

Chapter 1:

INTRODUCTION

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Chapter 1: INTRODUCTION

1.1 INTRODUCTION

This King County report Best Available Science (BAS) Volume II, *Assessment of Proposed Ordinances* assesses critical area protection, as required by the State Growth Management Act, under the proposed Critical Areas, Stormwater and Clearing and Grading Ordinances. The October 2003 *Best Available Science* report was divided into two volumes for this Executive Report to clarify the different procedures of first, obtaining best available science and second, including this science in the development of regulations for critical area protection. BAS Volume I, *A Review of Science Literature* discusses recommendations from scientific studies and literature that are applicable to critical area protection. BAS Volume II, *Assessment of Proposed Ordinances*, focuses on the assessment of the proposed King County standards, including the risk assessment process, and Policy Group process. The Policy Group is a King County cross-departmental group of department and division directors, and an attorney from the Prosecuting Attorney's Office (see credits pages). It is recommended that the two Best Available Science volumes are used as one report, as the foundation of the scientific information is integral to the assessment and understanding of the proposed standards.

This introduction chapter first explains the purpose and background to provide context for the assessment chapters that follow. A discussion on hazard areas and risk assessment explains the difference in approach to different critical areas. Second, an overview of policy and land-use context is provided to understand additional goals and regulations that the Policy Group considered in combination with the assessments. A final section briefly summarizes the overall content of the report.

This BAS Volume II, *Assessment of Proposed Ordinances*, and its companion report BAS Volume I, *A Review of Science Literature* and the revised proposed ordinances were transmitted to the King County Executive in February 2004 and are available at <http://www.metrokc.gov/ddes/cao>.

1.1.1 Purpose and Background

The purpose of this report is to provide an assessment of the proposed King County standards to protect critical areas. The proposed Critical Areas ordinance (CAO) revises protection regulations for all critical areas and is linked to the proposed Clearing and Grading and Stormwater Ordinances to provide additional protection regulations. This report was used to determine if State requirements to include best available science in the development of policies and regulations were met. The Washington Administrative Code requirements given in WAC 365-195-900 to 925 are discussed overall in the BAS Volume I report (see Chapter 1 and Appendix A) with sections relevant to the development of regulations and their assessment discussed below. The following section of the Washington Administrative Code provides guidance for including BAS and also what to do when the ordinance standards depart from BAS.

WAC 365-195-915 Criteria for including the best available science in developing policies and development regulations.

(1) To demonstrate that the best available science has been included in the development of critical area policies and regulations, counties and cities should address each of the following on the record:

(a) The specific policies and development regulations adopted to protect the functions and values of the critical areas at issue.

(b) The relevant sources of best available scientific information included in the decision-making.

(c) Any nonscientific information—including legal, social, cultural, economic, and political information—used as a basis for critical area policies and regulations that depart from recommendations derived from the best available science. A county or city departing from science-based recommendations should:

(i) Identify the information in the record that supports its decision to depart from science-based recommendations;

(ii) Explain its rationale for departing from science based recommendations; and

(iii) Identify potential risks to the functions and values of the critical area or areas at issue and any additional measures chosen to limit such risks. State Environmental Policy Act (SEPA) review often provides an opportunity to establish and publish the record of this assessment.

The review of literature (BAS Volume I) determined the best available science (BAS) for King County, as required in WAC 365-195-915(1)(b). The next step was to include BAS in the development of the policies and regulations. This process involved the initial development of the standards using BAS, a presentation to the Policy Group to discuss the range of scientific findings and develop recommendations, a hazard assessment for critical areas regulated for public health and safety, and a risk assessment for aquatic, wildlife and wetland critical areas. These assessments determine whether the standards are consistent with (defined as within the range of scientific findings identified in the Best Available Science report) or depart from best available science. Since BAS was continually being refined through review, public comment, and during the assessment of the standards, the above process was not linear, but cycled through numerous reviews and discussions until the optimum balance between multiple goals and objectives was achieved.

