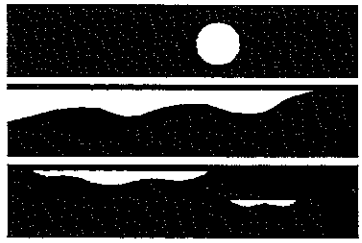

WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

Washington State Wetlands Rating System

for Western Washington

October 1991
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WASHINGTON STATE WETLANDS RATING SYSTEM

for

WESTERN WASHINGTON

OCTOBER 1991

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PREFACE

On October 1st, 1990 the Department of Ecology issued a non-mandatory Model Ordinance for Wetlands Protection to all Washington State local governments. The Model Ordinance contained two options for rating wetlands; local governments could use either the Washington State Four-Tier Wetlands Rating System, or the Puget Sound Region Wetlands Rating System.

This document is a revised rating system and is the result of a planned review. It is based on comments we have received and our own knowledge of the need to improve the rating system. The main thrust is to introduce rating criteria that are more specific and less qualitative.

The rating system has been prepared following evaluation and field testing and is now being recommended to local government. Separate rating systems have been developed for use in Eastern and Western Washington.

ACKNOWLEDGEMENTS

Sue Mauermann and Andrew McMillan gave inspiration, leadership and review for this wetland rating project within the Department of Ecology. Dyanne Sheldon of Sheldon and Associates provided an important detailed critique of the draft wetlands rating system, especially the field methodology. John Marshall, Michelle Stevens and Doug Swanson of the Department of Ecology contributed technical knowledge. Many Ecology staff provided logistic support to the project. Many individuals from the Technical and Implemention review teams made valuable contributions of time and ideas, and willingly shared their knowledge of wetland systems in Washington State. A full list of reviewers is included in Appendix 4. These contributions made the project possible and I thank you all.

Stewart Toshach
Project Lead, Wetlands Rating Project
October, 1991

"In these savage, liquid plains
Only known to wandering swains,
Where the mossy rivulet strays
Far from human haunts and ways,
All on nature you depend,
and life's poor season peaceful spend."

- Robert Burns 1759-96 -

INTRODUCTION

The remaining wetlands in Washington state differ widely in resource value. Some wetland types are common, and others are rare, but all provide some valued functions. These may be ecological, economic, recreational or aesthetic. To effectively protect the remaining wetlands, managers, planners and citizens need to be able to better understand the resource value of individual wetlands. One way to accomplish this is with a wetlands rating system: a process that differentiates wetlands according to specific characteristics or functional attributes. Permit decisions can then be considered in light of the wetland rating and the potential development impact. In the Department of Ecology's Model Ordinance, protective measures are varied, with the highest levels of protection given to the highest rated wetlands. An example of how different wetlands are afforded different levels of protection is shown in Figure 1 on p.8.

Amongst wetlands scientists, planners and regulators there is debate on the merits of rating wetlands at all. Advocates of wetland rating note that this management approach avoids a multitude of case-by-case, subjective impact determinations made by permit administrators. Wetland rating systems also afford potential developers with early notice of wetland sensitivity according to the rating assigned to a wetland. A rating system will increase predictability, certainty and consistency of decision making. Additionally, it may simplify and expedite permit review. Wetland rating can also increase the credibility of a wetland protection program by relating protection standards to wetland value.

Critics of wetland rating are concerned that it can be used as a mechanism to direct development impacts to lower rated wetlands, serving only to protect higher rated wetlands. Other critics point to possibly subjective interpretations that may be required on behalf of the wetland evaluator in order to determine a wetland's category or rating, and the high amount of training which may be necessary to ensure appropriate determinations. Additionally, rating systems differentiate and place value on wetland characteristics that are not fully understood. One concern is that there is less published scientific data concerning Northwest wetlands than those in the east or midwest of the United States. Another concern is that we lack complete information on the complex internal processes of individual wetlands and the full effects of their cumulative loss.

