

Regulation of Wetlands in Western Washington Under the Growth Management Act

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I. INTRODUCTION

Wetlands, simply defined, are lands such as marshes, bogs, or swamps that are seasonally or periodically wet.¹ Wetlands serve numerous significant biological and environmentally valuable functions. They provide not only fish and wildlife habitat, but they also aid in water purification, maintenance of groundwater supplies, sediment entrapment, floodwater retention, shoreline stabilization, and maintenance of streamflows.

Wetlands protection has long been an important issue in the central Puget Sound. With the passage of the Growth Management Act (GMA),² all counties and cities within the state are now required to adopt regulations "protecting" critical areas, including wetlands. This requirement furthers the GMA's environmental goal to "[p]rotect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water."³

This environmental goal is, however, only one of the

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1. A precise definition of "wetland" has become a highly controversial and politically charged issue, perhaps because of the complexity of the regulatory process. See *infra* part III.A.

2. 1990 Wash. Laws 1972, 1st Ex. Sess., ch. 17 (amended by 1991 Wash. Laws 2903, 1st Sp. Sess., ch. 32 and 1992 Wash. Laws 1050, ch. 227) (codified at WASH. REV. CODE ANN. ch. 36.70A (West 1991 & Supp. 1993), WASH. REV. CODE ANN. ch. 47.80 (West Supp. 1993), and WASH. REV. CODE ANN. ch. 82.02 (West 1991 & Supp. 1993)).

3. WASH. REV. CODE ANN. § 36.70A.020(10) (West 1991).

GMA's thirteen goals.⁴ All of these goals are intended to guide the creation not only of the comprehensive plans, but also of the development regulations that implement the comprehensive plans. Wetlands regulations are "development regulations," as that term is used in the GMA. Thus, all thirteen goals should be considered in developing local wetlands regulations.⁵

The GMA expressly provides that these thirteen goals are not listed in order of priority.⁶ It does not, however, explain how the goal of environmental protection should be balanced with the GMA's other twelve planning goals. This lack of guidance is problematic because the adoption of critical areas regulations is the first task local governments must complete under the GMA, preceding adoption even of the comprehensive plans in those jurisdictions required to adopt comprehensive plans. Consequently, jurisdictions are developing these regulations with little understanding of how they will mesh with such competing goals as the reduction of sprawl, the encouragement of economic development and affordable housing, and the protection of property rights. Predictably, many local governments are encountering problems.

A task force of the Economic Development Council of Seattle and King County recently examined the regulatory treatment of wetlands following the adoption of the GMA.⁷

4. The planning goals include the following: encourage development in urban areas where adequate public facilities and services already exist or can be efficiently provided; reduce sprawl; encourage affordable housing for all economic segments of the population; encourage economic development; protect property rights; process permits in a timely manner to ensure predictability; maintain natural resource-based industries including timber, agricultural and fisheries industries; retain open space and develop recreational opportunities; encourage citizen involvement in the planning process and interjurisdictional coordination; ensure adequate public services and facilities; and encourage historic preservation. *Id.* § 36.70A.020(1)-(13).

5. See *Clark County Natural Resources Council v. Clark County*, Western Washington Growth Planning Hearings Board, No. 92-02-0001, at 2-3 (1992) (*CCNRC*). *CCNRC* was the first case to come before any of the three Growth Planning Hearings Boards established to hear appeals of comprehensive plans, development regulations, and population projections. The Western Washington Growth Planning Hearings Board hears appeals from all of Western Washington except King, Kitsap, Pierce, and Snohomish Counties and the cities within those counties. These four counties and the cities within them collectively comprise the central Puget Sound. See WASH. REV. CODE ANN. §§ 36.70A.250-300 (West Supp. 1993). The Hearing Board's decision in *CCNRC* was appealed to the Thurston County Superior Court, which dismissed the case with prejudice on September 27, 1993, for failure to serve the Board within 30 days as required by the Administrative Procedure Act.

6. WASH. REV. CODE ANN. § 36.70A.020 (West 1991).

7. The task force consisted of a wide variety of interested professionals, including

The task force looked at the permit process at the local, state, and federal level and examined key issues related to the protection and management of wetlands. Describing the current process as a "quagmire," the task force summarized the principal issues as follows: (1) the current regulatory system requires too much money to be spent on the permit process, rather than on resource management and protection; (2) the current regulatory system's focus on individual properties fragments the resource and is, therefore, often counter-productive to wetlands management and protection; (3) the permit process does not offer equal access to all applicants; and (4) the permit process involves duplicate review of projects by the federal and local government without offering consistent criteria for review.⁸ In cases where the state also has jurisdiction, triplicate review compounds the problem.

This Article will explore these and related issues arising under the wetlands regulatory scheme in Washington following the adoption of the GMA. It will show how this complex, multi-layered regulation scheme is sometimes duplicative and inconsistent and, ironically, may not always result in the most effective protection of wetlands.

Accordingly, Section II will discuss the GMA's requirements regarding wetland regulations. Section III will address the Department of Ecology (DOE) Model Wetlands Protection Ordinance (Model Ordinance)⁹ and the problems the Model Ordinance presents for wetlands regulation under the GMA. And finally, Section IV will suggest a framework for local governments to consider in reevaluating their wetlands regulations for consistency with their comprehensive plans.

II. GMA REQUIREMENTS FOR WETLAND REGULATIONS

A. Regulatory Background

In response to heightened state and federal concern regarding wetlands protection, the Washington State Legislature considered, but failed to adopt, state-wide wetlands man-

wetlands biologists, engineering and architectural consultants, a representative of the environmental community, a county resource planner, a city zoning administrator, and members of the business and legal community.

8. THE ECONOMIC DEVELOPMENT COUNCIL OF SEATTLE & KING COUNTY, THE WETLANDS QUAGMIRE: A REPORT AND RECOMMENDATIONS 26-27 (1992) [hereinafter EDC REPORT].

9. WASHINGTON STATE DEP'T OF ECOLOGY, MODEL WETLANDS PROTECTION ORDINANCE (Sept. 1990) [hereinafter MODEL ORDINANCE].

agement bills in both 1989 and 1990.¹⁰ As a result of the failures in 1989, Governor Booth Gardner issued Executive Order 89-10, establishing a goal of no-net loss of wetlands acreage and function.¹¹ Against this backdrop, although it did not adopt a comprehensive wetlands bill in 1990, the legislature adopted the GMA, directing all local governments to designate critical areas and all local governments planning under the GMA to adopt development regulations¹² "precluding land uses which are incompatible with" wetlands. Governor Gardner then issued Executive Order 90-04, which directed various state agencies "to the extent legally permissible" to take various actions to protect wetlands.¹³ Among other things, Executive Order 90-04 expressly directed DOE to assist the Department of Community Development (DCD) in developing "wetlands protection policies and standards for the implementation of grants programs and to guide the development of local government comprehensive plans and development regulations under the growth management bill passed by the 1990 legislature."¹⁴ In response, DOE prepared, with virtually no public participation, the Model Ordinance.¹⁵ In 1991, the legislature amended the GMA to require that *all* cities and counties in the State of Washington, including those required to or choosing to plan under the GMA, adopt development regulations that "protect" those critical areas.¹⁶

B. *Adoption of Wetlands Regulations*

The GMA defines "critical areas" as including (a) wetlands, (b) areas with a critical recharging effect on aquifers used for potable water, (c) fish and wildlife habitat conservation areas, (d) frequently flooded areas, and (e) geologically

10. See S.H.B. 1392, S.B. 5378 (1989); H.B. 2729, S.S.B. 6799 (1990).

11. Exec. Order No. 89-10, Wash. St. Reg. 90-01-050 (1990).

12. Exec. Order No. 90-04, Wash. St. Reg. 90-10-027 (1990).

13. *Id.* § 16.

14. MODEL ORDINANCE, *supra* note 9. The Model Ordinance has had a significant influence on the development of local wetlands regulation under the GMA. The majority of Washington jurisdictions have based their wetlands ordinances, at least in part, on the Model Ordinance.

15. "Development regulations" are defined as "any controls placed on development or land use activities by a county or city, including, but not limited to, zoning ordinances, official controls, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances." WASH. REV. CODE ANN. § 36.70A.030(7) (West 1991).

16. *Id.* § 36.70A.060(2) (West Supp. 1993).

hazardous areas.¹⁷ For purposes of this Article, we will concentrate on wetlands. Counties and cities planning under the GMA were to have adopted wetlands regulations by September 1, 1991. The deadline for all other counties and cities was March 1, 1992.¹⁸ If counties and cities were unable to meet their deadlines, DCD was permitted to grant a one hundred eighty day extension.¹⁹

Following the adoption of comprehensive plans, each jurisdiction must review its critical areas designations and regulations for consistency with the new comprehensive plan. At that time, the designations and regulations may be altered to ensure such consistency.²⁰ Thus, the initial critical areas regulations are commonly referred to as "interim regulations." The requirement that local governments revisit their wetlands regulations affords them an opportunity to address many of the problems that local governments elsewhere are encountering.²¹

C. Scope of Wetlands Regulations

The GMA provides little guidance as to the proper scope of wetlands regulations. The major "scope" issues involve determining which wetlands should be protected and to what extent. These issues arise because not all wetlands perform equal functions and not all activities are equally harmful to those functions. In determining which wetlands deserve protection and what degree of protection is appropriate, each jurisdiction, either implicitly or explicitly, weighs economic needs and environmental interests.²²

In *Clark County Natural Resources Council (CCNRC) v. Clark County*,²³ the petitioners, challenging the Clark County Wetlands Protection Ordinance, argued that the GMA requires

17. *Id.* § 36.70A.030(5) (West 1991).

18. *Id.* § 36.70A.060(2) (West Supp. 1993). Appendix A shows the status of adoption of wetlands regulations for most jurisdictions in western Washington as of October 1, 1993. It is clear from Appendix A that many regulations are not yet finalized. The Department of Community Development (DCD) has indicated that it views the deadline as flexible provided that a jurisdiction is making a good faith effort to develop its critical areas regulations.

19. *Id.* § 36.70A.380.

20. *Id.* § 36.70A.060(3).

21. See discussion *infra* part IV.

22. In an attempt to create a rational hierarchy of wetland "values," some jurisdictions have adopted a rating system by which to differentiate between dissimilar wetlands. See, e.g., the Clallam County, Clark County, Jefferson County, and King County Wetlands Ordinances.