The WAC requirements above are addressed throughout Chapters 2 through 4, with WAC 365-195-915(1)(c) addressed more specifically in the “Assessment” and “Policy Discussion” sub-sections. For standards that apply to aquatic, wildlife, or wetland critical areas there are additional qualitative discussions of risk. Additionally, more than one regulation or critical areas protection mechanism may affect a critical area, and it is not possible to fully anticipate when a departure, or near departure, from BAS will negatively impact a critical area, or whether another regulation or program will serve to protect a critical area. Chapter 5, Institutional Context, discusses the influence of the political system on critical area protection and provides summaries of additional King County programs that support critical area protection.

1.1.2 Hazard and Risk Assessments

The regulations for critical areas in the proposed King County Code can be divided into two major groups to understand their assessment for hazard or risk. The first group includes critical areas that are regulated for the primary purpose of protecting members of the public from injury, loss of life, property damage, or financial loss due to natural hazards or to protect public health. This group includes the following critical areas: Flood Hazard Areas, Channel Migration Zones, Geologic Hazard Areas (Seismic Hazard Areas, Erosion Hazard Areas, Landslide Hazard Areas, Volcanic Hazard Areas and Coal Mine Hazard Areas), and Critical Aquifer Recharge Areas. Flood hazard areas, channel migration zones, and geological hazard areas are all considered “high risk” areas for public safety and property, and therefore designated as hazard zones. Critical aquifer recharge areas are assessed to protect and prevent risks to water quality and quantity in order to protect public health. The risk of not protecting critical aquifer recharge areas is contamination of groundwater resources. Since groundwater is used as a drinking water source, contamination of groundwater represents a risk to human health.

Hazard Area assessments determine the amount of hazard to humans for particular areas so regulations can help prevent their occurrence. For example, two distinct areas, the moderate and severe channel migration hazard areas, are delineated in recognition that the hazard to public safety is not the same throughout the width of the channel migration zone (CMZ). Land that is closer to a migrating channel is at greater risk of erosion, even if it is at a higher elevation than the identified flood hazard elevation. Channel migration hazard to human habitation, structures and property generally decreases with greater distance from the migrating channel. The severe channel migration hazard area is that area predicted to experience erosion within the next 100 years. Unlike the 100-year floodplain, its delineation is not based on a statistical analysis so it is not possible to state that there is a one-percent chance of erosion occurring in any given year throughout the entire severe hazard area. Instead, it is predicted that the channel will occupy the entire severe channel migration hazard area within the next century. There is no specific timeframe associated with the moderate channel migration hazard area, except that the channel is not predicted to migrate into the moderate hazard area until 100 years in the future.

A risk analysis relating to the impact on fish and wildlife and their habitats is not included in the hazard area assessments. However in many cases, the hazard areas regulated under King County Code correspond with other critical areas for which the direct purpose is protecting species and habitat. This is especially true for flood hazard areas and channel migration zones, which generally coincide with aquatic or wetlands critical areas and their associated wildlife critical areas. When the protection of hazard critical areas also provides protection to species and habitat, then the protection standards are assessed in the relevant Aquatic Areas, Wildlife Areas, or Wetlands assessment sub-sections.

Risk Assessment for Protection of Species and Habitat

The second major group of critical areas includes Aquatic Areas, Wildlife Areas, and Wetland Areas, which are regulated for the protection of species and habitat. The final step in the analysis of the ordinance standards was to assess the level of risk (hence, “risk assessment”) to these critical areas if the standards differ from or depart from recommendations in the best available

science. If the standard is not within the range of BAS then it is said to “depart” from best available science.

Risk assessments take science into consideration, policy decisions, implementation of standards, complete detection of critical areas, or landowner participation in incentive programs. There can be a level of uncertainty in BAS, the rate of land-use change in the future, and several other factors that are all weighed into the qualitative assessment of risk.

