands are intermixed with residential development and farmland and generally occur on slopes of more than 15 percent.

The natural woodland vegetation along waterways and hillsides provides the most important wildlife habitat within the Albany area. Although no comprehensive field survey has been completed, over 250 bird and animal species may exist within the area. Many of these species are dependent upon specific types of vegetative cover found only within riparian areas. In addition, riparian vegetation helps provide fish habitat in many waterways by anchoring the soil on riverbanks and gravel. The Willamette River is a major route for migrating fish. The river also serves as an important recreational fishery. The Calapooia River has been identified as having potential for both bank and boat fishing for warm-water fish, salmon, steelhead, and trout. The city's vegetated open space areas and parkland also include a number of small lakes which provide fish habitat as well as habitat for the many waterfowl which live in the area or visit seasonally. These small lakes are stocked regularly by the Department of Fish and Wildlife in cooperation with the Albany Parks and Recreation Department.

The area's natural vegetation also provides important erosion control along river and stream banks, drainage channels, and on steep slopes. The stability of both banks of the Willamette and Calapooia Rivers is dependent upon vegetation to prevent excessive bank erosion and resultant property damage. This is especially true for the south cut-bank of the Willamette River along the downtown waterfront. Retaining vegetation along the Calapooia is particularly important since the river has been identified as having bank erosion problems.

Vegetation in the Albany urban area can accomplish important environmental functions including: modification of temperature extremes, the amelioration of environmental pollution, the reduction of soil erosion and surface runoff, and aesthetic enhancement of the city. With its large areas of paved surfaces and light reflective buildings, the city acts as a heat trap. This is particularly true on hot summer days. Trees planted around large paved areas, such as parking lots and streets and adjacent to buildings, can help to reduce the reflection and build-up of glare and heat. Trees can reduce temperature extremes by absorbing solar radiation, channelling or blocking wind, providing shade, and absorbing reflected heat. Vegetation, in contrast with paved surfaces, absorbs and slows water runoff and should be used whenever possible to prevent the rapid runoff of rain. The use of trees and other types of vegetation can help to reduce the air pollution in the Albany urban area, particularly in industrial areas, the Central Business District, along major arterials, and Interstate 5.

Albany's older neighborhoods contain a large number of mature trees and shrubs which provide shade and lend substantial beauty and charm to the older portions of Albany. Many of the newer residential areas exhibit some attempt at street tree planting, but there is a conspicuous lack of vegetation in the majority of these neighborhoods. Vegetation is also scarce along the Pacific Boulevard and Santiam Highway commercial strips. These highway commercial strips represent Albany's highest visibility areas. However, some visual improvement was made at the north Pacific Boulevard/I-5 interchange with the completion of Waverly Park. A street tree planting program was completed in 1984 in the Albany Central Business District. A total of 146 trees were planted. In time, this effort will substantially improve the aesthetic and environmental quality of the downtown.

The City does not have an established street tree maintenance program. Monteith Riverpark has also improved the aesthetic and environmental quality of the downtown area. This previously deteriorated and degraded waterfront was transformed into a fourteen-acre park and completely revegetated.

The planning approval process is also an important part of providing for urban landscape and vegetation. Most of the significant plantings that have occurred in Albany during the last five years were done by private business.

The Albany area's industrial property owners and managers have undertaken steps to improve Albany's visual image along Interstate-5. The Albany Area Chamber of Commerce is coordinating the "I-5 Beautification Program." This effort proposes to plant several thousand trees and shrubs along the Albany area's industrial interface with I-5. However, much work continues to be needed within the industrial zones and especially in those areas where industrial properties are next to commercial, residential, or other potentially incompatible land uses.

The use of vegetation for aesthetic purposes, such as the creation of buffer zones between incompatible development or street tree planting, can help improve the livability of the Albany area. These aesthetic needs and opportunities are more thoroughly discussed in Chapter 2 of the Comprehensive Plan.

More detailed information on vegetation and wildlife habitat can be found in the Comprehensive Plan Background Reports under Goal 4: Forest Resources and Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources.

## **GOAL 5: OPEN SPACES, SCENIC & HISTORIC AREAS, & NATURAL RESOURCES**

### **VEGETATION AND WILDLIFE HABITAT GOALS, POLICIES, AND IMPLEMENTATION METHODS**

#### **GOAL**

Ensure vegetation is and remains an integral part of Albany's environment.

#### **POLICIES**

1. Protect existing vegetation which possesses significant environmental, wildlife habitat, and aesthetic qualities, particularly along the Santiam Canal and the Willamette and Calapooia Rivers, their tributaries, and associated floodplains and drainageways.
2. Encourage the protection of trees of significant size that represent a visual and aesthetic resource to the community and recognize that the vegetation resources of Albany's Historic Districts are an important element of Albany's historic and cultural heritage.
3. Where possible, retain the environmental and aesthetic qualities of existing wooded areas by incorporating them into public park and open space plans, and ensure the maximum preservation of vegetation during the development review and construction process.
4. Require new development to utilize landscaping and encourage the improvement of existing development sites to current Development Code standards, especially by planting trees. Landscaping shall address the need to:
  - a. Visually enhance development projects.
  - b. Provide buffering and foster compatibility between different land uses.
  - c. Reduce water runoff and maintain soil stability.
  - d. Reduce energy use by using vegetation for shading, windbreaks, and insulation.
5. Develop and implement a landscape enhancement program for Albany that:
  - a. Enhances Albany's appearance and image.
  - b. Creates an attractive and comfortable environment for Albany's residents and visitors.
  - c. Maintains and manages existing vegetation resources.
6. Utilize landscaping around public buildings and spaces, including parking lots to improve Albany's appearance and image.
7. Encourage the upgrading of existing developments to meet current Development Code landscape requirements. Emphasis shall be placed on landscaping.