23. Western Washington Growth Planning Hearings Board, No. 92-02-0001 (1992).

local governments to adopt development regulations governing all wetlands and virtually any activity that could have an adverse impact on wetlands, including activities that may alter the wetlands' water chemistry.²⁴ The petitioners challenged the exemption of small wetlands, prior converted croplands, and riparian wetlands less than five feet wide that are otherwise regulated under the county's Shoreline Master Program.²⁵ The petitioners also challenged the exemption for "marginal" wetlands, which were defined by the ordinance as either isolated wetlands having only one wetland class and a predominance of exotic species or wetlands that had been legally altered and that would not revert to wetlands.²⁶

In rejecting petitioners' argument regarding wetlands regulation, the Hearings Board looked to the GMA's legislative history, stating:

Because of [the] language change [from "precluding land uses that are incompatible with the critical areas" to "protect"] and the overall scheme of the [GMA] which authorizes discretion by local government in formulating policy decisions, we hold that [the GMA] does not require regulation of each and every wetland.²⁷

The Board then specifically held that each of these activities, with regard to the challenged activities exempted from regulation, was within the reasonable range of discretion afforded to the county.²⁸

After *CCNRC*, therefore, it appears that the GMA allows local governments to differentiate between wetlands, to make value judgments as to which wetlands deserve protection, and to determine the appropriate level of protection.

D. GMA Minimum Guidelines for Regulation of Wetlands

The GMA directs DCD to issue guidelines for the classifi-

24. *Id.* at 2.

25. The Clark County Shoreline Master Program was adopted pursuant to the Washington State Shoreline Management Act of 1971. WASH. REV. CODE ANN. ch. 90.58 (West 1992). The Shoreline Management Act regulates development on shorelines of the state, including marine waters, lakes, rivers and streams and their associated wetlands. Most development within a "shoreline of the state" requires either a substantial development permit, a conditional use permit, or a variance. *Id.* § 90.58.140.

26. *CCNRC*, WWGPHB No. 92-02-0001, at 10-11.

27. *Id.* at 4-5.

28. *Id.* at 4-5, 10.

cation of resource lands and critical areas (Minimum Guidelines).²⁹ The Minimum Guidelines were meant to allow for regional differences.³⁰ For critical areas classification guidelines, the GMA mandates that DCD consult with DOE.³¹

Despite the fact that the Minimum Guidelines were only intended to assist counties and cities in classifying critical areas, they contain significant direction on the substantive content of wetlands regulations. They also stray from the ambit of guidelines to directive.

1. Rating

The Minimum Guidelines state that jurisdictions should consider the following when developing a rating system for wetlands: (1) the Washington State Four-tier Wetlands Rating System (Four-tier System); (2) the wetlands' functions and values; (3) the rarity of the wetlands; and (4) the ability to compensate for destruction or degradation of the wetlands.³² This guidance, which arguably relates to classification, strays into directive: if the Four-tier System is not used, the individual jurisdiction must justify the rationale for its decision in its next annual report to DCD.³³ The consequences of a failure to adequately justify an alternate classification scheme are unclear.

2. Delineation

For the delineation of wetlands,³⁴ the Minimum Guidelines suggest the use of the Federal Manual for Identifying and

29. WASH. REV. CODE ANN. § 36.70A.050 (West 1991). See Minimum Guidelines to Classify Agriculture, Forest, Mineral Lands and Critical Areas, WASH. ADMIN. CODE ch. 365-190 (1991).

30. WASH. REV. CODE ANN. § 36.70A.050(3) (West 1991). The GMA directs the Minimum Guidelines to take into account regional differences. *Id.* § 36.70A.050(3). However, neither the Minimum Guidelines nor the Model Ordinance provide guidance as to what regional differences exist and how they might be taken into account. It is our understanding that the Association of Counties has suggested that DOE develop Model Ordinances to address both eastern and western Washington, as well as rural and urban areas.

31. *Id.* § 36.70A.050(1).

32. WASH. ADMIN. CODE § 365-190-080(1)(a) (1991).

33. *Id.*

34. Delineation is the process by which a determination is made as to the boundaries of a wetland. In order to delineate a wetland, an expert uses the presence of indicators such as hydric soils, hydrophytic plants, and hydrology. See UNITED STATES ARMY CORPS OF ENGINEERS ET AL., FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS (1989) [hereinafter 1989 MANUAL].

Delineating Jurisdictional Wetlands (1989 Manual),³⁵ which was developed in January 1989 by the U.S. Army Corps of Engineers (the Corps), the Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service, and the U.S. Soil Conservation Service.³⁶ Use of the 1989 Manual creates a different delineation scheme than that currently used by the Corps.³⁷

3. Consideration of DOE's Model Ordinance

The Minimum Guidelines "request" that counties and cities make their actions consistent with Executive Orders 89-10 and 90-04 and "suggest" that "counties and cities should consider wetlands protection guidance provided by the department of ecology including the model wetlands protection ordinance. . . ."³⁸

In issuing this request, the Minimum Guidelines actually appear to recommend the specific content of wetlands regulation. This is the most significant way in which the Minimum Guidelines deviate from guiding the designation or classification of critical areas to the substantive regulation of these areas. In so doing, the Minimum Guidelines also elevate the Model Ordinance to a position of great importance.

35. *Id.*

36. WASH. ADMIN. CODE 365-190-080(1)(c) (1991).

37. This becomes problematic when a local ordinance calls for use of the 1989 manual and a project requires review by both the Corps and a local government. Some local wetlands regulations specifically address this problem. For instance, the Whatcom County Critical Areas Ordinance provides as follows in the event of dual regulation:

In cases where the United States Army Corps of Engineers requires an individual permit in accordance with the Clean Water Act, and it is determined by the Administrator that the permit conditions satisfy the requirements of this Ordinance, the Administrator may allow requirements imposed by the Army Corps to substitute for the requirements of this Ordinance.

Whatcom County, Wash., Critical Areas Temporary Ordinance § 10.7.1 (July 1992).

The Tacoma City Code also deals with dual regulation. It allows for an "alternative review process" where the Corps review process will substitute for the Tacoma review process. TACOMA, WASH., CITY CODE § 13.11.160 (1992). Tacoma reserves the right to deny an applicant's project, but will consider the Corps' mitigation requirements in deciding what mitigation of wetland impacts is necessary. *Id.* See *infra* part III.C.

38. WASH. ADMIN. CODE 365-190-080(1) (1991).

III. THE MODEL ORDINANCE AS A PARADIGM FOR LOCAL GMA INTERIM REGULATIONS

In reviewing the Model Ordinance, it is important to remember that it was not prepared pursuant to the GMA. Rather, it was developed in response to Executive Order 90-04, which directs DOE to take steps to protect wetlands "to the extent legally permissible."³⁹ Consequently, the Model Ordinance does not seek to balance wetlands protection with other GMA goals.⁴⁰

Despite this fact, the Model Ordinance has played a vital role in the development of many local jurisdictions' interim wetlands regulations. In fact, the majority of jurisdictions developing interim wetlands regulations have, in significant part, patterned their ordinances on the Model Ordinance.⁴¹ The Model Ordinance has attained this level of importance for two reasons. First, as previously discussed, the Minimum Guidelines specifically direct local governments to "consider" the Model Ordinance.⁴² Second, eligibility for grant funds from the Wetlands Protection Grant Fund was contingent on the local government basing its regulation on the Model Ordinance.⁴³

39. Exec. Order No. 90-04, Wash. St. Reg. 90-10-027 (1990). The Attorney General, in construing Executive Order 90-04, determined that the governor does not have the ability, absent statutory authority, to create obligations and responsibilities having the force and effect of law by issuing an executive order for the protection of wetlands. 1991 Op. Att'y Gen. Wash. No. 21. See also 1989 Op. Att'y Gen. Wash. No. 21, in which the Attorney General concluded that state law did not, at that time, empower the DOE to promulgate wetlands protection rules.

40. Even though the Model Ordinance does not require an evaluation of those other goals, the Western Washington Growth Planning Hearings Board, in construing the Clark County Ordinance, decided that these other goals must be considered. CCNRC v. Clark County, Western Washington Growth Planning Hearings Board, No. 92-02-0001, at 2-3 (1992).

41. Examples of just a few of these jurisdictions are Clark County, Jefferson County, Pierce County, Mason County, San Juan County, Thurston County, Whatcom County, the City of Bothell, the City of Enumclaw, the City of Bainbridge Island, the City of Bremerton, the City of Bonney Lake, the City of Gig Harbor, the City of Everett, and the City of Tacoma.

42. WASH. ADMIN. CODE § 365-190-080(1) (1991).

43. See Washington State Dep't of Ecology, Wetland Protection Grant Program Application for State Fiscal Year 1991. The DOE administered a \$600,000 Wetlands Protection Grant Program as mandated by E.O. 90-04. \$373,500 of this amount came from funds appropriated to the DCD to implement the GMA and was, therefore, required to be distributed to local governments planning under the GMA.

In order to qualify for funds, the local jurisdiction was required to develop an ordinance for wetland protection based on DOE's model. The ordinance could "be tailored to meet identified regional characteristics and objectives," but the jurisdictions

Given the importance of the Model Ordinance as a guide for much of local wetlands regulation, it is important to examine certain key provisions and the impact of those provisions on actual wetlands regulation. This Section will discuss the following aspects of the Model Ordinance: the definition of wetlands, the rating system, the recommendation for delineation manual use, the scope of regulated activities, the buffer requirements, and the requirements for wetlands alteration and mitigation when alteration is permitted. This discussion will include a commentary on the practical results of using these regulations and an examination of their use or modification by various local jurisdictions.

A. *Wetlands Definition*

The Clean Water Act⁴⁴ defines "wetlands" as follows: "areas that are inundated or saturated by surface water or ground at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."⁴⁵

The GMA and the Model Ordinance both adopt the Clean Water Act definition, but they add the following qualifying language:

Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. However, wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands, if permitted by the county or city.⁴⁶

While the GMA and the Model Ordinance appear to have somewhat liberalized the wetlands definition, this has not proved to be true in practice. Most local governments have placed the burden on the property owner to demonstrate that

were required to view the Model Ordinance as a *minimum* standard. *Id.* at 4-5. As a further condition of funding, DOE was given the right to review and approve the local government's final draft.