The risk assessment methodology used by King County has three steps. The first step is the assessment of the proposed standards when compared to best available science (BAS). The assessment indicates where the standard is located within a range of protection recommendations suggested by BAS. Standards that depart from the protection recommendations suggested by BAS are identified according to best professional judgement and the rationale for conclusion on departure is explained. The critical area functions or values effected by the standard, or its departure, are identified and discussed.

The second step is to identify the level of risk to the functions and values for the standard, particularly if it departs, or nearly departs, from BAS. The level of sensitivity of the affected function to permitted land uses is discussed qualitatively. An overall risk classification for the effected functions is given at site and landscape scales, and for short (5 year) and long term (25 year) time scales. Overall risk to critical areas and biological functions is qualitatively discussed for all standards combined that are inconsistent with BAS and all functions at risk.

The final step in the risk assessment process is to discuss the level of uncertainty in the analysis and conclusions. Uncertainty can originate from a variety of conditions such as areas where BAS was not available, the risk conclusions, how cumulative effects could affect the risk determinations, or overall risk. Additional analysis that could occur to verify conclusions (e.g., field work, GIS, additional research, monitoring, etc.) and decrease uncertainty is discussed.

Risk is important to assess because it helps determine if any departures, or near departures, from BAS in the code will negatively impact affected species or habitat. Because of current regulatory constraints, the science that is evaluated for each of the wildlife species and habitats is typically the science for only a single portion of the life history of a given species, and not for metapopulation dynamics. For example, when current literature indicates that bald eagles need a large undisturbed area around the nest, that science is accurate and the best available for that one species’ specific need. This evaluation does not take into account the dynamic nature of populations, such as how well various bald eagle habitats are interconnected with one another and with the required habitats of its prey species. This is the level of uncertainty that is identified in the final step of the risk assessment process.

1.2 OVERVIEW OF POLICY AND LAND-USE CONTEXT

In developing its proposed standards, the need for consistency with Best Available Science (BAS) was the overarching goal and with few exceptions, the standards fell within the range recommended by BAS. When the proposed standards depart from best available science, the CAO Policy Group balanced other County obligations and goals, such as the King County

Comprehensive Plan policies, or the 14 goals of the Growth Management Act (GMA), which guide GMA plans and regulations. GMA's 14 Goals are summarized below.

- Focus urban growth in urban areas.
- Reduce sprawl.
- Provide efficient transportation.
- Encourage affordable housing.
- Encourage sustainable economic development.
- Protect property rights.
- Process permits in a timely and fair manner.
- Maintain and enhance natural resource-based industries.
- Retain open space and habitat areas and develop recreation opportunities.
- Protect the environment.
- Encourage citizen participation and regional coordination.
- Ensure adequate public facilities and services.
- Preserve important historic resources.
- Manage shorelines wisely.

The broad goals of GMA are balanced within different areas of the County to meet a variety of citizen's needs. The two sections below, Urban Growth Areas and Rural Areas, discuss different geographic areas within the County that influence decision-making for the proposed CAO, Stormwater, and Clearing and Grading Ordinances. Even though the proposed ordinances apply only to unincorporated lands within King County, the surrounding context has direct impacts – environmental, economic, or political - on those lands, and thus is important to understand.

1.2.1 Urban Growth Areas (UGAs) Context

In 1994, in response to GMA, King County established Urban Growth Areas (UGAs). The objective of UGAs is to contain the majority of urban growth within designated areas. Population growth from 1980 to 1990 was 18.7 percent with a slightly slower increase of 15.2 percent from 1990 to 2000. As of 2002 King County was the thirteenth most populous county in the nation with 1,774,300 people (King County 2002). The growth rate forecasted for 2012 is eleven percent or an additional 190,000 people (King County 2001).

Housing units have increased by 14 percent since 1990 with land being primarily developed, or redeveloped within the UGA, with much of it in designated Urban Centers. The 2002 Benchmark Reports (King County 2002) indicates an adequate land supply to meet housing and job targets through 2012 and beyond.