#### **IMPLEMENTATION METHODS**

1. Preserve existing vegetation through actions such as:
  - a. Undertaking an inventory of significant vegetation and stands of trees within the Albany Urban Growth Boundary, including trees that have potential historic value. Subsequently, develop and provide information concerning the location, care, and maintenance needs of identified significant trees.

- b. Development of review procedures for actions that propose removal of significant trees or significant amounts of vegetation. These standards would address wood cutting, timber harvesting, and development actions within the Urban Growth Boundary.
  - c. Require site design and construction practices to preserve, to the maximum extent possible, significant trees both on and off the site. City staff would work with applicants to develop alternatives that would minimize vegetation loss.
  - d. Application of Greenway Conditional Use procedures for actions proposed along the Willamette River to maintain and enhance the river's riparian vegetation.
  - e. Application of appropriate floodplain and floodway development standards to maintain vegetation in areas prone to flooding.
2. Recognize the importance of vegetation for sustaining wildlife habitat and, where possible, mitigate adverse impacts through design modifications. Especially consider the impacts on wildlife habitat when reviewing development in floodplains and vegetated hillside areas.
  3. Encourage and, when appropriate, offer assistance to utility companies to improve line clearing practices to avoid public safety hazards associated with improper pruning and improve the health and aesthetic contribution of Albany's street trees.
  4. Undertake the following as part of the City of Albany's landscape enhancement program:
    - a. Street tree programs which provide for the planning for, planting, and maintenance of trees in all areas of the community including all street rights of ways, public open space areas, and on the grounds of all institutions.
    - b. Encourage neighborhood organizations, schools, and service clubs to participate in tree planting programs and other landscape enhancement efforts.
    - c. Adopt city street tree regulations and standards.
    - d. Implement an ongoing and professional maintenance program for Albany's street trees and other vegetation within public rights of way and on other public properties.
    - e. Ensure that trees are part of the landscape design for all developments except where they are determined to be inappropriate or present hazards.
    - f. Encourage local industry to use appropriate vegetation to visually enhance development sites and provide buffering from incompatible uses.
    - g. Develop landscapes around public buildings and spaces, including parking lots to improve community appearance and image.
    - h. Encourage property owners to improve and maintain their landscapes, including provision of replacement vegetation when older, deteriorated vegetation is removed.
    - i. When necessary, provide an appropriate level of site design and landscape planning assistance.
    - j. Develop, maintain, and distribute public information pertaining to site planning, landscape design, appropriate use of plant materials, and other technical information.
    - k. Improve Albany's appearance along Interstate 5.
    - l. Where possible, promote the energy saving benefits of appropriately planted vegetation.
  5. Utilize the report "City of Albany Beautification Opportunities - Phase I" as a guide to implement specific landscape development and community beautification programs for:
    - a. Albany's residential neighborhoods.
    - b. Major city entryways.
    - c. The downtown commercial core.
    - d. The Willamette River waterfront.
    - e. The Pacific Boulevard and Santiam commercial strips.
    - f. Industrial areas.

6. Except for single family and two family residential development, require developers to utilize the skills of landscape architects, landscape designers, or otherwise receive City approval of landscape designs, and guarantee the completion of landscape requirements (i.e. through performance bonding or by setting aside funds for landscaping).
7. Require the continued maintenance of landscaped areas in accordance with Development Code requirements and conditions of planning approval.
8. Require the establishment and maintenance of landscaped areas in all parking lots to provide shade and visual amenities, except where site conditions are inappropriate or where hazards would result. Landscape development in parking lots should emphasize the following:
  - a. The planting of broad spreading trees to provide shade and mitigate the negative visual and environmental impacts of parking lots.
  - b. Installation of other plant materials in a manner to provide effective screens between parking lots and adjacent uses.
9. Develop specific urban design and beautification measures for the Pacific Boulevard and Santiam commercial strips whereby:
  - a. Specific site design, landscape, and street tree design improvements are developed for each establishment.
  - b. Funding alternatives are developed that utilize a combination of private, city, state, or federal funds.
  - c. For projects which funding sources become available, completion shall be accomplished within five years of the acquisition of funds.
10. Where appropriate, street design and construction standards shall provide for a planter area between the curb and sidewalk in all areas used by pedestrians, including residential and commercial areas and areas in close proximity to schools to provide:
  - a. Pedestrian safety by separating the sidewalk from the street.
  - b. Beautification and visual amenity.
  - c. Shade and buffering from streets.
11. Pursue designation for Albany as a “Tree City USA” sponsored by the National Arbor Day Association. Designation requires the following:
  - a. Expenditure of at least one dollar per capita for maintenance, preservation, and planting of street and other publicly-owned trees.
  - b. Adoption of an ordinance providing for the protection and planting of street trees and other trees on public properties.
  - c. The formation of a Shade Tree Advisory Committee to guide the City’s tree program and to formulate policy.
  - d. The holding of an annual Arbor Day Celebration and tree planting event.
12. Develop and maintain up-to-date landscape development specifications within the City’s Standard Specifications Manual.
13. Develop and implement comprehensive street tree programs for Albany’s local, collector, and arterial streets.