Despite the potential drawbacks, the Department of Ecology has developed a rating system to be used in the State of Washington. Ecology's rating system uses specific criteria to allow a determination of the resource value of individual wetlands within four possible categories. The rating value is based on wetland function and values, sensitivity to disturbance, rarity and irreplaceability.

The management decisions which can be made according to this system include, the width of buffers necessary to protect wetlands from adjacent development, mitigation acreage and replacement ratios and permitted uses in wetlands. This system does not replace a full functional assessment of a wetland which will be necessary in order to plan and monitor a wetland mitigation project.

The system identifies a relative value for vegetated wetlands and is intended primarily for use with the Clean Water Act definition of wetlands. It does not include mudflats, streambeds, beach substrates and other ecologically valuable aquatic areas. However we have included eelgrass beds and kelp beds at the request of State agencies. The system was designed to be used with the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. Use of this system with a different delineation manual may require modifications to certain criteria in order to retain its accuracy.

An essential question is whether or not the rating system will help to protect the public resource value of wetlands. The system is designed to assist local or state government agencies that have legal jurisdiction over wetlands. As a tool for protection it's success will depend on how it is used.

In fine-tuning the system, the Department of Ecology is aware that many local governments are either using, or in the process of developing and adopting systems for determining the value of individual wetlands. The Department's intention in completing this document has been to maintain existing distinctions between the four wetland categories, while adding refinement and predictability.

The rating system is not considered perfect nor the final answer, however, it is based on the best information available at this time. Advances in wetlands science will bring further understanding to the valuation of wetlands. We anticipate that the rating system methodology will be further modified over time as we increase our understanding of wetland systems and improve on our ability to measure wetland functions and values.

SUMMARY OF RATIONALE FOR THE CATEGORIES

This rating system was designed to differentiate between wetlands based on their sensitivity to disturbance, rarity, irreplaceability and the functions and values they provide. The emphasis is on rating highly those wetlands where our confidence in replacing them is low or their sensitivity to adjacent disturbance is high. The rating categories are intended to be used with a management scheme similar to that outlined in the Model Ordinance. Use of these management standards with this rating system should result in adequate protection of all wetland resources. Use of lesser standards may result in a loss of wetland functions and values.

At first glance it may appear that this rating system is weighted toward wildlife habitat functions and values provided by wetlands with little attention devoted to hydrologic and water quality functions. Rating of the hydrologic functions provided by wetlands is inherent in many of the factors such as connection to streams and size of the wetland. In addition, the indicators of significant hydrologic functions are more complex and costly to assess and were considered inappropriate to use in this context.

Finally, the assumption is made that the management standards will address many concerns regarding loss of hydrologic functions. For example, most wetlands providing important hydrologic functions would fall in Categories I, II, or III and thus, would only be altered if there was no practicable alternative and would receive buffers greater than 50 feet. The only wetlands falling in Category IV would be small, isolated wetlands which provide minimal hydrologic functions which can be replicated in most cases.

It is important to understand that this rating system is not intended to substitute for a detailed functional assessment of a wetland where that is appropriate.

The development of the rating system methodology involved the review of draft documents by two teams, a Technical Review Team and an Implementation Review Team. Details of the review process and the members of the teams is provided in Appendix 4.

The following description of each of the categories summarizes the rationale for each category. As a general principle, it is important to note that all of the categories have valuable functions in the landscape, and all are worthy of inclusion in wetlands protection programs.

CATEGORY I

These wetlands are the "cream of the crop". Generally, these wetlands are not common and would make up a small percentage of the wetlands in the state. These are wetlands that: 1) are very valuable for a particular rare species; 2) represent a high quality example of a rare wetland type; 3) are rare within a given region; or, 4) provide irreplaceable functions and values i.e. they are impossible to replace within a human lifetime, if at all. We cannot afford the risk of any degradation to these wetlands.

