

CHAPTER 1: NATURAL RESOURCES

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

VEGETATION AND WILDLIFE HABITAT BACKGROUND SUMMARY

The Albany area is 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 Most of the Willamette Valley's native woodlands and prairies have been replaced by croplands. By 2011, most agricultural uses within Albany's city limits have given way to urban development. Vegetation within urban areas is comprised of mostly non-native 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. Albany's native vegetation and wildlife habitat sites are identified on Plate 3: Natural Vegetation and Wildlife Habitat.

The natural woodland vegetation along waterways and hillsides provides the most important wildlife habitat within the Albany area. Many species are dependent upon specific types of vegetative cover found only within riparian areas. Although no comprehensive field survey has been completed, over 250 bird and animal species may exist within the area. Records of wildlife sightings in Albany include birds, fish, other vertebrates, and plant species that are listed as endangered or threatened at the state and federal levels¹, and federally protected migratory birds.² The specific habitat locations of most of these species have not been determined or documented. Salmonids have been documented in the Willamette River, Calapooia River, Truax Creek, Periwinkle Creek and Cox Creek.

Wildlife habitat was designated as significant using the Safe Harbor methodology in state law³ for when one or more of the following conditions exist:

- (a) The habitat has been documented to perform a life support function for a wildlife species listed by the federal government as a threatened or endangered species or by the state of Oregon as a threatened, endangered, or sensitive species;
- (b) The habitat has documented occurrences of more than incidental use by a species described in (a);
- (c) The habitat has been documented as a sensitive bird nesting, roosting, or watering resource site for osprey or great blue herons pursuant to the Oregon Forest Practices Act and Rules;
- (d) The habitat has been documented to be essential to achieving policies or population objectives specified in a wildlife species management plan adopted by the Oregon Fish and Wildlife Commission pursuant to Oregon Revised Statutes (ORS) Chapter 496; or
- (e) The area is identified and mapped by Oregon Department of Fish and Wildlife as habitat for a wildlife species of concern and/or as a habitat of concern.

The Oregon Department of Fish and Wildlife documented that two species listed as "sensitive-critical" by the state were found in the Thornton Lakes area. The two sensitive species are the Northern Pacific (Western) pond turtle (*Actinemys marmorata*) and the Western painted turtle (*Chrysemys picta*). The Lakes provide critical habitat for these turtles as much of their lives are spent in slow-moving water.

The state requires the City to adopt a program to protect significant wildlife habitat. The City prepared an analysis of Economic, Social, Environmental and Energy (ESEE) consequences of allowing, limiting or prohibiting

¹ Oregon Heritage Information Center

² The Migratory Bird Treaty Act of 1918 protects more than 800 species of migratory birds

³ Oregon Administrative Rules, 660-023-0110 (4).

conflicting uses in the turtle habitat impact area. The analysis concluded that development should be reviewed for its potential impact to turtle habitat when it is within 75 feet from the ordinary high water mark of Thornton Lakes. The Significant Turtle ESEE Analysis is adopted into the Plan as a supporting document.

Other findings from the 2009 habitat assessments include the loss of connectivity between habitat sites and the overall declining value of them due to human encroachment. However, those associated with water, good food sources, and in close proximity to other habitats scored higher. Connectivity between many adjacent habitat sites is interrupted by housing developments and roadways. Wildlife need connected habitat corridors and often require a combination of food, water and vegetative cover necessary for travel, protection, feeding, and reproduction.

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 and trees 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, channeling 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, along major arterials, and Interstate 5.

More detailed information on vegetation and wildlife habitat can be found in the following Comprehensive Plan Background Reports:

- Goal 5 ESEE Analysis: Thornton Lakes Significant Turtle Habitat (2011).

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

VEGETATION AND WILDLIFE HABITAT GOALS, POLICIES, AND IMPLEMENTATION METHODS

GOALS

1. Ensure native vegetation remains an integral part of Albany's environment.
2. Protect and enhance significant wildlife habitat in the urban growth boundary.
3. Balance compact development patterns with natural resource protection.

POLICIES

1. Protect existing vegetation that possesses significant environmental, wildlife and fish habitat, aesthetic qualities, or educational and recreational values, particularly along the Willamette and Calapooia Rivers, their tributaries, and associated floodplains, wetlands, 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 existing mature and native landscaping-and incorporate native trees and vegetation into landscape plans. Landscaping shall address the need to:
 - a. Maintain existing wildlife habitat.
 - 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. Limit removal of native vegetation and wildlife habitat and introduction of non-native or invasive species in areas identified on Plate 3: Natural Vegetation and Wildlife Habitat. Mitigation for losses may be a requirement of development approval.
6. Provide flexibility in development regulations to locate development away from and/or limit adverse impacts to significant vegetation and wildlife habitat areas.
7. Require wildlife habitat assessments when new development is proposed in significant habitat areas in order to identify and maintain critical habitat.
8. Development within significant natural resource overlay districts shall be consistent with the relevant regulations or guidelines of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Federal Emergency Management Agency, Oregon Department of Fish and Wildlife, U.S. Army Corps of Engineers, Oregon Division of State Lands, and the Oregon Department of Environmental Quality.