## **RECOMMENDATIONS**

1. Encourage Albany area schools to make an ongoing commitment involving students and school district resources to plant and maintain shade trees on school grounds and other public places.
2. Encourage the Oregon Department of Transportation to improve and maintain the Interstate 5 landscaping along Albany's interface with the freeway.
3. When private property is unavailable, encourage the Oregon Department of Transportation to allow Albany businesses to utilize the undeveloped portion of right-of-way along Pacific Boulevard and Santiam Highway to meet landscape requirements.

## **GOAL 3: AGRICULTURE**

### **BACKGROUND SUMMARY**

Albany is centrally located on the broad alluvial plain of the Willamette Valley. The city shares the same temperate climate of the region characterized by warm summers and mild, wet winters. The alluvial soils of the valley overlay a thick bedrock of many mixed layers of consolidated volcanic material, basalt, and marine sandstone. Throughout most of the Albany area, the alluvial deposition consists predominantly of deep, silty loam and clay soils overlaying a number of old river terraces of pebbles and cobbles, gravels, sand and clay. These river terraces surface in the northeast portion of the urban growth boundary where the soils are much thinner than elsewhere.

Poor drainage caused by relatively flat topography, a high water table, and a clay-rich subsurface has determined soil capability. Drainage channels and land immediately adjacent to them are generally Class III and IV soils. Because of the many drainageways in the Albany area, there are few large expanses of Class I and II soils except in North Albany.

Ninety-eight percent of the soils within the Albany Urban Growth Boundary are classified by the Soil Conservation Service as I-IV soils, capable of supporting a wide variety of crops and forage for livestock. Most of the soils in Albany are distributed in a complex mottled pattern throughout the area.

A large portion of the Albany area is committed to urban use and thus removed from agricultural production. A little over one-third of the total Urban Growth Boundary is under cultivation. About ten percent of this farmland occurs within the city limits; the remainder is on county lands in north, south, and east Albany. South and east Albany account for about 70 percent of all farmland within the Urban Growth Boundary. Plate 10 in Chapter Four, page 141, maps existing agricultural uses on lands over five acres in size.

Agriculture remains an important element of Albany's economy. The city serves as an important commercial, employment, and shipping center for the surrounding agricultural industry.

Because of urbanization and a long history of farm use, little land within the Urban Growth Boundary is forested with commercial species. There is no commercial forest production within the UGB. Most of the existing woodlands occur in small scattered lots of mixed evergreen and deciduous trees along waterways and on steep slopes (see Plate 7, page 141). Some of the woodlands within the floodplain along Oak Creek within south Albany serve as a buffer between the Albany urbanized area and outlying farmlands. Housing developments occur within the hillside woodlands of North Albany and Knox Butte. Despite the presence of development, these existing woodlands protect steep slopes from erosion, and serve as important open space and wildlife habitat. Vegetation and forestry related goals and policies are included within the vegetation goal and policy category.

More detailed information on soils, agriculture, and forestry can be found in the Background Report under Goal 3: Agricultural Lands and Goal 4: Forest Lands Vegetation.

## **GOAL 3: AGRICULTURE**

### **GOALS, POLICIES, AND IMPLEMENTATION METHODS**

#### **GOAL**

Preserve existing agricultural land within the Urban Growth Boundary until it is needed for conversion to urban uses.

#### **POLICIES**

1. Encourage development to occur within the Urban Growth Boundary in an orderly and compact fashion to conserve existing agricultural lands until it is needed for urban development.
2. Encourage development within the Urban Growth Boundary to be compatible with adjacent agricultural uses which are outside the Boundary.
3. Permit continued operation of agricultural areas of the Urban Growth Boundary as an efficient means of keeping vacant land productive until development occurs.

#### **IMPLEMENTATION METHODS**

1. Encourage specialty crop enterprises as possible uses within and adjacent to the Urban Growth Boundary. These enterprises could include:
  - a. Nurseries and specialty horticulture crops.
  - b. Seed crops, including flower seeds and bulbs.
  - c. Truck farms, including specialty vegetables, nuts and berries.
  - d. Research-oriented and experimental crops.

#### **RECOMMENDATION**

1. Encourage Linn and Benton Counties to review discretionary land use applications outside the Urban Growth Boundary to reduce negative impacts with adjacent current and future land uses that are within the boundary.

## **GOAL 5: OPEN SPACES, SCENIC & HISTORIC AREAS, AND NATURAL RESOURCES**

### **AGGREGATE RESOURCES BACKGROUND SUMMARY**

The major mineral resource within the Albany area is aggregate or sand and gravel deposits which occur along present and former river courses. Aggregate provides material for concrete, asphalt, riprap, and select fill. This resource is used in large volumes by the construction industry. Within the Albany Urban Growth Boundary, there are no active aggregate mining or processing operations. However, there are three sites no longer in production. The effects of the past mining activity are obvious. Several of the old gravel ponds are filled with water all year.

There is no site-specific survey of the area within the Albany Urban Growth Boundary which locates potentially productive aggregate deposits. However, productive sites have been identified upstream, along the Willamette, immediately outside the UGB. General geological information indicates that low-grade aggregate deposits may occur in the east Albany area.