44. The principle regulatory tool for Federal protection of wetlands is the Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 26 (1977).

45. 33 C.F.R. § 328.3(b) (1992).

46. WASH. REV. CODE ANN. § 36.70A.030(17) (West 1991); MODEL ORDINANCE, *supra* note 9, § 2(bb).

an allegedly artificial wetland was intentionally created from a non-wetland area. Arguably, placing this burden on property owners makes the exemption unavailable where the wetland was not intentionally created, such as wetlands resulting from improperly placed culverts or leaking irrigation systems.

The Model Ordinance definition also excludes Category II and III wetlands that are less than 2,500 square feet and Category IV wetlands that are less than 10,000 square feet.⁴⁷ Most local governments have adopted these exemptions for small, lower value wetlands.⁴⁸ It has been generally accepted that the burden on both the individual jurisdiction and the property owner to regulate and preserve these wetlands is greater than the possible environmental harm resulting from their exemption.

B. Wetlands Rating System

As stated above, not all wetlands are created equal. The Model Ordinance recognizes these differences by providing two rating systems: the Four-tier System and the Puget Sound Region Wetlands Rating System (Puget Sound System).⁴⁹ Both divide wetlands into four categories, ranging from most valuable (Category I) to least valuable (Category IV).⁵⁰ Buffer

47. MODEL ORDINANCE, *supra* note 9, § 2(bb).

48. See *CCNRC v. Clark County*, Western Washington Growth Planning Hearings Board, No. 92-02-0001, at 4-5 (1992) (upholding exemption for small, lower value wetlands).

49. The Puget Sound System is set forth in the MODEL ORDINANCE, *supra* note 9, § 4.4(a)-(b).

50. Under DOE's Four-tier System, Category I wetlands include those areas that contain any of the following criteria: habitat for endangered or threatened species or potentially extirpated plant species; high quality native wetland communities; high quality regionally rare wetland communities with irreplaceable ecological functions; or wetlands of exceptional local significance. *Id.* § 4.4(a)(1). The latter type of Category I wetlands is to be determined at a local level after appropriate public review. *Id.* § 4.4(a)(1)(D).

Category II wetlands are those that do not contain features of a Category I wetland but do include any of the following features: habitat for sensitive species; rare, quality wetland communities; or significant functions that may not be adequately replicated. Wetlands that have significant habitat value based on their diversity and size are also Category II wetlands, as are those contiguous with salmonid fish-bearing waters (including intermittent streams) or with significant use by fish and wildlife. *Id.* § 4.4(a)(2).

Category III wetlands are defined as those that do not contain features of Category I, II, or IV wetlands. *Id.* at § 4.4(a)(3).

Category IV wetlands are those regulated wetlands that do not meet the criteria of a Category I or II wetland, and those isolated wetlands one acre in size or less, which have only one class and monotypic vegetation, or those isolated wetlands that are two

widths and replacement ratios are determined by the placement of the wetland within one of the two systems. Since issuing the Model Ordinance, the DOE has updated both the criteria for altering wetlands and its rating system and urges local governments to use this revised wetlands tiering system.⁵¹

C. *Delineation Manual Use*

Perhaps the area of wetlands regulation inspiring the most heated debate is "delineation methodology"; that is, the specific criteria to be examined in determining whether an area fits the definition of a wetland. In particular, it is unclear which Federal Manual should be used in delineating wetlands. This debate has spilled over to affect local Washington jurisdictions in their consideration of regulations.

The first formal methodology for the delineation of wetland boundaries was developed in 1987 by the Corps in the Corps of Engineers Wetland Delineation Manual (1987 Manual).⁵² A second methodology was developed in the 1989 Manual.⁵³

In July 1991, Congress enacted the Energy and Water Development Appropriations Act of 1992 (Energy Act).⁵⁴ One of the Energy Act's provisions prohibits the Corps from using federal funds to make any permit or enforcement decision based on a wetlands delineation performed pursuant to the 1989 Manual.⁵⁵ This prohibition on the use of the 1989 Manual

acres in size or less, have only one wetland class, and a predominance of exotic species. *Id.* § 4.4(a)(4).

In the Puget Sound System, the criteria for Category I, III, and IV wetlands are the same as in the DOE's Four-tier System. Under the Puget Sound System, however, Category II is more specific and "tailored" to the Puget Sound region. *Id.* § 4.4(b)(2). For example, significant peat systems or forested swamps with three canopy layers (excluding monotypic stands of red alder greater than eight inches in diameter or significant spring fed systems) are included as examples of wetlands with significant value to the Puget Sound region and functions that may not be adequately replicated through creation or restoration of wetlands. *Id.* There are also specific guidelines for identifying wetlands with significant habitat value based on diversity and size.

51. In October 1991, DOE issued a revised rating system. WASHINGTON STATE DEP'T OF ECOLOGY, WASHINGTON STATE WETLANDS RATING SYSTEM FOR WESTERN WASHINGTON (Oct. 1991) [hereinafter WETLANDS RATING SYSTEM]. This system still uses ratings of I through IV, but it is intended to "introduce rating criteria that are more specific and less qualitative." *Id.* at iii.

52. UNITED STATES ARMY CORPS OF ENGINEERS, CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (1987) [hereinafter 1987 MANUAL].

53. 1989 MANUAL, *supra* note 34.

54. Pub. L. No. 102-104, 105 Stat. 510 (1991).

55. *Id.*

arose because of concern over both the criteria established in the manual and the way in which it was being applied in the field.⁵⁶

As a consequence, the Corps and the EPA have since used the 1987 Manual for wetlands delineations under the Clean Water Act. DOE also uses the 1987 Manual to perform its water quality certification under the Clean Water Act. The Model Ordinance, however, requires use of the 1989 Manual,⁵⁷ and DOE continues to strongly urge local governments to use the 1989 Manual in their local wetlands regulations.⁵⁸

Under both the 1987 and 1989 Manuals, areas are designated as wetlands when they possess all of the following characteristics: hydrophytic vegetation (i.e., plants adapted to saturated soil conditions), hydric soils (i.e., soils that are saturated, flooded, or ponded), and wetland hydrology (i.e., surface saturation or inundation at some point).⁵⁹ Use of these three characteristics has come to be known as the "triple parameter test." Although the 1987 and 1989 Manuals both use this test, the two manuals mandate different technical criteria to be used in identifying which of the parameters are present. Some of the differences are explained below.

The 1987 Manual was not specific about the precise saturation depth that would satisfy the "wetland hydrology" criterion. In the Authors' experience, the most commonly used depth in the Corps' Seattle District was twelve inches. The 1989 Manual, however, provides specific saturation depths of

56. Dissatisfaction with the 1989 Manual led to proposed amendments because it was

concluded that while the [1989 Manual] represented a substantial improvement over pre-existing approaches, several key issues needed to be re-examined and clarified. Some of the key technical issues needing re-examination were: (1) the wetlands hydrology criterion, (2) the use of hydric soil for delineating the wetland boundary, (3) the assumption that facultative vegetation indicated wetland hydrology, and (4) the open-ended nature of the determination process which created opportunities for misuse.

56 Fed. Reg. 40,446, 40,449 (1991).

57. MODEL ORDINANCE, *supra* note 9, § 4.3.

58. This inconsistency in manual endorsement stems from a perception that the 1987 Manual is not as scientifically sound as the 1989 Manual. The Corps, however, has determined that both manuals are scientifically sound.

Out of 80 western Washington jurisdictions surveyed, 62 have followed DOE's recommendation that the 1989 Manual be used. The result is that property owners subject to the jurisdiction of the Clean Water Act, as well as to the jurisdiction of a local wetlands ordinance, will have to conduct two separate delineations with potentially inconsistent results.

59. 1989 MANUAL, *supra* note 34, at 18; 1987 MANUAL, *supra* note 52, at part III.

six, twelve, and eighteen inches, depending on the soil type.⁶⁰ Therefore, in some situations, the discovery of water within eighteen inches of the surface satisfies the hydrology requirement.

Also newly included in the 1989 Manual were definitions of "problem areas" and "disturbed areas."⁶¹ A problem area is one in which only two of the three parameters are present during certain times of the year.⁶² For example, if the delineation is not performed in the growing season, vegetation might not be present. In the 1987 Manual, problem areas were limited to specific types of wetland areas, such as farmland with a cropping history.⁶³ The 1989 Manual expands the problem area definition to include all areas. A disturbed area is one that has been previously altered in a way that makes wetland identification more difficult than it would be in the absence of such changes.⁶⁴ Farmland that has been plowed for planting crops is an example of a disturbed area.

To satisfy the "hydrophytic vegetation" criterion under the delineation scheme of the 1987 Manual, an area must be vegetated by at least fifty-percent obligate wetland, facultative wetland, and/or facultative species plants.⁶⁵ If the area is predominately vegetated by facultative upland plants, it does not satisfy the vegetation criterion and, therefore, is not considered a wetland.⁶⁶ Under the 1989 Manual, for problem and disturbed areas, the hydrophytic vegetation criterion is presumed to be met if both the "hydric soil" and "wetland hydrology" criteria are satisfied.⁶⁷ In the dry season, however, when water may not be present, the presence of hydric soil alone is

60. 1989 MANUAL, *supra* note 34, at Part 2.7, p. 6.

61. *Id.* at Parts 4.21-4.26, pp. 50-59.

62. *Id.* at Part 4.24, p. 55.

63. 1987 MANUAL, *supra* note 52, at 93-94.

64. 1989 MANUAL, *supra* note 34, at Part 4.21, p. 50.

65. 1987 MANUAL, *supra* note 52, at 19. "Obligate wetland" plants always occur (estimated probability 99 percent) in wetlands under natural conditions, but they also occur, though rarely (estimated probability 1 percent), in non-wetlands. "Facultative wetland" plants occur usually (estimated probability 67-99 percent) in wetlands, but may also occur (estimated probability 1-33 percent) in non-wetlands. "Facultative" plants have a similar likelihood of occurring both in wetlands and non-wetlands. *Id.* at 18 (Table 1).

66. "Facultative Upland Plants" are those that occur approximately 1 percent to 33 percent of the time in wetlands, but 67 percent to 99 percent of the time in non-wetlands. Ronald D. Kranz, *Increasing Jurisdictional Wetland Boundaries Using the New Federal Interagency Method*, in KEY ISSUES IN WETLANDS REGULATIONS IN WASHINGTON 40 (William H. Chapman et al., eds., 1992).