9. Use a combination of programs that involve development regulations, purchase of land and conservation easements, educational efforts, and mitigation of impacts on resource sites in order to conserve, protect and enhance natural resource sites and values.

IMPLEMENTATION METHODS

1. Preserve existing vegetation through actions such as:
 - a. Maintain inventories of significant vegetation, wildlife habitat, 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 and habitat.
 - 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 reasonably feasible, significant trees both on and off the site. City staff shall work with applicants to develop alternatives that would minimize vegetation loss.
 - d. Application of Willamette River Greenway standards and 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 development code modifications. Especially consider the impacts on wildlife habitat when reviewing development in a natural resource overlay district, floodplains and vegetated hillside areas.
3. Adopt regulations that reduce impacts of development on significant wildlife species likely to be present on development sites, and mitigation of such impacts to the extent reasonably feasible. Regulations should allow for flexibility in development standards to achieve wildlife habitat protection.
4. Develop habitat friendly development standards and best practices.
5. When significant wildlife habitat is documented within the City's Urban Growth Boundary, revise the habitat assessment overlay district boundary, the development standards, and Plate 3 as necessary.

RECOMMENDATIONS

1. Encourage public and private acquisition programs for significant Goal 5 Resources; prepare and maintain a long-range list of priority resource locations for public acquisition.
2. Facilitate and encourage voluntary habitat protection and enhancement, habitat friendly development and maintenance practices, and low impact development.
3. Provide educational opportunities for the public through the internet and workshops on habitat friendly standards and impacts of habitat alterations.
4. Develop linkages with programs at Oregon State University, Linn and Benton Counties, watershed councils, and other organizations or volunteers that may be interested in assisting with activities such as education and outreach, or conducting habitat assessments.

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

OPEN SPACE & RIPARIAN RESOURCES BACKGROUND SUMMARY

Open space lands add to the livability of a community. 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, riparian corridors, 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, wedges and corridors of open space around natural features, steep, vegetated hillsides, floodplains, wetlands, drainage ways, rivers, water bodies and existing parks will increase in importance and will add value to the city. Some of Albany's environmentally sensitive areas, many drainageways, wetlands, and floodplains may need to be adapted to fit special urban needs for recreational and open space uses. 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 corridors of open space that are 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. Albany's streams, rivers and lakes are identified on Plate 4.

Riparian areas are found adjacent to a river, lake, or stream, and consist of the area of transition from an aquatic ecosystem to a terrestrial ecosystem. They often contain wetlands and native vegetation that improve water quality by providing shade to help moderate stream temperatures to support fish and other aquatic animals, trapping sediment, and stabilizing banks. Riparian areas provide valuable wildlife habitat, including food and nesting areas for a variety of animals, birds, and mammals, including anadromous salmonids. Riparian corridors also provide connectivity between habitat sites to provide a safe corridor for migrating birds and other wildlife that feed along lakes, rivers, and creeks. These corridors enhance the urban environment by providing open space, natural features, and corridors for trails and paths.

The state requires that cities inventory and determine significant riparian corridors using either the "safe harbor" method or the "standard" method, which analyzes each riparian resource to determine the corridor boundary. Pacific Habitat Services conducted riparian inventories for all water bodies within the City using a state-approved methodology called the Urban Riparian Inventory and Assessment Guide. The City elected to use the safe harbor method to define Albany's significant riparian corridors, which is 50 feet upland from the ordinary high water of Albany's lakes and fish-bearing water bodies. The riparian corridor includes the following water resources and associated in-stream lakes: Calapooia River, Burkhart Creek, Cathey Creek, Cox Creek, Crocker Creek, Horseshoe Creek, Oak Creek, Periwinkle Creek, Thornton Lakes, and Truax Creek. The Willamette River riparian corridor is located in the Willamette River Greenway. When the riparian corridor includes all or portions of a significant wetland, the district is measured horizontally from the upland edge of the significant wetland.

State law requires cities to adopt provisions to prevent the permanent alteration of significant riparian corridors, with some exceptions, and to control the removal of riparian vegetation. Albany's significant riparian corridors are identified as an overlay district in the Albany Development Code.