In 1997, the Washington State legislature adopted the Buildable Lands amendment to the Growth Management Act, (RCW 36.70A.215). The amendment requires six Washington counties and their cities to determine the amount of land suitable for urban development, and evaluate its capacity for growth, based upon measurement of five years of actual development activity. King

County and the other five counties must report to the State by September 1, 2002 and every five years thereafter.

The geographic scope of the Buildable Lands Report (King County 2002c) is the Urban Growth Area (UGA) of King County. The UGA includes all 39 cities and the Urban-designated portions of unincorporated King County. It does not include Rural or Resource designated areas (see Map in Chapter 1, BAS Volume I). Unless otherwise specified, the term “King County” in the Buildable Lands Report usually refers to the UGA.

The Buildable Lands Program strives to answer four main questions:

- What is the amount and actual density of growth in recent years?
- Is the capacity of the land supply adequate to accommodate current growth targets?
- Has development occurred at densities consistent with planning assumptions and targets?
- Are urban densities being achieved within the Urban Growth Area?

The answers to these questions are detailed in the body of the Buildable Lands Report. In brief, the Buildable Lands Report concludes that:

- King County has achieved 38% of its household target in 40% of the twenty-year planning period (i.e. the first 8 years of the 1993-2012 period).
- King County has housed more than 50% of the population forecast for that period.
- King County has capacity for 263,000 more housing units - more than twice the capacity needed to accommodate the remaining household growth target.
- King County has the capacity for over 600,000 more jobs - several times the remaining target of 110,000 jobs.
- Densities being achieved in four urban sub-areas are sufficient to accommodate
- targeted growth.
- Overall residential urban densities exceed seven dwelling units per acre.

The conclusions of the Buildable Lands Program in 2002 were as follows:

- King County has been successful in accommodating strong population and employment growth from 1993 - 2000.
- King County has well over the capacity needed to accommodate the growth that is expected to occur by 2012.
- Sufficient capacity exists to accommodate further growth beyond the 2012 planning horizon.
- However, the supply of vacant land is limited, especially of large parcels for single family development. The remaining supply must be used efficiently.
- Densities of recent residential and commercial / industrial projects indicate efficient use of the land supply.

All the sub-areas of King County show adequate capacity for the target period through 2012, and beyond. A few individual cities have a potential shortfall with respect to their target.

1.2.2 Rural Lands Context

As discussed above, most of the growth is targeted to occur within the Urban Growth Area (UGA) through higher housing densities, and provision of government facilities and services. However, the majority of unincorporated King County lands is located outside of the UGA in a central area between the western cities and the eastern forest-production district (see Map 1, Unincorporated King County Major Land Uses). Rural lands importance and protection is described below in a legislative finding:

RCW 36.70A.011 Findings—Rural lands. The legislature finds that this chapter is intended to recognize the importance of rural lands and rural character to Washington's economy, its people, and its environment, while respecting regional differences. Rural lands and rural-based economies enhance the economic desirability of the state, help to preserve traditional economic activities, and contribute to the state's overall quality of life. The legislature finds that to retain and enhance the job base in rural areas, rural counties must have flexibility to create opportunities for business development. Further, the legislature finds that rural counties must have the flexibility to retain existing businesses and allow them to expand. The legislature recognizes that not all business developments in rural counties require an urban level of services; and that many businesses in rural areas fit within the definition of rural character identified by the local planning unit.

Finally, the legislature finds that in defining its rural element under RCW 36.70A.070(5), a county should foster land use patterns and develop a local vision of rural character that will: help preserve rural-based economies and traditional rural lifestyles; encourage the economic prosperity of rural residents; foster opportunities for small-scale, rural-based employment and self-employment; permit the operation of rural-based agricultural, commercial, recreational, and tourist businesses that are consistent with existing and planned land use patterns; be compatible with the use of the land by wildlife and for fish and wildlife habitat; foster the private stewardship of the land and preservation of open space; and enhance the rural sense of community and quality of life. [2002 c 212 § 1.]