CATEGORY II

These wetlands are those that: 1) provide habitat for very sensitive or important wildlife or plants; 2) are either difficult to replace; or 3) provide very high functions and values, particularly for wildlife habitat. These wetlands occur more commonly than Category I wetlands and need a high level of protection.

CATEGORY III

These wetlands provide important functions and values. They are important for a variety of wildlife species and occur more commonly throughout the state than either Category I or II wetlands. Generally these wetlands will be smaller, less diverse and/or more isolated than Category II wetlands. They will occur most frequently, be difficult to replace, and need a moderate level of protection.

CATEGORY IV

These wetlands are those that are smaller, isolated and have less diverse vegetation. These are wetlands that we should be able to replace, and in some cases be able to improve on from a habitat standpoint. However, we know that replacement can not be guaranteed in any specific case. These wetlands do provide important functions and values. In some areas, for example islands, these wetlands may be providing important groundwater recharge and water pollution prevention functions, and therefore may be more important from a local point of view. They may also be providing important flood storage capacity, and therefore be important in reducing both the extent and frequency of flood events. Thus, regional differences may call for a more narrow definition of this category.

OVERVIEW FOR USERS

WHEN TO USE THE WETLANDS RATING SYSTEM

The system is designed to determine wetlands categories for users of the Department of Ecology's Model Ordinance for Wetlands Protection, for agencies developing agency procedures for wetlands protection, and for local regulatory programs being developed or revised.

This rating system was developed to be used with the management protection standards as shown in Figure 1 on p.8, (or similar standards). The use of lesser protection standards with this rating system may result in inadequate protection of wetlands functions and values.

It is important to understand that regional differences may need to be accounted for in rating wetlands. Rating systems have been designed for use in two versions, an Eastern Washington version and a Western Washington version. This broad division of the state into east and west may not reflect all regional differences at a fine enough scale and it may therefore be necessary to modify the criteria, or sub-criteria. Use of the wetlands of local significance concept on p. 50 is recommended where local governments need to provide a level of protection to local wetlands that would not be otherwise provided by the rating system.

HOW THE WETLANDS RATING SYSTEM WORKS

The system requires that specific criteria (or sub-criteria) be confirmed on a Wetlands Rating Office Data Form from state agency sources or by the application of a field methodology before a particular wetland is assigned to a category. The field methodology consists of a Wetlands Rating Field Data Form and detailed guidance.

A summary of the sources of data and criteria to rate individual wetlands according to each category is shown in Table 1 on p.6.

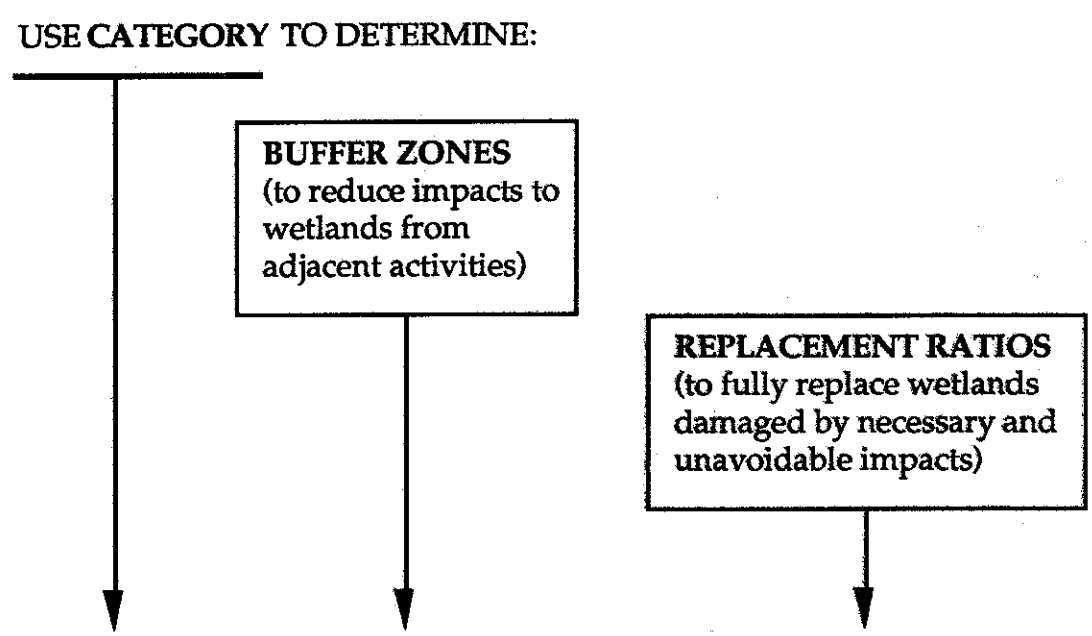
The Wetlands Rating Office Data Form on p.11 is a step by step method for determining the category of wetland based on criteria and subcriteria using information from agency sources. We recommend using the Wetlands Rating Office Data Form before completing the Wetlands Rating Field Data Form. However, please note that the Office Data Form will not provide a rating in most cases and you will need to use the Field Data Form. This is because state agency inventories are not complete.