More detailed information on open space resources and riparian corridors can be found in the following Comprehensive Plan Background Report:

- Citywide Goal 5 ESEE Analysis: Riparian Corridors and Significant Wetlands (2011)

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

OPEN SPACE & RIPARIAN RESOURCES GOALS, POLICIES, & IMPLEMENTATION METHODS

GOALS

1. Ensure the provision of open space and protection of natural and scenic resources.
2. Maintain a healthy environment and natural landscape in riparian corridors.

POLICIES

1. Retain open space lands that provide at least one of the following:
 - a. Aesthetic and environmental relief from the intensity of urban development.
 - b. 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, Scravel 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 and riparian corridors for bicycle and pedestrian pathways.
4. 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.
5. The City shall preserve and enhance riparian corridors by managing uses and activities that could adversely affect riparian corridors through education, and adoption and enforcement of development standards.
6. Provide flexibility in some development regulations, such as setbacks, building height, and street widths, in order to protect significant riparian corridors. Where the combination of riparian, wetlands, and other requirements would result in an unbuildable lot, provide hardship variance procedures.
7. Limit the removal of native riparian vegetation.

IMPLEMENTATION METHODS

1. Preserve floodplains and riparian corridors to provide a basic open space framework for the community using the following guidelines:
 - a. Designate a riparian corridor overlay district that is 50 feet from the ordinary high water mark of Albany's significant riparian resources.
 - b. Designate floodways and significant riparian corridors as open space.

- c. When appropriate, require the dedication of public access easements for pedestrian and bicycle trails along those corridors designated for open space when development occurs on adjacent properties.
2. 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.
 3. Coordinate with City departments to:
 - a. Develop management measures for, and public access to, city-owned open space, riparian corridors, vegetation, wildlife habitat, wetlands, and lands designated as floodplains consistent with the preservation and enhancement of open space values.
 4. Develop a cultural resources management plan that recognizes the open space and historic value of the Santiam Canal, with best management practices.
 5. 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 that are associated with riparian areas.
 - c. Important vegetation and wildlife habitat areas located within flood fringe areas.

RECOMMENDATION

1. Encourage Linn and Benton Counties, residents, and developers 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.
2. Encourage Linn and Benton Counties to notify the City and request comment on development actions within the Urban Growth Boundary that would impact a wetland.
3. Encourage the Oregon Division of State Lands to periodically review the regional cumulative impacts of development upon wetlands in the mid-Willamette Valley in order to monitor their extent and quality and to determine to what degree the resource has been enhanced or degraded and thus what level of protection is needed.
4. Provide educational opportunities for the public through the internet and workshops on benefits of wetlands and wetland restoration.
5. Develop linkages with programs at Oregon State University, Linn and Benton Counties, watershed councils, and other organizations or volunteers that may be interested in assisting with activities such as education and outreach, or natural resource management.

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

WETLAND RESOURCES BACKGROUND SUMMARY

The nation's coastal and inland wetlands are vital natural resources to the nation as a whole and to our area in particular. Wetlands are areas of great natural productivity, hydrological utility, and environmental diversity. They provide natural flood control, improved water quality, recharge of aquifers, flow stabilization of streams and rivers, and habitat for fish and wildlife resources. Wetlands contribute to the production of agricultural products and timber, and provide recreational, scientific, and aesthetic resources of national interest.

Many people enjoy passive or "non-consumptive" recreation such as bird watching and photography, and wetlands provide some of the best opportunities for these activities. Education groups, including public schools, use wetlands for a variety of outdoor learning activities that stimulate interest in sciences, literature, art, and other disciplines. Wetlands provide tranquil open space that contributes to individuals' sense of well-being. Wetland planning can protect these values for the community.

Wetlands are defined in ORS 196.800(16) as those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are part of larger interconnected hydrologic systems within a watershed. Alteration to any part of the system will affect the function of the system as a whole. Some wetlands provide year-round or seasonal habitat for wildlife and plant species that are completely dependent on the wetland habitat for all or part of their life cycle. These species, in turn, support other species, both terrestrial and aquatic, that would be diminished by loss of the wetland habitat. Wetlands support a crucial stage of development for most of the fish species in Oregon that are currently listed as threatened or endangered under the federal Endangered Species Act. Without adequate wetland resources, these populations cannot recover in the wild. Thirty-five percent of the federally listed threatened or endangered plants in Oregon are either dependent on or usually found in wetlands.