67. 1989 MANUAL, *supra* note 34, at Parts 4.23 (step 3) & 4.25 (step 3), pp. 51 & 56.

sufficient.⁶⁸ Therefore, a problem or disturbed area can be a wetland even if it is dominated by facultative upland plants. Consequently, use of the 1989 Manual methodology may result in the regulation of areas considerably drier than the "swamps, marshes, bogs, and similar areas," all of which are defined as wetlands under the Clean Water Act regulations.⁶⁹

The differences resulting from the use of the 1987 and 1989 Manuals can be significant.⁷⁰ Accordingly, Congress is currently seeking a solution to the manual controversy. In 1991, the EPA revised the 1989 Manual.⁷¹ The revision was badly received by wetlands scientists and environmentalists. The EPA received over one hundred thousand comments on the revision. Consequently, in early 1992, the Bush Administration ordered an independent study, currently in progress, by the National Academy of Sciences (NAS). The recommendations of this study will hopefully resolve the manual controversy. In light of the pending study, it may be judicious for local jurisdictions to recommend use of either the Manual currently used under the Clean Water Act or the Manual as amended by result of the NAS review.

D. Regulated Activities

Regulated activities are those activities governed by a regulation and which typically require a permit. The effectiveness of any wetlands regulation scheme lies in the ability of the property owner to identify these activities and in the ability of the local jurisdiction to administer and enforce regulation of them. The Model Ordinance's definition of regulated activity presents some difficulties for both parties.

The Model Ordinance defines regulated activities very broadly. It states:

A permit shall be obtained from local government prior to

68. *Id.*

69. 33 C.F.R. § 328(3)(b) (1992).

70. As an example, it is helpful to look at three projects located in the Kent Valley of western Washington: East/West Brook Business Center, Kent Industrial, and Riverbend Estates. The Wetlands in these developments were first delineated using the 1987 Manual and then re-delineated using the 1989 Manual. Both delineations were confirmed by the Corps. Identified wetlands increased 42 percent for the East/West Brook Business Center, 66 percent for the Kent Industrial project, and 908 percent for Riverbend Estates. Kranz, *supra* note 66, at 54.

71. 56 Fed. Reg. 40,446 (1991) (proposed amendments).

undertaking the following activities in a regulated wetland or its buffer unless authorized by Section 5.2 below:

- a. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;
- b. The dumping, discharging, or filling with any material;
- c. The draining, flooding, or disturbing of the water level or water table;
- d. The driving of pilings;
- e. The placing of obstructions;
- f. The construction, reconstruction, demolition, or expansion of any structure;
- g. The destruction or alteration of wetlands vegetation through clearing, harvesting, shading, intentional burning, or planting of vegetation that would alter the character of a regulated wetland, provided that these activities are not part of a forest practice governed under chapter 76.09 RCW and its rules; or
- h. Activities that result in a significant change of water temperature, a significant change of physical or chemical characteristics of wetlands water sources, including quantity, or the introduction of pollutants.⁷²

In practice it is difficult to determine which project applications will adversely impact wetlands, triggering application of the regulations. For example, what kinds of development projects in which geographic locations alter a wetland's water chemistry? Does stormwater run-off from a shopping center five blocks from a wetland alter that wetland's water chemistry? It is difficult for a local jurisdiction to administer a wetlands regulatory scheme that adequately addresses all such activities.

The City of North Bend's Ordinance provides an example of potential administration problems.⁷³ That ordinance has adopted, with some additions, the Model Ordinance list of regulated activities. In North Bend, no regulated activity is allowed in a wetland absent a showing, after a public hearing, that all reasonable use of the property is denied.⁷⁴ As a result, if the regulated activities definition were literally applied, pruning or weeding of vegetation or weed removal might not be allowed on any wetland without proof by the property

72. MODEL ORDINANCE, *supra* note 9, § 5.1.

73. NORTH BEND, WASH., DRAFT WETLAND PROTECTION ORDINANCE (Dec. 19, 1991).

74. *Id.* § 3.4.0.

owner that, absent such pruning, he would be denied all reasonable use of the property. Clearly, this is impracticable and unenforceable.

Because of such enforceability problems, many local governments have tailored the regulated activity definition to meet their ability to administer it. The Clark County ordinance provides one such example. One of the "regulated activities" in this ordinance is as follows:

(d) The destruction or alteration of wetlands vegetation through clearing, harvesting, intentional burning, or planting of vegetation that would alter the character of a wetland or buffer: Provided, that this subsection shall not apply to . . . :

(i) the harvesting or normal maintenance of vegetation in a manner that is not injurious to the natural reproduction of such vegetation,

(ii) the removal or eradication of noxious weeds. . . .⁷⁵

This simple modification of the regulated activities definition means that Clark County, unlike North Bend, will be better able to administer its wetlands regulations. Specifically, the Clark County Ordinance is more reflective of the realities of day-to-day property maintenance.

E. Buffers

1. Standard Buffer Widths

A buffer is an area that surrounds a wetland and is intended to protect the wetland's functions from human and animal activity and runoff. The buffers required by the Model Ordinance vary depending on the intensity of the use adjacent to the wetland⁷⁶ and the category of the wetland:

75. CLARK COUNTY, WASH., CODE § 13.36.120(25) (1992) (enacted by CLARK COUNTY, WASH., ORDINANCE No. 1992-02-03 (Feb. 10, 1992)).

76. The Model Ordinance defines low-intensity land uses as those associated with low levels of human disturbance or low wetland habitat impacts. MODEL ORDINANCE, *supra* note 9, § 2(t). Examples include land uses associated with passive recreation, open space, or agricultural or forest management. *Id.*

TABLE A

<u>Wetland Category</u>	<u>Intensity of Adjacent Use</u>	<u>Buffer</u>
I	Low	200'
	High	300'
II	Low	200'
	High	100'
III	Low	100'
	High	50'
IV	Low	50'
	High	50'

These buffer widths have been adopted by some jurisdictions and modified by others. In western Washington, the buffer requirements range from zero to three hundred feet.⁷⁷

In addition to the buffer, a fifteen-foot building setback from the buffer is required.⁷⁸ This setback is meant to protect the buffer during building construction. Most local governments that require the additional building setbacks have followed the fifteen-foot example. Pierce County, however, uses an eight-foot building setback.⁷⁹ Clallam County, on the other hand, does not require a building setback, but, instead, seeks to protect the buffer by requiring fencing during construction.

2. DOE Buffer Study

Following its release of the Model Ordinance, DOE undertook a study of appropriate buffer widths. Its June 1991 draft report concluded that "buffers widths of greater than [fifty] feet are necessary to protect wetlands from an influx of sediment and nutrients, to protect sensitive wildlife species from adverse impacts, and to protect wetlands from the adverse effects of changes in quantity of water entering the wetland."⁸⁰ In its final report, dated February 1992, DOE refined this statement. After conducting a field study, it concluded that ninety-five percent of buffers smaller than fifty feet suffered direct human impact *within* the buffer, while only thirty-five percent

77. Appendix B shows the wide variety of buffer requirements among Washington jurisdictions.

78. MODEL ORDINANCE, *supra* note 9, § 7.1(g).

79. PIERCE COUNTY, WASH., CODE § 17.12.070E (1992).

80. ANDREW J. CASTELLE ET AL., WASHINGTON STATE DEPT' OF ECOLOGY, WETLANDS BUFFERS: USE AND EFFECTIVENESS (June 1991) Draft Report, at 76.

of buffers wider than fifty feet suffered direct human impact.⁸¹ DOE also concluded that, in determining the appropriate buffer width, it is important to take into account current and anticipated land uses.⁸² The minimum buffer width, regardless of wetland category, should be fifty feet.⁸³ Despite the fact that these conclusions suggest value in determining appropriate buffer width on a case by case basis, the Model Ordinance calls for absolute buffers of greater width.⁸⁴ Problems encountered with rigid buffer requirements are discussed below.

3. Increased Buffer Width

Under the Model Ordinance, a jurisdiction maintains the right to increase buffer widths when: the increased width is necessary to maintain viable populations of existing species; the wetland either is used by or provides outstanding potential habitat for proposed or listed endangered, threatened, rare, sensitive, or monitored species; the wetland is an unusual nesting or resting site, such as a heron rookery or raptor nesting area; the adjacent land is susceptible to severe erosion; or the wetland has minimal vegetative cover or slopes greater than fifteen percent.⁸⁵

The ability to increase buffer width based on endangered, proposed, or listed species is somewhat problematic because the wetland ranking system has already taken the presence of such species into account by ranking any wetland containing documented habitat for such species as a Category I wetland.⁸⁶ Nevertheless, many local governments have incorporated this provision.

4. Reduction of Buffer Width

The Model Ordinance retains the flexibility to reduce buffers on a case-by-case basis if the adjacent land is extensively vegetated with slopes of less than fifteen percent and if no direct or indirect, short-term or long-term adverse impacts

81. ANDREW J. CASTELLE ET AL., WASHINGTON STATE DEPT' OF ECOLOGY, WETLAND BUFFERS: USE AND EFFECTIVENESS (Feb. 1992) Publication #92-10, at iv. Ironically, the DOE field studies dealt with degradation of the buffer, not the wetland itself.

82. *Id.* at 48.

83. *Id.*

84. MODEL ORDINANCE, *supra* note 9, § 7.1(a).

85. *Id.* § 7.1(b).

86. *Id.* § 4.4(a)(1)(A).

will result.⁸⁷ A buffer width reduction is also allowed if the project includes a buffer enhancement plan using native vegetation.⁸⁸ A buffer cannot be reduced by more than twenty-five percent or to a width of less than twenty-five feet under any circumstances.⁸⁹

5. Buffer Averaging

Averaging of the buffer width (i.e., allowing reduction of buffer width in one area and increasing buffer width in another) is also allowed, provided that the applicant can satisfy several criteria.⁹⁰ First, it must be shown that averaging is necessary to avoid an "extraordinary hardship." This is defined in the ordinance as a regulatory takings test.⁹¹ Second, the wetland must contain "variations in sensitivity due to existing physical characteristics."⁹² Third, low-intensity land uses, guaranteed in perpetuity by covenant or another binding mechanism, must be located adjacent to areas where buffer width is reduced.⁹³ Fourth, the width averaging must not adversely impact the wetland functional values.⁹⁴ Fifth, the width may not be reduced by more than fifty-percent or be less than twenty-five feet, and the total area of the buffer after averaging cannot be less than the area prior to averaging.⁹⁵

The requirement of meeting all of these criteria is overkill. The fourth criterion—that width averaging must not adversely impact the wetland functional values—appears sufficient. If the applicant can demonstrate that the buffer width averaging will not adversely affect the wetland, then why should the local government prohibit buffer width averaging? What nexus can be shown between the impact to be avoided—degradation of wetland functions—and the three remaining criteria?