The Wetlands Rating Field Data Form on p.24 is also a step by step method. We recommend careful reading of the guidance.

TABLE 1: SUMMARY OF CRITERIA BY CATEGORY AND DATA SOURCES	
CRITERIA FOR EACH CATEGORY	DATA SOURCES
CATEGORY I WETLANDS ARE:	
(i) Documented habitat recognized by federal or state agencies for threatened or endangered plant (or potentially extirpated plant), ... animal, ... or fish species; or	DNR (Nat. Heritage) W D Wildlife W D Wildlife & W D Fisheries
(ii) Documented Natural Heritage wetland sites or high quality native wetland communities which qualify as Natural Heritage wetland sites; or	DNR (Nat. Heritage) or Field Data Form
(iii) Documented habitat of regional (Pacific Coast) or national significance for migratory birds; or	W D Wildlife
(iv) Regionally rare native wetland communities; or	Field Data Form
(v) Wetlands with irreplaceable ecological functions; or	Field Data Form
(vi) Documented wetlands of local significance.	Local Government
CATEGORY II WETLANDS SATISFY NO CATEGORY I CRITERIA, AND ARE:	
(i) Documented habitat recognized by federal or state agencies for sensitive plant, ... animal, ... or fish species; or	DNR (Nat. Heritage) W D Wildlife W D Wildlife & W D Fisheries
(ii) Documented priority species or habitats recognized by state agencies; or	W D Wildlife
(iii) Wetlands with significant functions which may not be adequately replicated through creation or restoration; or	Field Data Form
(iv) Wetlands with significant habitat value of 22 or more points; or	Field Data Form
(v) Documented wetlands of local significance.	Local Government

TABLE 1 (Continued): SUMMARY OF CRITERIA BY CATEGORY AND DATA SOURCES	
CRITERIA FOR EACH CATEGORY	DATA SOURCES
CATEGORY III WETLANDS SATISFY NO CATEGORY I, II OR IV CRITERIA AND ARE:	
(i) Wetlands with significant habitat value of 21 points or less; or	Field Data Form
(ii) Documented wetlands of local significance.	Local Government
CATEGORY IV WETLANDS SATISFY NO CATEGORY I, II OR III CRITERIA, AND ARE:	
(i) Wetlands less than 1 acre and, hydrologically isolated and, comprised of one vegetated class that is dominated (> 80% areal cover) by one species from the list in Table 6; or,	Field Data Form
(ii) Wetlands less than two acres and, hydrologically isolated, with one vegetated class, and > 90% of areal cover is any combination of species from the list in Table 7.	Field Data Form

FIGURE 1. DRAFT MANAGEMENT STANDARDS FOR BUFFER ZONE REQUIREMENTS AND REPLACEMENT RATIOS BY WETLAND CATEGORY.