King County's protection of resource based industries has also influenced the proposed regulatory approach and has resulted in the development of flexible programs for Farm Planning (see Chapter 3 and Appendix A of this volume). There is also a flexible program for Rural Stewardship (see Chapter 3 of this volume). This is in compliance with the GMA, particularly the legislative findings above.

Rural Area

Rural Area is a designated land use within unincorporated King County and is comprised of all lands outside of the designated Urban Growth Areas, and Forest and Agricultural Production Districts. Rural Area has three land use categories: Rural, Rural Town, and Rural Neighborhood. Rural allows low-density residential (1 unit per 2.5 acre, 1/5 acre, 1/10 acre, 1/20 acre), forestry, farming, and a range of traditional rural uses. Rural Town recognizes historical settlement patterns and allows commercial uses to serve rural residents. Rural Neighborhood allows small-

scale convenience services for nearby rural residents. Low-density residential is the predominant land use, currently occupying approximately 85 percent of the designated Rural Area.

The first category of Rural Area contains working farms and forest that provide rural character and economic value and contribute to open space, wildlife habitat, and environmental quality. Encroachment by incompatible land uses conflicts with the conservation efforts of these lands and increases pressure for conversion to residential use. However, since 1996 King County has been implementing the recommendations of the Rural Farm and Forest Report to encourage small-scale forestry, conserve farmland, sustain farming, and assist stewardship and incentive programs. Farmland outside the Agricultural Production District totals 25,352 acres and is primarily in non-dairy livestock (21,309 acres) and horticultural operations (1,279 acres).

The Rural Forest Focus Areas (formerly called Rural Forest Districts) are located within the Rural Area adjacent to the western edge of the Forest Production District and adjacent to areas of the Agricultural Production District. The Rural Forest Focus Areas were designated in 1996 to protect smaller parcels in forest use by providing incentives and programs to assist landowners to retain forest use. In 1996 there were 2,973 parcels in Rural Forest Focus Areas comprising a total of 48,292 acres. By 2002 the total acreage had only increased slightly to 48,699 acres, but the number of parcels had increased to 3,988. The proportions of these increases reflect a trend of smaller parcels enrolling in the program or subdivision of existing parcels. The number of property owners increased from 1,487 in 1996 to 2,125 in 2002.

Resource Lands

Resource Lands include lands whose primary activity is agriculture, forest production, or mining of long-term commercial significance. These lands are protected through provisions of the State Growth Management Act and the King County 2000 Comprehensive Plan. In general, the use of these lands is considered more compatible in the long term with critical areas protection for terrestrial and aquatic wildlife because any adverse environmental impacts associated with resource land use practices have the potential to heal over time, whereas those associated with development are usually irreversible (KC 2001). However, some activities on resource lands, particularly agriculture, may pose particular threats to both terrestrial and aquatic wildlife and are being addressed, in part, through the proposed CAO. Further information can be found in Appendix A – The Effects of Agriculture Operations on Critical Areas.

Forest Lands

Forestlands provide both economic and environmental benefits that are important to the health of the region. Sixty percent of King County's land area, or 1,300 square miles (825,000 acres), is within the designated Forest Production District (FPD). The FPD is in the eastern half of the County, and about 70 percent is in public ownership. Public forest lands include parts of the Alpine Lakes Wilderness Area, Mt. Baker-Snoqualmie National Forest, state and county parks, lands owned by Washington State Department of Natural Resources, and watersheds for the cities of Seattle and Tacoma. Commercial forestry is conducted on large blocks of forest lands in private ownership (approximately 250,000 acres) and state and federal lands (277,000 acres) (King County, 2001).