Similarly, if the standard buffers would result in denial of

87. *Id.* § 7.1(c).

88. *Id.* § 7.1(c)(2).

89. *Id.* § 7.1(c).

90. *Id.* § 7.1(d). It should be noted that while this process may allow the width to be reduced in one area, it does not result in an overall reduction of the square footage contained in the buffer.

91. *Id.* at §§ 7.1(d), 2(k). See *Lucas v. South Carolina Coastal Council*, 112 S. Ct. 2886 (1992) (setting standard for denial of all economically viable use takings test).

92. MODEL ORDINANCE, *supra* note 9, § 7.1(d).

93. *Id.*

94. *Id.*

95. *Id.*

all reasonable economic use, then requiring the applicant to satisfy all four criteria is difficult to defend. Once it is demonstrated that requiring the standard buffer width would cause a taking, the local government should decide whether to compensate the affected party or approve a reasonable use of the property. Moreover, as discussed below, by requiring that all four criteria be met, the local government loses much of the flexibility needed to deal with unanticipated circumstances as they arise.

6. Uses Permitted in the Buffer

The Model Ordinance allows only very limited activities in the wetland buffer. The only uses allowed in Category I and II wetland buffers are low-intensity, passive recreational activities, such as pervious trails, nonpermanent wildlife watching blinds, short-term scientific or educational activities, and sports fishing or hunting.⁹⁶ In the buffers of Category III and IV wetlands, permitted uses include stormwater management facilities having no reasonable on-site alternative location and development having no feasible alternative location.⁹⁷ The use of the modifier, "on-site," in reference to the alternative locations for stormwater management facilities, but not for other "development," suggests that the DOE would only allow "development" in the Class III and IV buffers if there is no practicable off-site alternative.

7. Problems Encountered

A jurisdiction's lack of flexibility in determining proper buffer width can occasionally lead to harsh results for property owners without necessarily achieving a corresponding benefit to the environment. This is particularly true in two types of situations: when buffer size is substantially greater than the wetland it protects and when a buffer is interrupted by existing improvements.

The first situation is especially prevalent with smaller wetlands where the area contained in the buffer is often significantly larger than the wetland itself. For example, a two hundred foot buffer on a one acre, roughly circular wetland, would consume 6.3 acres, more than six times the size of the wetland itself. Clark County has attempted to deal with this

96. *Id.* § 7.1(f)(1).

97. *Id.* § 7.1(f)(2)-(3).

result by limiting the buffer area to two times the total wetland area, provided that this limitation does not reduce the buffer by more than fifty percent of the base buffers.⁹⁸ Base buffers range from fifty feet for a Category IV wetland to three hundred feet for a Category I wetland.⁹⁹ Pierce County, on the other hand, provides for a reduction of no more than twenty-five percent if the acreage of the buffer would "substantially exceed the size of the wetland and the reduction will not result in adverse impacts to the wetland. . . ." ¹⁰⁰

The resource benefit is particularly questionable when the second situation is present; that is, where the buffer is interrupted by an existing public or private improvement such as a road. Here, the portion of the buffer on the far side of the improvement performs little "buffering" function. The Model Ordinance provides inadequate flexibility for such circumstances. It provides for a right to reduce or average buffers, but this right may only be exercised in a limited number of situations.¹⁰¹ A more logical approach is taken by Clark County. Clark County's Ordinance provides that: "Areas which are functionally separated from a wetland and do not protect the wetland from adverse impacts due to pre-existing roads, structures, or vertical separation, shall be excluded from buffers otherwise required by this chapter."¹⁰²

F. Substantive Standards for Wetland Alteration

Section 7.2 of the Model Ordinance sets forth the substantive standard for altering wetlands (i.e., engaging in a regulated activity within a wetland). The Model Ordinance states that "[r]egulated activities shall not be authorized in a regulated wetland except where it can be demonstrated that the impact is both unavoidable and necessary or that all reasonable economic uses are denied."¹⁰³ Subsequent provisions refine this standard for the four wetland categories and, in doing so, draw on the "mitigation sequencing" and "practicable alterna-

98. CLARK COUNTY, WASH., CODE § 13.36.340(4) (1992) (enacted by CLARK COUNTY, WASH. ORDINANCE No. 1992-02-03 (Feb. 10, 1992)).

99. *Id.* § 13.36.320.

100. PIERCE COUNTY, WASH., CODE § 17.120.070(B)(2)(c) (1991).

101. MODEL ORDINANCE, *supra* note 9, § 7.1(c)-(d).

102. CLARK COUNTY, WASH., CODE § 13.36.340(3) (1992) (enacted by CLARK COUNTY, WASH. ORDINANCE No. 1992-02-03 (Feb. 10, 1992)).

103. MODEL ORDINANCE, *supra* note 9, § 7.2(a).

tives" tests formulated under the Clean Water Act¹⁰⁴ and the concept of regulatory takings.

The standard for alteration of a Category I wetland mixes takings and variance tests. The "applicant must demonstrate that denial of the permit would impose an extraordinary hardship on the part of the applicant brought about by circumstances peculiar to the subject property."¹⁰⁵

In practice, there is fairly wide-spread and growing consensus that Category I wetlands should be preserved if at all possible. This consensus is due, in part, to the fact that Category I wetlands are generally more easily recognized as wetlands by the layperson. The real controversy focuses on the frequently more difficult to recognize Category III and IV wetlands.

1. Practicable Alternatives

For the alteration of Category II and III wetlands and the placement of most uses in the buffer of a Category III or IV wetland, the Model Ordinance adopts the "practicable alternatives" test.¹⁰⁶ This test is both time-consuming and expensive for the applicant and for the reviewing authority. Furthermore, it results in more data on what is not permissible on the site than on what is permissible. For these reasons, it is time to rethink the use of this test for Category II, III, and IV wetlands.

The practicable alternatives test is borrowed from the implementing regulations to the Clean Water Act, which state that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."¹⁰⁷

To be "practicable," an alternative must be available and feasible after taking into consideration the "cost, existing technology, and logistics in light of overall project purposes."¹⁰⁸

104. See *infra* parts III.F.1.-2.

105. MODEL ORDINANCE, *supra* note 9, § 7.2(b). See also *id.* at § 2(k).

106. See *id.* §§ 7.1(f), 7.2(c).

107. 40 C.F.R. § 230.10(a) (1992).

108. *Id.* § 230.10(a)(2). Virtually every word of this test has been litigated. As to the "overall project purpose" aspect of the practicable alternatives test, see *Sylvester v. U.S. Army Corps of Engineers*, 882 F.2d 407 (9th Cir. 1989); *Louisiana Wildlife Fed'n v. York*, 603 F. Supp. 518 (W.D. La. 1984), *aff'd in part, vacated in part and remanded*,

The applicant does not have to own the alternative site for it to be considered practicable.¹⁰⁹ For projects that are not "water dependent," both the Clean Water Act regulations and the Model Ordinance presume that an alternative is available.¹¹⁰

The Model Ordinance codifies the steps necessary to rebut this presumption as follows:

- A. the basic project purpose cannot reasonably be accomplished utilizing one or more other sites in the general region that would avoid, or result in less, adverse impact on a regulated wetland; and
- B. a reduction in the size, scope, configuration, or density of the project as proposed and all alternative designs of the project as proposed that would avoid, or result in less, adverse impact on a regulated wetland or its buffer will not accomplish the basic purpose of the project; and
- C. in cases where the applicant has rejected alternatives to the project as proposed due to constraints such as zoning, deficiencies of infrastructure, or parcel size, the applicant has made reasonable attempt to remove or accommodate such constraints.¹¹¹

The majority of western Washington jurisdictions have adopted this version of the practicable alternatives test. Unfortunately, the practicable alternatives test may not be appropriate for Category II, III, and IV wetlands. First, the cost of

761 F.2d 1044 (5th Cir. 1985); *Shoreline Assocs. v. Marsh*, 555 F. Supp. 169 (D. Md. 1983); *National Audubon Soc'y v. Hartz Mountain Dev. Corp.*, [1984] ENVTL L. REP. 20, 724 (D.N.J. 1983). As to "marketability," see *Mall Properties, Inc. v. Marsh*, 672 F. Supp. 561 (D. Mass. 1987), *appeal dismissed*, 841 F.2d 440 (1st Cir. 1988); *Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp.*, [1984] 14 ENVTL. L. REP. 20, 724 (D.N.J. 1983).

109. 40 C.F.R. § 230.10(a)(2) (1992). As to the "availability" of a practicable alternative, see *James City County v. EPA*, 995 F.2d 254 (4th Cir. 1992); *Hough v. Marsh*, 557 F. Supp. 74 (D. Mass. 1982); *Nat'l Audubon Soc'y v. Hartz Mountain Dev. Corp.*, [1984] 14 ENVTL L. REP. 20, 724 (D.N.J. 1983).

110. 40 C.F.R. § 230.10(a)(3) (1992). See MODEL ORDINANCE, *supra* note 9, § 7.2(c)(2).

111. MODEL ORDINANCE, *supra* note 9, § 7.2(c)(2). As it relates to zoning, the requirement of making reasonable attempts to remove or accommodate deficiencies is difficult to reconcile with the GMA planning process. Under the GMA, process comprehensive plans are made and zoning is determined only after considerable public input and long-range planning. Thus, changing a land use designation is, at best, difficult and, at worst, impossible. Furthermore, critical areas regulations are to be developed and reviewed for consistency with the comprehensive plans. Theoretically, therefore, zoning of property containing wetlands should have been considered in comprehensive plan adoption. A further complication will arise for those attempting to demonstrate that zoning constraints cannot be removed because following adoption of a jurisdiction, comprehensive plan zone changes will be allowed only once a year.

satisfying the practicable alternatives test can be prohibitive. The applicant must compare the on-site wetlands impacts with the wetlands impacts that would occur if the project in question was relocated to another site. This process is extremely expensive and takes substantial time. Moreover, even after its completion, nothing has been accomplished toward the resolution of the primary question of what is permissible on the site.