There are more than 50 aggregate sites within easy delivery distance of all cities in Linn County. These active sites can provide most of the aggregate needs of the local construction industry.

More information on sand and gravel can be found in the Background Report under Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources.

## **GOAL 5: OPEN SPACES, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES**

### **AGGREGATE RESOURCES GOALS, POLICIES, & IMPLEMENTATION METHODS**

#### **GOAL**

Ensure the protection of all natural resources, including aggregate mineral resources.

#### **POLICIES**

1. In cooperation with other public agencies and aggregate suppliers, identify and protect potential commercially productive aggregate sites in the Albany area.
2. Provide the opportunity for industries that utilize aggregate resources, including concrete and asphalt batch plants, to locate in Albany in a manner that ensures compatibility with surrounding uses.

#### **IMPLEMENTATION METHODS**

1. Provide for the siting of aggregate, resource-related industries within Albany's Heavy Industrial (MH) District subject to environmental performance standards that ensure compatibility with surrounding uses.
2. Provide for the temporary siting of aggregate resource industries related to local highway construction projects subject to performance standards that address compatibility with surrounding areas which may include:
  - a. Establishing specific time frames of operation.
  - b. Protecting local environmental quality.
  - c. Ensuring traffic safety.

#### **RECOMMENDATIONS**

1. Encourage Linn County to protect potential aggregate sites throughout the county and within the Urban Growth Boundary and provide for aggregate extraction in the immediate Albany area provided they are subject to standards that ensure compatibility with surrounding uses.
2. Encourage Linn and Benton Counties to notify and coordinate with the City of Albany when processing applications for new or expanded aggregate mining and/or processing operations within the Albany area.

## **GOAL 5: OPEN SPACES, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES**

### **OPEN SPACE RESOURCES BACKGROUND SUMMARY**

A substantial amount of open space exists with the Albany Urban Growth Boundary, both inside and outside the city limits. A little less than half of the Urban Growth Boundary acreage is presently in some form of open space, either as agricultural land, parks, vacant or undeveloped land, bodies of water, floodplain or other natural areas. Most of this open space is in agricultural use outside of the city limits in the East, South, and North Albany neighborhoods. Within the city limits, open space is largely parks, vacant or undeveloped lands.

Open space lands add to the liveability of the area. Local awareness and appreciation for nature and the need to provide a physically and psychologically healthy urban environment are reasons for promoting a compatible mix of natural and urban areas. Urban areas provide for a diversity of economic, social, and cultural opportunities. Diversity in the natural environment of the city can also occur. With proper planning, it is possible to allow intense urban development on suitable land and still retain valuable islands and corridors of open space. Open space may reflect a sensitive natural area, such as the floodway fringe or wetland, which is protected from development. Open space can also be a park, a golf course, a cemetery, a body of water, or an area left undeveloped within a private commercial or residential development. Agricultural and forested lands on the fringe of the urban area, in addition to their primary use, provide secondary scenic and open space values.

As city growth and development continues, a large portion of the land that is currently regarded as open space will be used for future urban uses. However, the conversion of all of this open space to urban use should not be considered inevitable. In some cases it will not even be possible since much open space is in drainageways, floodplains, wetlands, small lakes, and the steep, vegetated hillsides of North Albany and Knox Butte. The Comprehensive Plan calls for many of these natural features to be used to partially fulfill recreational and open space land needs. In addition, to provide protection to environmentally sensitive areas, many drainageways, wetlands, and floodplains will be left in their natural state, although they may be adapted to fit special urban needs for recreational and open space uses. Some other vacant land and agricultural land will also be needed to meet the recreational needs of the projected 46,000 population in the year 2005. (A needs assessment for park acreage is included within the Parks and Recreation Section of the Plan.)

Furthermore, it may be possible to retain valuable wedges and corridors of open space without overly restricting development by using existing natural features. For example, there are several natural waterways radiating outward from the Willamette River and cutting across many neighborhoods within the city. These drainage courses provide the city with seven corridors of open space which could be used for alternate modes of transportation such as for bicycle and pedestrian pathways; used as effective buffers between incompatible types of urban development; used in floodplain protection and storm drainage management, or for wildlife habitat.

More detailed information on open space resources can be found in the Background Report under Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources; Goal 7: Natural Disasters and Hazards, Floodplains; and Goal 8: Parks and Recreation.

## **GOAL 5: OPEN SPACES, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES**

### **OPEN SPACE RESOURCES GOALS, POLICIES, & IMPLEMENTATION METHODS**

#### **GOAL**

Ensure the provision of open space and protection of natural and scenic resources.

#### **POLICIES**

1. Retain open space lands which provide the following:
  - a. Aesthetic and environmental relief from the density of urban development.
  - b. Future recreational lands and opportunities.
  - c. Buffers between incompatible development.
  - d. Protection of natural hazard, wetlands, steep slopes, and other areas not suitable for development.
  - e. Significant fish and wildlife habitats.
  - f. Protection of significant historic areas.
2. Recognize and promote the recreational and open space importance of the Albany area's small lakes such as Timberlinn Lake, Periwinkle Lake, Freeway Lakes, Swan Lakes, Thornton Lake, Scrael Hill Lake, and Waverly Lake by ensuring or providing continued public enjoyment and supporting state agency programs such as the Oregon Department of Fish and Wildlife's fish stocking programs.
3. Where possible, utilize major utility easements, rights-of-way, abandoned railroad rights-of-way, and drainageways for bicycle and pedestrian pathways.
4. Recognize the open space value of quasi-public areas such as cemeteries and golf courses.
5. Support the interim use of public lands for community-related uses including open space and parks, community gardens, and city nurseries to store and grow plant materials for future beautification efforts.