The Washington State Department of Natural Resources (DNR) generally regulate Forest practices under the Forest Practices Rules. Information on the type of activities allowed in forest

management and harvest can be found on DNR's web site <http://www.dnr.wa.gov/forestpractices>. King County regulates lands that convert from forest practice to another non-forest land use in the FPD. Residential development is highly restricted (one unit/ 80 acre) within the FPD to protect long-term viability of the resource and environmental health.

Agricultural Lands

In the early 1960s approximately 100,000 acres of prime farmland soils were available for farming in King County, but today less than 42,000 acres remain available for agricultural use. This change represents an irreplaceable 60 percent loss of prime farmland to urban and suburban development. A 1979 voter-approved initiative authorized the County to purchase the development rights on farmlands. Since then, the King County Farmlands Preservation Program has purchased development rights on or enrolled in the Public Benefit Rating System 12,800 acres, or 231 farms. These protected farmlands are located primarily in the Lower and Upper Green, Sammamish, and Snoqualmie river valleys and on the Enumclaw Plateau and Vashon Island.

In 1985 King County established Agricultural Production Districts (APD) to support farm communities of large, contiguous farms located on prime agricultural soils. With the exception of the farmland preserved on Vashon Island, the APDs overlap the same areas preserved through the Farmland Preservation Program. These districts support a variety of farms such as dairies, beef, horse and other animal operations, nurseries, turf farms, and farms raising hay, silage, berries, row crops, flowers, and Christmas trees. Currently within the APD there are 25,227 acres in the following types of farm use: (1) non-dairy livestock operations (18,282 acres), (2) dairies (4,334 acres), (3) horticultural operations (2,611 acres). Activities allowed in these areas are regulated to provide the maximum support to sustaining agricultural use.

Mineral Lands

Mineral lands are designated and conserved under the State Growth Management Act and the King County Comprehensive Plan. Mineral lands are highly regulated to protect environmental quality both during the mining extraction process and the subsequent reclamation of the land. Management of reclamation is through the State Department of Natural Resources and is not addressed comprehensively in the CAO.

1.3 REVIEW OF CONTENTS

This report is organized into the following chapters:

Chapter 1 Introduction

The purpose and background for the assessment of the proposed ordinances is provided. Hazard and risk assessments are defined in the context of critical area protection. An overview of the policy and land-use context is given.

Chapter 2 Assessment of CAO Fixed Standards

A general overview of the proposed CAO fixed standards is provided and then followed by detailed assessments of the standards. Sections 2.6 – Aquatic Areas, 2.7- Wildlife Areas, 2.8 -

Wetlands contain a discussion on risk assessment to address any departures from the best available science within the fixed standards.

Chapter 3 Incentives and CAO Planning Programs

Options for compliance are presented along with an assessment of the programs.

Chapter 4 Assessment of Stormwater, and Clearing and Grading Ordinances

An overview and assessment of the stormwater ordinance and Clearing and Grading ordinance standards that are linked to critical area protection is given.

Chapter 5 Institutional Context

The political framework, additional programs, and policies supporting or negating the efforts of the proposed critical area protection ordinances are discussed. Highlights of additional programs are provided by critical areas and for agriculture.

Chapter 6 Conclusions

Individual conclusions for each critical area are given followed by an overall conclusion.

Appendix A The Effect of Agricultural Operations on Critical Areas

The effects of agricultural changes to the land and agricultural practices are discussed.

1.4 REFERENCES

Endangered Species Act Listing Documents and Rules: www.nwr.noaa.gov and www.fws.gov

King County, The 2002 King County Annual Growth Report,
<http://www.metrokc.gov/budget/agr/agr02/>

King County, 2002 Benchmarks Report, 2002a

King County Buildable Lands Report 2002c

King County Comprehensive Plan, update 2002b <http://www.metrokc.gov/ddes/compplan>

Revised Code of Washington (RCW) 36.70A.172 <http://www.leg.wa.gov/rcw/index.cfm>

Revised Code of Washington (RCW) 36.70A.011

Washington Administrative Code (WAC) 365-195-900 to 925