Second, the practicable alternatives test was originally developed for navigable waters and their adjacent wetlands, locations where alternative water dependent uses are feasible. Many inland Category II, III, and IV wetlands, on the other hand, cannot feasibly support a truly water dependent use. Thus, the practicable alternatives test may not be the appropriate decision-making tool for Category II, III, and IV wetlands.

2. Mitigation Sequencing

Mitigation sequencing establishes a strict sequence to be followed when considering potential impacts on wetlands: mitigation becomes a viable option only after an attempt has been made, first, to avoid the impact altogether and, second, to minimize the impact.¹¹² In the mitigation sequencing process, wetlands are analyzed on a property-by-property basis rather than as part of the larger ecological system. Avoidance, as that term is used both under the Clean Water Act and the Model Ordinance,¹¹³ does not necessarily mean that all adverse impacts to the wetland have been avoided or that the wetland's valuable functions will be protected in the long-term. Rather, it means that construction has physically avoided the wetland and, where relevant, its buffer.¹¹⁴

112. The mitigation sequencing concept originated in the joint ENVIRONMENTAL PROTECTION AGENCY AND DEPARTMENT OF THE ARMY, *Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines* (Feb. 6, 1990) [hereinafter MEMORANDUM OF AGREEMENT]. See also MODEL ORDINANCE *supra* note 9, § 2(u).

113. See 40 C.F.R. 230.10(a) (1992); MODEL ORDINANCE, *supra* note 9, § 7.2.

114. The Cordata Retail Centre in Bellingham, Washington, and Reflections by the Lake, a multi-family project in Everett, Washington, provide excellent examples of the fragmentation that can result from mitigation sequencing. The applicant for the Cordata Retail Centre was able to develop a site plan that technically would have avoided the on-site wetlands. However, the wetlands would still have been surrounded by parking lots rockeries and, in several scenarios, would have been crossed in multiple locations by bridges to allow interior, upland areas to be used for parking. All of the federal and state resource agencies concurred that off-site mitigation would be preferable to this avoidance scenario. Yet, the mitigation sequencing rule would not

There are cases in which restoration, expansion or enhancement of other resources, such as higher value wetlands or riparian systems, may provide greater resource value than preservation of lower value, on-site wetlands. If a local ordinance has a rigid sequencing requirement with no flexibility to consider the individual circumstances, these opportunities will be lost. It is for this reason that we advocate an approach that allows the decision-maker to consider whether alternatives to avoidance, under the particular circumstances, yield a result that is more protective of the resource.

Several local governments have provided such flexibility. For example, Whatcom County has determined that a balancing of GMA goals should allow the mitigation sequencing to be disregarded within urban growth areas or high-intensity land use areas.¹¹⁵ Pierce County also recognizes that strict mitigation sequencing may not always be preferable and allows for "circumstances" when an alternative mitigation strategy is preferable.¹¹⁶

G. Mitigation

The Model Ordinance requires that altered wetlands be recreated as nearly as possible. Such recreation should replicate the original wetland in terms of function, geographic location, and setting.¹¹⁷ Therefore, "on-site, in-kind" mitigation is required when possible.¹¹⁸

1. Replacement Ratios

Based on the theory that there must be an adequate margin of safety to compensate for the inexact science of wetlands creation, restoration, or enhancement, the Model Ordinance requires that the mitigation wetland be considerably larger

have allowed them to approve off-site mitigation had any on-site avoidance scenario proven financially feasible. In the Everett case, the project was built, and the wetland "avoided," but the wetland was surrounded by parking lots, fragmented from the larger ecosystem.

115. WHATCOM COUNTY, WASH., CRITICAL AREAS TEMPORARY ORDINANCE § 10.9.1B (July 1992).

116. PIERCE COUNTY, WASH., CODE § 17.12.090 (1991).

117. MODEL ORDINANCE, *supra* note 9, § 7.5(f).

118. MEMORANDUM OF AGREEMENT, *supra* note 112, at Appendix 16-3. Although in-kind mitigation is required under the Model Ordinance, Section 7.5(F)(2)(B) seems to contradict that requirement by stating that "[w]here feasible, restored or created wetlands shall be a higher category than the altered wetland." MODEL ORDINANCE, *supra* note 9, § 7.5(F)(2)(B).

than the original wetland.¹¹⁹ When mitigation is accomplished prior to or concurrent with alteration, is on-site, is of the same category as the altered wetland, and has a high probability of success, the required ratio of replacement to alteration is indicated under Table B:

TABLE B

Category I	6.00:1*
Categories II or III	
Forested wetland	3.00:1
Scrub-shrub wetland	2.00:1
Emergent wetland	1.50:1
Category IV	1.25:1

* Six acres of wetland must be created from non-wetlands, or degraded wetland restored, for each one acre of wetland destroyed.

Under the Model Ordinance, a jurisdiction retains the right to both increase and decrease these ratios.¹²⁰ An increase would be justified in the event that success of the proposed restoration or creation was uncertain or that there was a projected loss in functional value.¹²¹ Ratios could also be increased if a significant period of time between wetland alteration and mitigation was anticipated.¹²² In addition, the jurisdiction could decrease the mitigation ratio if it could be demonstrated that no net loss of wetland function or value would occur.¹²³ The replacement ratio may never be less than 1:1.¹²⁴

2. Location of Mitigation

Under the Model Ordinance, mitigation must be conducted on the same site as the altered wetland, except where the applicant can demonstrate that the "hydrology and ecosystem of the original wetland and those who benefit from the hydrology and ecosystem will not be substantially damaged by the on-site loss."¹²⁵ The applicant must also satisfy one of the follow-

119. MODEL ORDINANCE, *supra* note 9, § 7.5(f).

120. *Id.* § 7.5(f)(2)(D)(i).

121. *Id.*

122. *Id.*

123. *Id.* § 7.5(f)(2)(D)(ii).

124. *Id.* § 7.5(f)(2)(D)(iii).

125. *Id.* § 7.5(f)(5)(A).

ing requirements: (1) on-site mitigation is not scientifically feasible; (2) compensation (i.e., mitigation) is not practical due to potentially adverse impacts from surrounding land uses; (3) existing functional values at the mitigation site are significantly greater than the lost wetland functional values; or (4) regional goals for flood storage, flood conveyance, habitat, or other wetland functions have been established that strongly justify the location of compensatory measures at another site.¹²⁶

In the event that off-site compensation is permitted, the Model Ordinance requires that such compensation for Category I, II, and III wetlands take place within the same watershed as the wetland loss.¹²⁷ Compensation for a Category IV wetland may occur outside of the watershed if there is no reasonable alternative.¹²⁸ The question arises, however, as to what happens if there is no reasonable alternative within the watershed for Category I, II, and III wetlands.

The Model Ordinance establishes an order of preference for mitigation sites.¹²⁹ Preference is given in the following order: "upland sites which were formerly wetlands," "upland sites generally having bare ground or vegetative cover consisting primarily of exotic introduced species, weeds, or emergent vegetation," and other disturbed uplands.¹³⁰

Mitigation affords an opportunity to encourage the restoration or creation of wetlands with greater functions or values than the altered wetland or wetlands that have historically been subject to the greatest loss. However, as with many other features of the Model Ordinance, while they may technically allow these activities, the provisions governing the location and type of mitigation discourage rather than foster them.

At least one local government has recognized this problem and has provided incentives to replace lower value wetlands with higher value ones when wetland alteration is allowed. Again, we look to Clark County for a creative, flexible approach to wetlands mitigation. There are many provisions in Clark County's ordinance that encourage restoration of higher value wetlands.¹³¹ For example, when an applicant enhances a

126. *Id.*

127. *Id.* § 7.5(f)(5)(B).

128. *Id.*

129. *Id.* § 7.5(f)(5)(C).

130. *Id.*

131. See CLARK COUNTY, WASH., CODE (1992).

Category III or IV wetland as a condition of a wetland permit, the applicant may obtain a reduction in the replacement ratio by replacing the Category III or IV wetland with a higher category wetland (i.e., a Category II wetland). In these cases, the replacement ratio "is based on a 1:1 ratio which is reduced by 20% for each increase in wetland category."¹³²

The Clark County Ordinance also seeks to foster voluntary restoration or enhancement. Thus, when voluntary enhancement results in the wetland meeting the criteria for a higher category, Section 13.36.300(4) states that the wetland will continue to be classified according to the characteristics of the original wetland.¹³³ This provision was included to ensure that the larger buffer requirement for higher value wetlands would not discourage enhancement or "penalize" the property owner.

3. Mitigation Banking

A "mitigation bank" is typically a large, consolidated wetland replacement, restoration, or enhancement project. It is either funded initially by applicants who have been permitted to alter wetlands on individual sites or by a public or private entity or some combination thereof which subsequently recoups planning, development, and monitoring costs through the sale of mitigation credits to applicants who are unable to provide on-site mitigation. A mitigation bank is usually created before, rather than concurrently or after, the wetland impact. It provides developers with credits that can be used to compensate for future wetland impacts.

Mitigation banking can benefit both developers and wetlands. Because the mitigation banking project is designed and built in advance, a "late-comer" applicant does not have to bear all of the expense of designing, permitting, and monitoring an individual mitigation project. Particularly in urban or urbanizing areas, mitigation banking can also provide more valuable mitigation than a number of smaller, individual mitigation projects. Economy of scale allows for the restoration, enhancement, and creation of larger wetlands, which generally have more diverse and valuable functions than smaller, individual mitigation efforts.

The Model Ordinance does not provide for mitigation

132. *Id.* § 13.36.420(2)(d).

133. *Id.* § 13.36.300(4).

banking per se. It does, however, allow for "cooperative restoration, creation or enhancement projects."¹³⁴ Such projects involve two or more private applicants joining together to fund a single, large, off-site compensatory project. This kind of cooperation is allowed when "restoration, creation or enhancement at a particular site may be scientifically difficult or impossible; or . . . creation of one or several larger wetlands may be preferable to many small wetlands."¹³⁵

While these projects also allow for the creation of larger wetlands, they do not offer all of the same benefits of classic mitigation banking projects. With traditional mitigation banking, a small property owner who needs to compensate for altering a wetland on his property may be able to pay into a mitigation bank, thereby contributing to the creation of a large, high value wetland. He may not, however, be able to organize the type of cooperative mitigation project provided for in the Model Ordinance.