#### **IMPLEMENTATION METHODS**

1. Preserve floodplains and drainageways to provide a basic open space framework for the community using the following guidelines:
  - a. Reserve as open space a minimum of 50 feet on each side of the centerline of Truax and Burkhart Creeks and 100 feet on each side of the centerline of Cox Creek (exact open space delineation should consider topography, scenic areas, vegetation, proposed adjacent development, and drainage characteristics of the particular areas).
  - b. Designate the floodways of Oak Creek and the Calapooia River as open space.
  - c. When appropriate, require the dedication of public access easements for pedestrian and bicycle trails along those drainageways designated for open space when development occurs on adjacent properties.
2. Develop measures to maintain public safety and protect public and private property from vandalism and trespass to the maximum extent practicable when providing for public use and access of Albany's open space areas.

3. Utilize a variety of means to promote public access and enjoyment of Albany's open space areas including:
  - a. Fee simple acquisition.
  - b. Long-term lease agreements.
  - c. Promotion of incentives for the protection or dedication of open space.
  - d. Acceptance of maintenance and liability responsibilities when private property is made available for public access.
4. Develop an Albany Open Space Master Plan in conjunction with other planning efforts to identify:
  - a. Those lands that will be preserved as open space.
  - b. Management measures for open space including vegetation, wildlife habitat, wetlands, lands designated as floodplains and floodways.
  - c. Means to promote public enjoyment and access of Albany's open space areas consistent with the preservation and enhancement of open space values.
5. Recognize the open space and historic value of the Santiam Canal.
6. Apply the Open Space Comprehensive Plan and zoning designation to the following areas:
  - a. Local lakes, canals, streams, drainageways, and associated floodways.
  - b. Areas designated as wetlands by the City.
  - c. Important vegetation and wildlife habitat areas located within flood fringe areas.

### **RECOMMENDATION**

1. Encourage Linn and Benton Counties to maintain and enhance wetland areas by methods such as:
  - a. Preserving natural vegetation.
  - b. Maintaining setbacks between wetland resources and future development.
  - c. Considering wetland areas as part of the overall drainage system.
  - d. Identifying and preventing contamination from point and non-point sources.

## **GOAL 6: AIR, WATER, AND LAND RESOURCES QUALITY**

### **WATER QUALITY SUMMARY BACKGROUND SUMMARY**

Albany extends along the flat south bank of the Willamette River and has a number of smaller streams running through the Urban Growth Boundary area. The largest of these is the Calapooia River which serves as the City's western growth boundary. Other streams include Oak and Periwinkle Creek and the many small tributaries of Cox, Burkhart, and Truax Creek in East Albany. A number of small lakes, ponds, ox-bows, and sloughs are scattered throughout the area with some being fed by the small streams and utilized as park sites. Plate 4 in Chapter 4, page 135, maps the streams, rivers, and lakes within the Urban Growth Boundary.

The City relies on the State Department of Environmental Quality (DEQ) for water quality monitoring and enforcement of state and federal water quality laws. These laws relate to water quality within the City's distribution system as well as water quality for water sources outside of the distribution system.

Most water supplies for municipal and industrial uses in the Albany area are from a canal of the South Santiam River. The DEQ closely monitors water quality within the distribution system. It also monitors treatment and discharge of effluents into streams. Before an organization can discharge an effluent, it must obtain a Wastewater Discharge Permit. A Water Pollution Control Facilities Permit is required from the DEQ for other than a stream discharge. Requests for both types of permits also receive local review to ensure compliance with the City of Albany's goals and policies.

The surface water system is charged by the underlying groundwater system. Rain percolates downward, saturates the soil and flows into local streams and creeks through seeps and springs. Albany's water table fluctuates 10 to 12 feet annually and is recharged during the rainy season of late autumn and winter. This range has remained constant over the last 30 years which indicates there has been no large overdraft from this natural storage reservoir.

The Albany area has a number of specific water quality problem areas which are the result of septic tank drain field failures and seepage into surface waters or pollution of groundwater and perched aquifers. Most of these areas are presently within Linn and Benton County's jurisdiction, but the City must deal with their consequences. In the past, other areas around Albany which have experienced periodic septic tank failures have been annexed and are now served by the city sewer system. The number and extent of problems directly reflects poor soil suitability for septic tanks which is discussed in other elements of the Plan.

More detailed information on water quality can be found in the Background Report under Goal 6: Air, Water and Land Quality; under Goal 3: Agricultural Lands, subsection Soils, and Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources subsection Groundwater.

## **GOAL 6: AIR, WATER, AND LAND RESOURCES QUALITY**

### **WATER QUALITY GOALS, POLICIES, & IMPLEMENTATION METHODS**

#### **GOAL**

Reduce water pollution in the Albany area and ensure that future land use activities enhance or at least maintain water quality.