CATEGORY	BUFFER ZONES (ft.)	REPLACEMENT RATIOS
I	200 - 300	6 : 1
II	100 - 200	FORESTED 3 : 1 SCRUB - SHRUB 2 : 1 EMERGENT 1.5 : 1
III	50 - 100	
IV	25 - 50	1.25 : 1

HOW TO USE THE WETLAND RATING SYSTEM

INSTRUCTIONS

1). Read guidance for using the Wetlands Rating Office Data Form on p.10, and the Wetlands Rating Field Data Form on p.13.

2). Obtain copy of map(s) showing the boundaries of the wetland you are rating. Use delineated boundaries where possible.

3). Send letters to state agencies requesting information. See sample letters in Appendices 1-3. Attach a copy of the map(s).

4). When agencies return information complete the Wetland Rating Office Data Form, on p.11.

5). If necessary, go to the wetland and complete the Wetland Rating Field Data Form, on p.24.

6). Attach the Field Data Form to the Office Data Form. This is your record of the rating.

GUIDANCE FOR THE WETLANDS RATING OFFICE DATA FORM

DELINEATION:

The first step is to determine the location and boundaries of wetlands that you are rating. You will need to know the location and boundaries so you can send an accurate map to the agency. For regulatory purposes it is assumed that wetland locations are accurately known before categories are determined. This does not mean that delineation of wetlands must always be undertaken before a meaningful determination of category can be made, However, the wetland boundary is an important factor in determining some rating criteria and a rough assessment may result in inaccuracies in rating.

RATING WETLANDS THAT ARE DIVIDED BY HUMAN MADE FEATURES:

See the general field guidance on p.13.

RATING WETLANDS CONTIGUOUS WITH LARGE AREAS OF OPEN FRESH WATER OR STREAMS:

See the general field guidance on p.14.

COMPLETING THE WETLANDS RATING OFFICE DATA FORM:

Complete the background information. Put names of rater(s), organization, date etc., the location of the wetland using Section, Township and Range coordinates and your sources of information in the spaces provided.

Answer the questions beginning at the top of the form.

Copies of sample letters to state agencies that can help with the data are included in Appendices 1-3. Send the letters to the addresses shown, or make phone calls if your matter is urgent. Use the questions in the letters as guidance if you are making phone calls. A fee may be charged for searches of agency data bases. Searches for public agencies (i.e. local governments) and non profit organizations are free.

Complete the Office Data Form when you have answers from the agencies. In most cases the Office Data Form will not provide a rating, so field work will be necessary. Nevertheless it is important to get the agency data and complete the rating form before completing detailed field work. This will save you time and effort should there already be a record of the wetland with the agency.

When you have completed the questions you may have circled higher and lower categories. In this case the highest category applies.

WETLANDS RATING OFFICE DATA FORM

BACKGROUND INFORMATION:

Name of Rater: _____ Affiliation: _____ Date: _____

Name of wetland (if known): _____

Government Jurisdiction of wetland: _____

Location: 1/4 S: _____ of 1/4 S: _____ SEC: _____ TWNSHP: _____ RNGE: _____

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: ____ USGS Topo Map: ____ NWI map: ____ Aerial Photo: ____ Soils survey: ____