A number of western Washington jurisdictions, such as Jefferson, San Juan, Mason, Thurston, and Whatcom Counties, allow for this cooperative mitigation. Very few, however, provide for classic mitigation banking.¹³⁶ Snohomish County provides one example. The County permitted a mitigation banking program in which a three hundred sixty-three acre strawberry farm was converted into a saltwater marsh.¹³⁷ The restored wetland is now made available, at twenty thousand dollars per acre, to developers who alter wetlands elsewhere in Snohomish County.¹³⁸

IV. RECOMMENDATIONS

In the year following adoption of their comprehensive plans, local governments planning under the GMA must revisit their wetlands regulations to ensure consistency with the plan.¹³⁹ The appropriate content of wetlands regulations is, in the end, a balance of science, policy, and values. In reviewing

134. MODEL ORDINANCE, *supra* note 9, § 7.5(f)(7).

135. *Id.* § 7.5(f)(7)(A).

136. Whatcom County anticipates the development of a mitigation banking system in the future.

137. *From Strawberries to Salt Marsh—Wetlands-bank idea worth serious study*, SEATTLE TIMES, July 19, 1991, at A-10.

138. *Id.*

139. WASH. REV. CODE ANN. § 36.70A.060(3) (West 1991 & Supp. 1993). *See also id.* § 36.70A.120 (West 1991).

their interim regulations, local governments have an opportunity to address more thoughtfully the issues discussed in this article: the practicable alternatives test, in-kind wetland replacement, non-regulatory tools, delineation manual use, and viewing wetlands as part of an ecosystem rather than part of an individual property. To facilitate their review of these issues, we offer the following recommendations for consideration:

(1) Use mitigation sequencing for Class I and II wetlands and a "no-net loss" standard for Category III and IV wetlands, as opposed to the practicable alternatives test. This would substantially reduce cost to both the applicant and the jurisdiction, would shorten the permitting process, and, most importantly, would focus resources on determining what is permissible on a site rather than what is impermissible.

(2) If the practicable alternatives test is used, limit alternative sites to those with an appropriate comprehensive plan and zoning designation.

(3) Encourage the replacement of lower value wetlands with higher value wetlands by offering incentives, such as reducing the replacement ratio if a lower category wetland is replaced with a higher category wetland. This is achievable at no cost to the government and may result in valuable wetland enhancement.

(4) Allow the area within the wetland and its buffer to count toward permitted density and/or open space or landscaping requirements. This would effectively reduce the "penalty" for having wetlands on one's property and would provide an incentive for wetlands preservation at no cost to the local government.

(5) Use the delineation manual currently being used under the Clean Water Act. This would foster consistency and create a more rational regulatory process.¹⁴⁰

(6) Focus mitigation efforts on systems rather than on individual properties. This will ultimately provide more effective wetlands protection because watersheds, rather than smaller, individual wetlands, will be enhanced and protected.

(7) Give a more prominent role to non-regulatory tools. To date, most local governments have approached their wet-

140. By the time local governments revisit their wetlands regulations, the National Academy of Sciences should have completed its evaluation and generated a manual based on consensus, hopefully making this particular recommendation moot.

lands regulations as if the regulations standing alone must accomplish the mandate of wetlands protection. However, both the GMA and the Minimum Guidelines make clear that the regulations are only "one tool in the tool box" and are intended to be complemented by non-regulatory approaches.

If these recommendations are embodied in local wetlands regulations, local governments will be better able to divert monetary resources currently expended on process to the protection of wetlands and to diffuse much of the controversy over wetlands regulation that has been building in western Washington.

APPENDIX A*
STATUS OF WETLAND/CRITICAL AREA ORDINANCE

COUNTIES

Cities

- BENTON (Draft Critical Resources Protection Ordinance 9/93)
- CHELAN (Draft Wetlands Ordinance (9/14/93).
Chelan (Adopted 6/92)
Sequim (Adopted /92)
Wenatchee (Adopted 7/2/92)
- CLALLAM (Adopted CAO 6/16/92)
Forks (Adopted 2/24/92)
Port Angeles (Adopted 11/19/91)
- CLARK (Adopted wetlands ordinance 2/92)
Battle Ground (Adopted 6/1/92)
Camas (Adopted 12/8/91)
Vancouver (Adopted 2/24/92)
- DOUGLAS (Adopted Critical Lands Policies 4/92)
Bridgeport (Adopted 8/26/92)
East Wenatchee (Adopted 5/18/92)
Mansfield (Adopted 6/9/92)
Rock Island (Adopted 4/9/92)
Waterville (Adopted 4/20/92)
- FERRY (Adopted interim SAO 3/93)
- FRANKLIN (Adopted interim CAO 7/13/93)
Pasco (Adopted 2/16/93)
- GRANT (Adopted CAO & Resource Lands 5/25/93)
- ISLAND (Draft 4/23/92)
Langley (Draft 1/13/92)
Oak Harbor (Draft 2/17/92)
- JEFFERSON (Draft CAO 9/93)
Port Townsend (Adopted 10/19/92)
- KING (Adopted SAO 8/29/90)
Algona (Adopted 3/17/92)
Auburn (SEPA amendments Adopted 3/2/92)
Bellevue (Already in compliance before GMA)
Black Diamond (Adopted 5/21/92)
Bothell (Adopted 12/16/91)
Carnation (Adopted 2/24/92)
Clyde Hill (Has told DCD they have no wetlands)
Des Moines (Adopted as amended 2/27/92)
Duvall (Adopted 4/9/92)

Enumclaw (Adopted 1/13/92)
 Federal Way (Adopted 8/30/91 as amended 1/92)
 Hunts Point (Adopted 10/6/92)
 Issaquah (Adopted interim 1992. Final to be adopted in 1994.)
 Kent (Adopted Alternative B 4/20/93)
 Kirkland (Adopted 10/6/92)
 Lake Forest Park (Adopted 3/2/92)
 Medina (Adopted 9/92)
 Mercer Island (Adopted 2/11/92)
 Normandy Park (Adopted 3/24/92)
 North Bend (Adopted 1/93)
 Pacific (Adopted 12/14/92)
 Redmond (Adopted 6/15/92)
 Renton (Adopted 3/12/92)
 Sea Tac (Adopted 2/27/90)
 Seattle (Adopted 7/13/92)
 Snoqualmie (Adopted 8/12/91)
 Tukwila (Adopted 9/30/91)

KITSAP (Adopted Policies & Interim Development Regulations 1/27/92)

Bainbridge (Adopted ESAO 2/20/92)
 Bremerton (Adopted CAO 4/93)

KITTITAS (Draft CAO 10/93; expects adoption in June 1994)

Ellensburg (Adopted 9/7/92)

MASON (Adopted interim CAO 8/3/93)

Shelton (Adopted 2/24/92)

PACIFIC (Adopted 12/14/92)

PEND OREILLE (Adopted CAO & Resource Lands 12/28/92)

PIERCE (Adopted 2/92)

Bonney Lake (Adopted 9/92)
 DuPont (Adopted 4/8/92)
 Gig Harbor (Adopted 11/12/91)
 Puyallup (Adopted 7/20/92)
 Orting (Adopted 2/27/92)
 Sumner (Adopted 4/6/92)
 Tacoma (Adopted 2/25/92)

SAN JUAN (Adopted CAO 12/22/92)

SKAGIT (No regulations—tells applicants to deal with Corps)

Anacortes (Adopted 1/1/90)
 Burlington (Adopted)
 Laconnor (Adopted 8/27/91)
 Mt. Vernon (Adopted 3/2/92)
 Sedro Woolley (Adopted 11/17/91)

SNOHOMISH (Back to drawing board. Getting new direction from council.)

Brier (Adopted 2/11/92)
Edmonds (Adopted 3/17/92)
Everett (Adopted 12/18/91)
Lake Stevens (Adopted 12/16/91)
Lynnwood (Adopted 2/26/92)
Marysville (Adopted 12/14/92)
Mill Creek (Adopted 4/28/92)
Monroe (Adopted 9/26/90)
Montlake Terrace (Adopted 10/11/84)
Mukilteo (Adopted 3/23/92)
Snohomish (Adopted 2/18/92)
Sultan (2/25/92)

THURSTON (Planning Commission Draft dated July 1993)

Lacey (Adopted 3/26/92)
Olympia (Adopted 3/17/92)
Tumwater (Adopted 8/20/91)

WALLA WALLA (No regulations, no drafts)

WHATCOM (Adopted 6/28/92)
Bellingham (Adopted 12/9/91)
Blaine (Adopted 3/23/92)
Everson (Adopted 1/28/92)
Nooksack (Adopted 11/5/91)

YAKIMA (Draft "Stream Corridor" Ordinance 10/1/93)
Grandview (No regs no drafts)

GARFIELD AND COLUMBIA ARE EXCLUDED

SURVEY: 24 COUNTIES . . . 80 CITIES

*** DATE CHART PREPARED: OCTOBER 1, 1993**

**APPENDIX B
COUNTY/CITY WETLAND BUFFER COMPARISON***

Buffer Width	Wetland Class			
	I Type/Category A	II Type/Category B	III Type/Category C	IV
300'	CLARK ¹ JEFFERSON ² THURSTON ³ Brier ⁴ Lacey ⁵ Olympia ⁶ Port Angeles ⁷ Tumwater Vancouver			
250'	Wenatchee			
200'	BENTON ⁸ ⁹ FERRY ¹⁰ CLALLAM ¹¹ DOUGLAS ¹² WHATCOM Bonney Lake Bremerton Bridgeport Chelan DuPont East Wenatchee Issaquah ¹³ Mansfield Nooksack North Bend ¹⁴ Rock Island Sequim Tacoma ¹⁵ Waterville	CLARK ¹⁶ JEFFERSON ¹⁷ THURSTON ¹⁸ Brier ¹⁹ Lacey ²⁰ Olympia ²¹ Port Angeles ²² Tumwater Vancouver		
150'	²³ CHELAN ²⁴ KITTITAS ²⁵ PEND OREILLE PIERCE SAN JUAN Bainbridge Island ²⁶ Bothell Forks Gig Harbor ²⁷ Lake Stevens ²⁸ Mill Creek Orting ²⁹ Redmond ³⁰ Shelton Sumner	Wenatchee		
100'	ISLAND KING MASON PACIFIC Bellingham Carnation Des Moines	BENTON ³² CHELAN ³³ FERRY ³⁴ CLALLAM ³⁵ DOUGLAS ³⁶ KITTITAS ³⁷ PEND OREILLE	CLARK ⁴⁶ JEFFERSON ⁴⁷ THURSTON ⁴⁸ Brier Federal Way ⁴⁹ Lacey ⁵⁰ Olympia	Federal Way