#### **POLICIES**

1. Require all new or expanding developments to comply with applicable water quality standards, using assistance where available from the Department of Environmental Quality, county Environmental Health Departments, etc.
2. Cooperate with local, state, and federal agencies that have primary responsibility to assist in minimizing the quantity of pollutants (from point or non-point sources) entering the surface streams, lakes, and groundwater.
3. Encourage state and county health agencies to monitor water quality in local streams, lakes, and aquifers to publicize any findings of potential public hazard and to provide background level information.
4. Support and coordinate with state and federal agencies' plans to contain and subsequently clean up toxic waste spills and/or contamination of area surface or ground waters.
5. Wherever feasible, facilitate the extension of sanitary sewer systems to areas within the Urban Growth Boundary where failing septic systems are causing groundwater or aquifer pollution problems, provided commitments to annexation can be obtained.

#### **IMPLEMENTATION METHODS**

1. Review any treatment facility plans to ensure compliance with state and local water quality standards.
2. Develop policies in conjunction with Benton County and state agencies to protect the North Albany aquifer. Wherever possible, improve existing systems and do not allow new septic tank systems which would increase aquifer pollution levels.
3. In conjunction with Linn and Benton Counties, impose area-specific moratoriums on new septic tanks within areas of known high rates of septic system failure or aquifer contamination, such as within the 2a area of North Albany.

#### **RECOMMENDATIONS**

1. Encourage the Oregon Department of Environmental Quality (DEQ) and the counties to work with the City to ensure a high level of water quality of surface streams flowing through Albany. Mutual programs should include:
  - a. Acquisition of better data on water quality on the Calapooia.
  - b. Periodic monitoring on other streams and lakes during low flow periods.
  - c. Methods and procedures for improving the Calapooia and any other problem streams, including attempts to increase summertime flows and reduce stagnant ponding.

2. Encourage Linn County and the Soil Conservation Service to improve water quality in Albany lakes, such as diverting additional water into those lakes during low stream flows, in order to improve recreational opportunities.
3. With the assistance of the State Department of Environmental Quality, Linn County, and other agencies; inventory water lake systems regarding such items as size, depth, water quality, bank stability, nutrients, etc.
4. Encourage both Linn and Benton Counties to continue their examination and improvement of areas where poor soil drainage causes failing septic tank systems or groundwater pollution. In addition, the counties should ensure that new permits will not increase problems of sewers leaching into drainageways and keep the City aware of efforts to solve the existing problem.

## **GOAL 6: AIR, WATER, AND LAND RESOURCES QUALITY**

### **AIR QUALITY SUMMARY BACKGROUND SUMMARY**

Air pollution is not entirely a local problem, but is regional in scope. The Albany area is part of the Willamette Valley airshed which is influenced by the topography and climate of the Willamette Valley basin and the concentration of human activities emitting air contaminants.

The Willamette Valley's physical and climatic conditions retard the dispersal of air pollutants. The mountains surrounding the valley on three sides confine air movement, and westerly winds are not generally strong enough to carry the air pollution eastward over the mountains. Thus, the valley is prone to prolonged periods of poor ventilation. The addition of manmade emissions from transportation systems, industrial activities, and agricultural practices result in the likelihood for some air pollution problems.

In the winter, surface cold air creates temperature inversions that reduce the mixing near the ground level, resulting in a higher concentration of carbon monoxide. However, past monitoring has indicated that air quality is actually at its worst during late summer and autumn when winds are light and variable, coinciding with the high concentration of suspended particulate due to extensive field burning in rural areas, human activity in urbanized areas, and industrial processes.

Albany depends upon the Department of Environmental Quality (DEQ) for information, monitoring, and enforcement of statewide pollution standards. DEQ has a coordinated review system to enable local jurisdictions to review permits for compliance with local plans and ordinances from any new project. DEQ monitors five criteria pollutants and suspended particulates. DEQ controls these emissions through a permit system. The five criteria pollutants are carbon monoxide, sulfur dioxide, ozone (which can include a review of hydrocarbons), nitrogen dioxide, and lead. All of these, in various combinations, can cause minor to severe health problems and extensive plant damage when there is prolonged exposure to excessive amounts. The DEQ is also responsible for monitoring and regulating those air-toxic, non-criteria pollutants which are "known" or "probable" human carcinogens.

Although Albany is presently in compliance with national ambient quality standards, the localized industrial area has had frequent violations of the primary total suspended particulate (TSP) standards. In the late 1970's, the TSP levels were high enough to trigger special restrictions, halting any additional increment in suspended particulate; although, official designation as a non-attainment area was curtailed due to a need for further testing. Further studies in 1981 and 1982 indicated general compliance with federal standards, but a 1985 fire in a local industry storage facility resulted in damages which reduced that industry's ability to control particulates. In 1985 the area exceeded both the secondary and primary federal standards. Data from 1986 has shown considerable improvement over 1985, but particulate counts still exceed pre-1985 levels.

The 1981 through 1986 data has more specifically defined the particulate problem. First, the monitoring showed that the particulate problem was very localized, extending into the city of Albany only along Century Drive north of Sherman Street. Secondly, the type of particulate was relatively large. The Federal EPA recently changed its standards for measuring particulates, adopting a PM<sub>10</sub> which measures smaller particulates which are more likely to cause health problems. The storage facility site did not exceed the PM<sub>10</sub> standard during the 1986 testing. Although the particulate problem requires continued monitoring, the more recent information and the change to a smaller particulate size standard indicates that new and future industries will be allowed particulate emissions. Other local industries emit sizable quantities of other criteria pollutants, but none of those have violated state or federal standards.