The soil chemistry of wetlands has a unique ability to transform certain nutrients and pollutants into forms that are less harmful to the water quality of adjacent streams or groundwater. The unique ability of wetlands to purify water has been used by various industries to treat their wastes. In many places, including the Albany-Millersburg Talking Water Gardens, artificial wetlands have been specifically designed and constructed to provide natural treatment for wastewater flow. The Albany-Millersburg Talking Water Gardens wetlands system will be the final step in returning this treated water safely to the Willamette River. Talking Water Gardens will become a destination outdoor recreation.

The unwise use and development of wetlands will destroy many of their special qualities and important natural functions, and have an adverse impact on natural resources.

Wetland loss occurs mainly from land use practices. Government policy can be responsible for or can influence these practices in the construction of projects, in the management of its own properties, in the provision of financial or technical assistance, and in its role of shaping and providing land use regulations. In 1989, Oregon adopted a process to inventory wetlands and develop a management program that complies with statewide planning Goal 5. This management strategy may range from complete protection of the resource to fully allowing conflicting uses. However, since the goal is "to conserve ... and protect ...," the emphasis is toward the restriction of uses that would deteriorate the resource or its open space values.

Between 1992 and 2001, the City conducted local wetland inventories (LWI) in areas with development potential within the City: East I-5; North Albany; Southeast Industrial Area; Willamette River, Calapooia, and Oak Creek. All of the local wetland inventories were approved by the Division of State Lands. The approved LWIs replace the National Wetlands Inventory and are incorporated into the state's wetland inventory. The LWIs are adopted

by reference in the Comprehensive Plan. The Oregon Department of State Lands maintains the LWIs on their website. Wetlands identified in the LWIs are mapped on Plate 6.

The City used the criteria outlined in state law to determine which wetlands in the LWI were significant by assessing wetland functions and conditions. Wetlands must be classified as significant if *any* of the criteria can be met for the wetland (OAR 141-086-0350):

- The wetland provides diverse wildlife habitat.
- At least one of the following wetland functions is intact: fish, water quality, OR hydrologic control.
- The wetland is less than ¼ mile from a water body listed by the Department of Environmental Quality (DEQ) as a water quality limited water body and the wetland contributes to improving the conditions related to the DEQ listing.
- The wetland contains a rare plant community.
- The wetland is inhabited by any species listed federally as threatened or endangered or state listed as sensitive, threatened or endangered.
- The wetland has direct surface water connection to a stream segment mapped by Oregon Department of Fish and Wildlife as habitat for indigenous anadromous salmonids and the wetland’s fish habitat function is intact, impacted or degraded.

The City elected to use a modified version of the “safe harbor” approach to protect most significant wetlands based on a citywide Economic, Social, Environmental and Energy (ESEE) analysis was done.

The Citywide ESEE Analysis evaluated the consequences of allowing, limiting, or prohibiting public infrastructure across waterways and significant wetlands throughout the City. The analysis concluded that a limited protection program with mitigation would provide substantial protection to significant wetlands, while providing for public infrastructure that is necessary to support urban development. This approach is identified in the following goals, policies, implementation methods, and recommendations with specific regulation criteria included within the Development Code.

While the City has developed a wetland management program, it is not the only governmental agency with regulatory authority. On all wetland sites, state and federal agencies including the State Division of Lands, State Department of Environmental Quality, Environmental Protection Agency, and U.S. Army Corps of Engineers, may also exercise regulatory authority. These regulations, along with City regulations, create the foundation for a coordinated and comprehensive wetland management strategy.

More detailed information on Albany’s wetlands can be found in the following Comprehensive Plan Background Reports:

- Citywide Goal 5 ESEE Analysis: Riparian Corridors and Significant Wetlands (2011).

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

WETLAND RESOURCES GOALS, POLICIES, & IMPLEMENTATION METHODS

GOAL

Protect wetlands to ensure their continued contribution as natural areas, open space, wildlife and vegetative habitat, and storm water retention and conveyance.

POLICIES

1. Protect and enhance wetlands adopted as significant in the Local Wetland Inventory.
2. Prohibit development within significant wetlands except for planned public utilities and infrastructure.
3. Within the city limits, wetlands within a floodway or significant riparian corridor shall receive ~~maximum~~ protection and any development proposed ~~f~~ shall not degrade the resource.
4. Coordinate the review of any development proposal that could impact a wetland with applicable local, state, and federal agencies including Linn and Benton Counties, the Oregon Division of State Lands, the Army Corps of Engineers, Soil Conservation Service, Soil and Water Conservation Districts, etc.
5. Review all land use applications to determine if wetland characteristics exist on the proposed development site. The actual extent and boundaries of wetland areas shall be determined on a case-by-case basis through a wetland determination or delineation.