	Duvall	PIERCE	³¹ Port Angeles	
	Edmonds	³² WHATCOM	³³ Tumwater	
	Enumclaw	Bainbridge	Vancouver	
	Everett	Bonney Lake		
	Everson	³⁴ Bothell		
	Federal Way	Bremerton		
	Kent	Bridgeport		
	Lake Forest Park	Chelan		
	Langley	DuPont		
	Lynnwood	East Wenatchee		
	Marysville	Federal Way		
	Mukilteo	Gig Harbor		
	Normandy Park	Issaquah		
	Pacific	⁴⁰ Mansfield		
	³¹ Puyallup	⁴¹ Mill Creek		
	Renton	Nooksack		
	SeaTac	North Bend		
	Snohomish	Port Townsend		
	Snoqualmie	⁴² Redmond		
	Tukwila	⁴³ Rock Island		
		Sequim		
		⁴⁴ Shelton		
		Sumner		
		Tacoma		
		⁴⁵ Waterville		
90'	Battle Ground			
85'	Algona			
75'	KITSAP	KITSAP	KITSAP	KITSAP
	Blaine	MASON	⁵⁴ Shelton	
	Monroe	SAN JUAN	Wenatchee	
		Enumclaw		
		Everett		
		Forks		
		⁵⁵ Puyallup		
65'		⁵⁵ Lake Stevens		
60'		Marysville		
50'	GRANT	KING	BENTON	CLARK
	Bellevue	PACIFIC	⁵⁶ CHELAN	⁶⁰ JEFFERSON
	Black Diamond	Bellevue	⁵⁷ CLALLAM	⁷⁰ THURSTON
	Kirkland	Black Diamond	⁵⁸ DOUGLAS	Black Diamond
	Seattle	Blaine	⁵⁹ FERRY	⁷¹ Brier
	Sedro Woolley	Carnation	⁶⁰ KITTITAS	⁷² Lacey
		Duvall	MASON	⁷³ Olympia
		Edmonds	SAN JUAN	Seattle
		Kent	⁶¹ WHATCOM	⁷⁵ Shelton
		Lake Forest Park	Bainbridge	⁷⁶ Tumwater
		Langley	Black Diamond	Vancouver
		Lynnwood	Bonney Lake	Wenatchee
		Mukilteo	⁶² Bothell	
		Orting	Bremerton	
		Pacific	Bridgeport	
		Renton	Chelan	
		SeaTac	East Wenatchee	
		Seattle	Enumclaw	
		Snohomish	Everett	
		Snoqualmie	Forks	
		Tukwila	Gig Harbor	
			⁶³ Lake Stevens	
			⁶⁴ Mansfield	

			⁶⁵ Mill Creek Nooksack North Bend Port Townsend ⁶⁶ Redmond ⁶⁷ Rock Island Seattle Sequim Sumner Tacoma ⁶⁸ Waterville	
40'			Marysville	
35'		Algona Des Moines Monroe Normandy Park	⁷⁷ Puyallup	SAN JUAN
30'		Sedro Woolley		
25'	Anacortes Burlington Hunts Point LaConnor Medina Mercer Island Mt. Vernon	GRANT ISLAND Anacortes Bellevue Burlington Hunts Point LaConnor Kirkland Medina Mercer Island Mt. Vernon	KING PACIFIC Anacortes Bellingham Blaine Burlington Carnation Duvall Edmonds Everson Hunts Point Kent LaConnor Lake Forest Park Langley Lynnwood Medina Mercer Island Monroe Mt. Vernon Mukilteo Orting Pacific Renton SeaTac Sedro Woolley Snohomish Snoqualmie Tukwila	BENTON ⁷⁸ CHELAN ⁷⁹ CLALLAM ⁸⁰ DOUGLAS ⁸¹ FERRY MASON PIERCE ⁸² WHATCOM Anacortes Bainbridge Bonney Lake Bridgeport Burlington East Wenatchee Enumclaw Everett Everson Forks Gig Harbor Hunts Point Issaquah LaConnor Mansfield Marysville Medina Mercer Island ⁸³ Mill Creek Mt. Vernon Port Townsend Rock Island Sequim Sumner Tacoma Waterville
20'			GRANT	Chelan
10'			Algona	GRANT Lynnwood ⁸⁴ Puyallup
NOT AVAILABLE (no regulations or drafts)	SKAGIT SNOHOMISH WALLA WALLA YAKIMA	SKAGIT SNOHOMISH WALLA WALLA YAKIMA	SKAGIT SNOHOMISH WALLA WALLA YAKIMA	SKAGIT SNOHOMISH WALLA WALLA YAKIMA

	Grandview	Grandview	Grandview	Grandview
NOT	FRANKLIN	FRANKLIN	FRANKLIN	FRANKLIN
ADDRESSED	Clyde Hill	Clyde Hill	ISLAND	ISLAND
(category not	Pasco	Pasco	PEND OREILLE	KING
defined or	Oak Harbor	Oak Harbor	Battle Ground	PACIFIC
buffer width			Clyde Hill	PEND OREILLE
not addressed)			Des Moines	Algona
			DuPont	Battle Ground
			Kirkland	Bellevue
			Normandy Park	Bellingham
			Oak Harbor	Blaine
			Pasco	Bothell
				Carnation
				Clyde Hill
				Des Moines
				DuPont
				Duvall
				Edmonds
				Kent
				Kirkland
				Lake Forest Park
				Langley
				Monroe
				Mukilteo
				Normandy Park
				North Bend
				Oak Harbor
				Orting
				Pacific
				Pasco
				Renton
				SeaTac
				Sedro Woolley
				Snohomish
				Snoqualmie
				Tukwila
ZERO		Battle Ground	Bellevue	KITTITAS
(no buffers				Lake Stevens
required)				Nooksack
				Redmond
CASE BY CASE	Auburn	Auburn	Auburn	Auburn
(each project	Camas	Camas	Camas	Camas
evaluated	Ellensburg	Ellensburg	Ellensburg	Ellensburg
separately)	Mountlake Terrace	Mountlake Terrace	Mountlake Terrace	Mountlake Terrace
	Sultan	Sultan	Sultan	Sultan

SURVEY: 24 COUNTIES . . . 80 CITIES
 * DATE CHART PREPARED: OCTOBER 1, 1993

NOTES TO APPENDIX B

1. 300' high intensity, 200' low intensity
2. 300' high intensity, 200' low intensity
3. 300' high intensity, 200' low intensity
4. 300' high intensity, 200' low intensity
5. 300' high intensity, 200' low intensity
6. 300' high intensity, 200' low intensity
7. 300' high intensity, 200' low intensity

8. 0-150' high intensity, 0-125' low intensity
9. 200' high intensity, 100' low intensity
10. 200' major development, 100' minor development
11. 200' high intensity, 100' low intensity
12. 200' high intensity, 100' low intensity
13. 200' high intensity, 100' low intensity
14. 200' high intensity, 100' low intensity
15. 200' high intensity, 100' low intensity
16. 200' high intensity, 100' low intensity
17. 200' high intensity, 100' low intensity
18. 200' high intensity, 100' low intensity
19. 200' high intensity, 100' low intensity
20. 200' high intensity, 100' low intensity
21. 200' high intensity, 100' low intensity
22. 200' high intensity, 100' low intensity
23. 150'-25' high intensity, 125'-25' low intensity
24. 150' high impact, 75' low impact
25. 150' high intensity, 50' low intensity
26. 150' maximum, 75' minimum
27. 150' high intensity, 100' low intensity
28. 150' high impact, 75' low impact
29. 150' maximum, 100' minimum
30. 150' high intensity, 100' low intensity
31. Standard, 75' Enhancement
32. 100'-25' high intensity, 75'-25' low intensity
33. 100' high intensity, 50' low intensity
34. 100' major development, 50' minor development
35. 100' high intensity, 50' low intensity
36. 100' high intensity, 50' low intensity
36. 100' high impact, 50' low impact
37. 100' high intensity, 50' low intensity
38. 100' high intensity, 50' low intensity
39. 100' maximum, 50' minimum
40. 100' high intensity, 50' low intensity
41. 100' high impact, 50' low impact
42. 100' maximum, 75' minimum
43. 100' high intensity, 50' low intensity
44. 100' high intensity, 75' low intensity
45. 100' high intensity, 50' low intensity
46. 100' high intensity, 50' low intensity
47. 100' high intensity, 50' low intensity
48. 100' high intensity, 50' low intensity
49. 100' high intensity, 50' low intensity
50. 100' high intensity, 50' low intensity
51. 100' high intensity, 50' low intensity
52. 100' high intensity, 50' low intensity
53. 75' standard, 50' enhancement
54. 75' high intensity, 50' low intensity
55. 65' high intensity, 35' low intensity
56. 25-50' high or low intensity
57. 50' both major and minor development
58. 50' high intensity, 25' low intensity
59. 50' high intensity, 25' low intensity
60. 50' high impact, 25' low impact
61. 50' high intensity, 25' low intensity
62. 50' maximum, 25' minimum
63. 50' high intensity, 25' low intensity
64. 50' high intensity, 25' low intensity
65. 50' high impact, 25' low impact
66. 50' maximum, 25' minimum
67. 50' high intensity, 25' low intensity
68. 50' high intensity, 25' low intensity

69. 50' high intensity, 25' low intensity
70. 50' high intensity, 25' low intensity
71. 50' high intensity, 25' low intensity
72. 50' high intensity, 25' low intensity
73. 50' high intensity, 25' low intensity
74. 50' high intensity, 25' low intensity
75. 50' high intensity, 25' low intensity
76. 50' high intensity, 25' low intensity
77. 35' standard, 25' enhancement
78. 25' high intensity, exempt low intensity
79. 25' from both major and minor development
80. 25' both high and low intensity
81. 25' both high and low intensity
82. 25' both high and low intensity
83. 25' high impact, 0-10' low impact
84. 10' standard, 5' enhancement