Specific point sources are not the only contributors to air pollution. Pollution also results from a number of sources which do not have specific locations, including automobile emissions, road dust, ash particulate from wood stoves, and field burning. It has been estimated that automobile emissions contribute over 77 percent of the

carbon monoxide and 55 percent of the hydrocarbons in Albany. Pacific Boulevard has been identified by DEQ as an area having excessive carbon monoxide resulting from congested automobile traffic, although higher standards for vehicles has helped mitigate this problem. Industrial fuels account for over two-thirds of the sulfur oxides present in the Albany-Millersburg area. Clearly, automobiles and industries are the primary sources of air quality problems in the area.

In addition to the criteria pollutants being monitored by the DEQ, there are other known pollutants being discharged into the Albany area air shed for which statewide standards currently do not exist. Area industries emit a number of pollutants about which there is limited information on long-term effects on health and the environment. Many of these, called air-toxics, are divided into categories according to the results of cancer studies. These categories are: known human carcinogens, probable human carcinogens, and possible human carcinogens. The DEQ has an ongoing air-toxic program concentrating on those emissions more likely to be carcinogenic. The DEQ not only regulates and monitors air-toxics and criteria pollutants on an annual basis, but is also notified when accidental discharges or 'upsets' take place.

Albany's economic future may depend upon the ability to control existing and potential air shed problems. Significant results can only be achieved through a combination of private, state, regional, and local efforts to improve existing conditions.

More detailed information on air quality can be found in the Background Report under Goal 6: Air, Water, and Land Quality.

## **GOAL 6: AIR, WATER, AND LAND RESOURCES QUALITY**

### **AIR QUALITY GOALS, POLICIES, & IMPLEMENTATION METHODS**

#### **GOAL**

Reduce air pollution in the Albany area and ensure that existing and future land use activities maintain air quality standards.

#### **POLICIES**

1. Promote programs and standards which will assure that the Albany/Millersburg air shed will maintain its DEQ air quality attainment status. As a minimum the City shall:
  - a. Cooperate with state and federal agencies to ensure that local land use activities and/or regulations comply with the Federal Clean Air Act, Environmental Protection Agency, and the Department of Environmental Quality.
  - b. Review any proposal requiring Notice of Construction (NC), Air Contaminant Discharge Permit (ACDP), or Indirect Source Construction Permit (ISCP) for areas inside the Albany Urban Growth Boundary to determine compatibility with the Comprehensive Plan.
  - c. Ensure that any industrial development with a significant air contaminant discharge be reviewed by the DEQ for determination of the impact on the Albany-Millersburg air shed.
  - d. Help provide information to new and expanding industries on air shed characteristics and existing pollution levels.
2. Encourage industrial developments with significant air contaminant discharges to undertake measures which can reduce air pollution and its impact through such measures as:
  - a. Utilizing appropriate buffer areas and vegetation.
  - b. Locating the discharge source where the impact is minimized.
  - c. Utilizing state of the art pollution abatement equipment and production and processing technology to reduce emissions.
3. Cooperate with other local governments in the region (Millersburg, Albany, Linn and Benton Counties, etc) and the DEQ to:
  - a. Exchange information on existing and potential air pollution problems.
  - b. Review options for improving air quality, considering all pollution sources such as agriculture, natural resource, man-induced area sources, and point sources.
4. Maintain a DEQ and Fire District regulatory system for control of open burning while working with surrounding jurisdictions to reduce the need for field burning areas adjacent to urban development.

#### **IMPLEMENTATION METHODS**

1. Obtain information from any new studies (public or private) regarding local air quality characteristics or potential changes and maintain an up-to-date information base concerning air pollution standards, problems, and issues. When appropriate, incorporate relevant information into the Comprehensive Plan and other reports.

2. Work with the DEQ, the City of Millersburg, and the Albany-Millersburg Economic Development Corporation to develop public information to assist new industries wishing to locate in Albany. Such information should include:
  - a. Brochures and reports which explain the characteristics of the Albany-Millersburg air shed.
  - b. Estimates of the amount and source of current air pollution.
  - c. Meteorological information.
  - d. Summaries of relevant regulations regarding air contaminant discharges.
3. Investigate installation of a 24-hour wind monitoring system at the Albany airport to obtain information on local wind characteristics to assist industry and the DEQ in determining the impacts of air discharges.
4. Develop local monitoring and enforcement capabilities to deal with offensive odors from agricultural, industrial, home occupation uses, and other activities.

### **RECOMMENDATIONS**

1. The DEQ should continue to monitor and conduct research in the Albany-Millersburg area and inform the City of Albany of the results of monitoring and also any approximate impact resulting from significant “upsets.” At a minimum, studies concerning air pollution should include:
  - a. New monitoring stations located off-site and downwind from industries having high emission levels, including monitoring of both criteria and non-criteria pollutants. Special attention should be given to suspected toxic materials.
  - b. Periodic carbon monoxide monitoring adjacent to the most heavily traveled areas of Pacific Boulevard.
  - c. Periodic particulate monitoring during winter stagnant air periods to assess the contribution of wood stove smoke to the total particulate load.
2. Request the DEQ to inform the City of regulations and rule changes which affect Albany air quality and area industries.
3. Encourage those industries which emit odors to work with the DEQ in reducing odors.