IMPLEMENTATION METHODS

1. Maintain a wetland inventory that identifies the following:
 - a. All wetlands identified in the Local Wetland Inventory and the National Wetland Inventory within the city's urban growth boundary.
 - b. Locally significant wetlands.
 - c. Wetland sites within the urban fringe which will require additional information to determine the status of the resource and exact boundaries and may be subject to state and federal and future local regulation.
2. Encourage applicants to acquire a more formal determination from the Oregon Division of State Lands or other applicable state and federal agencies when development is proposed that would impact an uninventoried site or when there are differences between current wetland inventory information and actual site conditions. Other precise or updated information regarding site-specific wetland resources or boundary locations may be submitted as part of a development application, including special studies, delineations, or other information prepared by qualified parties and which are accepted by state and federal regulatory agencies.
3. Apply the Open Space Comprehensive Plan and Zoning Designation to the following areas:
 - a. Local lakes, canals, streams, drainageways, and associated floodway.
 - b. Important vegetation and wildlife habitat areas located within the floodway and flood fringe areas.
 - c. Inventoried wetland sites within the city that are associated with riparian corridors.

4. Apply specific management measures and conditions of approval, consistent with state and federal regulations, to protect and enhance significant wetlands such as:
 - a. Regulation of fill and drainage of wetland areas.
 - b. Limiting vegetation removal.
 - c. Establishing buffer and setback requirements for adjacent development.
 - d. Allow limited impacts to wetlands in hardship situations through the adjustment or variance process, or an ESEE analysis when changes in circumstances would warrant an amendment to the protection program for a specific wetland.

5. Ensure no development will result in the elimination or degradation of a significant wetland area, or be located totally within a wetland without acquiring permit approval from state and federal regulatory agencies and the City of Albany, and where necessary amending the significant wetland overlay zoning district. Also, ensure development does not infringe upon such a wetland, without meeting the following criteria:
 - a. The development cannot be located outside the wetland area, or the wetland is proposed to be reconfigured such that the proposed total area is at least equal in size and quality to the wetland area existing prior to the proposed development.
 - b. The encroachment upon the wetlands is the minimum necessary to complete the development.
 - c. Encroachment upon wetlands or change of drainage patterns or other actions which would adversely affect wetland characteristics have been mitigated.
 - d. Development review is coordinated with the Oregon Division of State Lands, the Army Corps of Engineers, and other applicable agencies and all other required state and federal permits have been obtained.
 - e. The applicable floodway or floodplain requirements of the Albany Development Code have been met.
 - f. Applicable Goal 5: Open Spaces, Scenic and Historic Areas and Natural Resource policies of the Comprehensive Plan have been addressed.

6. Where possible, improve wetland areas to provide flood retention, storm drainage, vegetation and wildlife habitat, compatible recreation opportunities, and scenic quality.

7. When planning for future storm drainage projects recognize the importance of wetlands as part of the overall drainage system and ensure their preservation for retention and discharge of storm drainage and flood waters.

RECOMMENDATIONS

1. Encourage Linn and Benton Counties, residents, and developers 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.

2. Encourage Linn and Benton Counties to notify the City and request comment on development actions within the Urban Growth Boundary that would impact a wetland.

3. Encourage the Oregon Division of State Lands to periodically review the regional cumulative impacts of development upon wetlands in the mid-Willamette Valley in order to monitor their extent and quality and to determine to what degree the resource has been enhanced or degraded and thus what level of protection is needed.

4. Provide educational opportunities for the public through the internet and workshops on benefits of wetlands and wetland restoration.
5. Develop linkages with programs at Oregon State University, Linn and Benton Counties, watershed councils, and other organizations or volunteers that may be interested in assisting with activities such as education and outreach, or natural resource management.

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 Eleven 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). 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 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 PM₁₀ which measures smaller particulates which are more likely to cause health problems. The storage facility site did not exceed the PM₁₀ 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

*L₅₀ - 50 dBA

*L₁₀ - 55 dBA

*L₁ - 60 dBA

9 pm to 7 am

L₅₀ - 45 dBA

L₁₀ - 50 dBA

L¹ - 55 dBA

L₅₀ = noise level exceeded 50% of the time

*KEY L₁₀ = noise level exceeded 10% of the time

L₁ = 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:

<u>Activity</u>	<u>Responsible Department</u>
New Construction	Planning and Building
Residential to Residential Nuisance	Police
Residential to Residential Mechanical	Building
Single Source Industrial/Commercial	Building and DEQ
Multiple Source Industrial/Commercial	DEQ

[The entire Goal 5, Chapter 1, was updated with the current language per Ordinance 5764, effective December 1, 2011.]