## **GOAL 6: AIR, WATER, AND LAND RESOURCES QUALITY**

### **SOUND QUALITY BACKGROUND SUMMARY**

Like most cities, Albany has many noise sources and has the potential for future noise pollution problems. Transportation is the largest noise source, with road traffic along Interstate-5 and other major arterials, train traffic along Albany's many railroad tracks, and the airport being the most significant sound sources. In addition to transportation noises, there are some noise emissions from a few industries resulting from industrial processes and communication devices (whistles, buzzers, and paging devices).

There are limits to what can be done to eliminate current noise situations, especially those caused by transportation. Prevention of future problems depends upon separating noise-generating areas from noise-sensitive areas, limiting noise emissions, and emphasizing noise insulation techniques in new construction.

Albany has two types of noise regulations covering industrial development and dealing with noise as a nuisance. The State Department of Environmental Quality also has standards for new and existing development; however, the DEQ regulates noise on a complaint basis only, consequently they are unaware of proposed developments which could violate the noise standards.

Noise problems are extremely difficult to solve after an area is developed, so the DEQ encourages local governments to consider noise factors in their planning and zoning decisions. This means cities would review proposed development to determine if land use plans would result in a violation of statewide standards. Review would include the siting of noise-generating facilities, noise-sensitive development close to a noise source such as residential development, transportation corridors and facilities, and public facilities such as the sewage treatment plant. Albany's industrial noise standards in the 1979 Zoning Ordinance were based on frequency levels which are different from the DEQ standards and which cannot be monitored by currently available equipment. The general regulations deal with noise as a nuisance, referring to restrictions for "loud, disturbing and unnecessary noise." Albany's Police Department handles citizens' complaints but does not monitor actual sound levels. Technical and monetary assistance is available from the Environmental Protection Agency to develop and implement sound quality maintenance programs utilizing sound measurement.

More detailed information on sound quality can be found in the Background Report under Goal 6: Air, Water, and Land Resources Quality.

## **GOAL 6: AIR, WATER, AND LAND RESOURCES QUALITY**

### **SOUND QUALITY GOALS, POLICIES, & IMPLEMENTATION METHODS**

#### **GOAL**

Reduce the adverse effects of noise in the Albany area.

#### **POLICIES**

1. Require each new or expanding industry with noise-generating operations or equipment to meet state and local noise regulations.
2. As much as possible, separate noise-sensitive uses and noise-generating uses.
3. Locate, design, and buffer noise-generating land uses such as major transportation facilities and industrial areas to protect both existing and potential noise-sensitive uses.
4. For new noise-sensitive development, encourage special construction, design, and buffering techniques in areas where that development would be impacted by noise.

#### **IMPLEMENTATION METHODS**

1. Determine noise contours around noise-generating land uses (transportation, commercial, or industrial) which impact adjacent property and, where feasible, require buffering techniques to diffuse, mitigate, and redirect that noise.
2. Require special review for proposed land uses with potential serious noise impacts to include an engineering noise analysis with anticipated noise contours. The following mitigating measures should be considered for any such development:
  - a. Increased setbacks for any buildings.
  - b. Special berms and heavy vegetation areas.
  - c. Site design such as establishing the parking areas as a buffer, having a low-use building serve as a sound barrier, or facing noise-sensitive areas away from the sound source.
  - d. Special sound insulation construction techniques.
  - e. Improvements as recommended by the DEQ or a qualified noise consultant.
  - f. Development of a bond or other financial agreements to ensure that the required noise reduction features are installed.
3. Minimize future noise impacts from roads and highways through the use of increased rights-of-way (for arterials, limited access expressways), landscaping, sunken road design, berms, etc.
4. Develop special zones around the airport, I-5, and other major noise-generating uses so that if noise-sensitive uses are allowed, they must have special noise insulating construction and other noise buffering features.
5. Develop a sound quality maintenance program which takes into account different neighborhood areas and utilizes performance standards such as the following (allowable statistical noise levels in any one hour):

7 am to 9 am

\*L<sub>50</sub> - 50 dBA

\*L<sub>10</sub> - 55 dBA

\*L<sub>1</sub> - 60 dBA

9 pm to 7 am

L<sub>50</sub> - 45 dBA

L<sub>10</sub> - 50 dBA

L<sup>1</sup> - 55 dBA

L<sub>50</sub> = noise level exceeded 50% of the time

\*KEY L<sub>10</sub> = noise level exceeded 10% of the time

L<sub>1</sub> = noise level exceeded 1% of the time

6. Develop an ordinance relating to heat pumps and mechanical devices which would restrict their installation if they exceed a noise level of 45 dBA within 25 feet of the nearest residential structure on an adjacent parcel of land or within the setback zone of any adjacent unoccupied parcel of land zoned for residential use.
7. Develop a coordinated set of procedures and responsibilities for the review and regulation of noise problems. Primary responsibilities would be as follow:

Activity

New Construction

Residential to Residential Nuisance

Residential to Residential Mechanical

Single Source Industrial/Commercial

Multiple Source Industrial/Commercial

Responsible Department

Planning and Building

Police

Building

Building and DEQ

DEQ