Other: ___ Describe: _____

When office and/or field data forms are completed ENTER CATEGORY HERE: _____

ANSWER ALL QUESTIONS BELOW. If the source agency identifies the wetland as satisfying any of the questions below, circle the category in "CATEGORY" column	DATA SOURCE	CATEGORY (the highest qualifies)
Does the wetland contain individuals of Federal or State-listed Threatened or Endangered plant species; or is the wetland an historic location of a plant species thought to be possibly Extinct or Extirpated from Washington?	DNR (Natural Heritage)	Yes: Category I No: Next Question
Does the wetland contain documented habitats for State-listed or candidate Threatened or Endangered wildlife species managed by the Washington Department of Wildlife?	W D Wildlife	Yes: Category I No: Next Question
Does the wetland contain documented habitats of State or Federally listed or State or Federal candidate Threatened or Endangered fish species, or races of fish, managed by the Washington Department of Wildlife or the Washington Department of Fisheries?	W D Wildlife & W D Fisheries	Yes: Category I No: Next Question
Is the wetland already on record with the Washington Natural Heritage Program as a high quality native wetland?	DNR (Natural Heritage)	Yes: Category I No: Next Question

WETLANDS RATING OFFICE DATA FORM (CONTINUED)		
Is the wetland documented habitat of regional (Pacific Coast) or national significance for migratory birds?	W D Wildlife	Yes: Category I No: Next Question
Is the wetland documented as Category I Wetland of Local Significance?	Local Govt.	Yes: Category I No: Next Question
Does the wetland contain individuals of State-listed Sensitive plant species?	DNR (Natural Heritage)	Yes: Category II No: Next Question
Does the wetland contain documented habitat for State-listed or candidate sensitive wildlife species managed by the Washington Department of Wildlife?	W D Wildlife	Yes: Category II No: Next Question
Does the wetland contain documented habitats of State or Federally listed or candidate Sensitive fish species managed by the Washington Department of Wildlife or the Washington Department of Fisheries?	W D Wildlife & W D Fisheries	Yes: Category II No: Next Question
Does the wetland contain priority species or habitats documented by Washington Department of Wildlife's Priority Habitats and Species Program?	W D Wildlife	Yes: Category II No: Next Question
Is the wetland documented as a Category II Wetland of Local Significance?	Local Govt.	Yes: Category II No: Next Question
Is the wetland documented as a Category III Wetland of Local Significance?	Local Govt.	Yes: Category III No: Go to Wetlands Rating Field Data Form

GENERAL GUIDANCE FOR THE WETLAND RATING FIELD DATA FORM

DELINEATION:

Before using the Wetland Rating Field Data Form the wetland boundary should be delineated. It is possible to complete the field method with a more rudimentary delineation based on inventory maps and aerial photographs. It should be recognized that rating based on a less than strict delineation method may result in a different rating than a more accurate delineation.

LAND-OWNERS PERMISSION:

It is important to obtain permission from land owners before going on their property.

TIME INVOLVED:

The field-time necessary to rate wetlands will vary from as little as fifteen minutes to many hours, or possibly days. Larger sites with dense brush may involve strenuous effort. Several of the rating questions would be best answered by using aerial photographs or other documents or a combination of these resources with field observations.

WHAT EXPERIENCE AND QUALIFICATIONS ARE NEEDED:

It is important that the person completing the field method have experience and/or education in the identification of natural wetland features, particularly vegetation classes and plant species. The more experience one has in wetland field work the quicker and more accurate the result will be. We recommend that qualified wetland consultants be used for most sites, particularly the larger and more complex ones.

HOW TO RATE WETLANDS THAT ARE DIVIDED BY HUMAN MADE FEATURES SUCH AS PROPERTY BOUNDARIES, ROAD OR RAIL EMBANKMENTS:

Wetlands should be rated without regard to property boundaries. When a wetland is divided by a man made feature, for example a road embankment, the wetland should be rated as if it is not divided provided there is a surface water connection between the divided parts. For example, if there are wetlands on either end of a culvert under a road, the wetland should be rated as one. Culverts are sometimes difficult to locate, especially where they are below the surface of the water. Engineering drawings of constructed roads or other human made features should be consulted to locate surface water connections where there is doubt.

HOW TO RATE CATEGORY I(i) and I(v) WETLANDS WHERE PART OF THE WETLAND IS CATEGORY II or CAT III

The options are

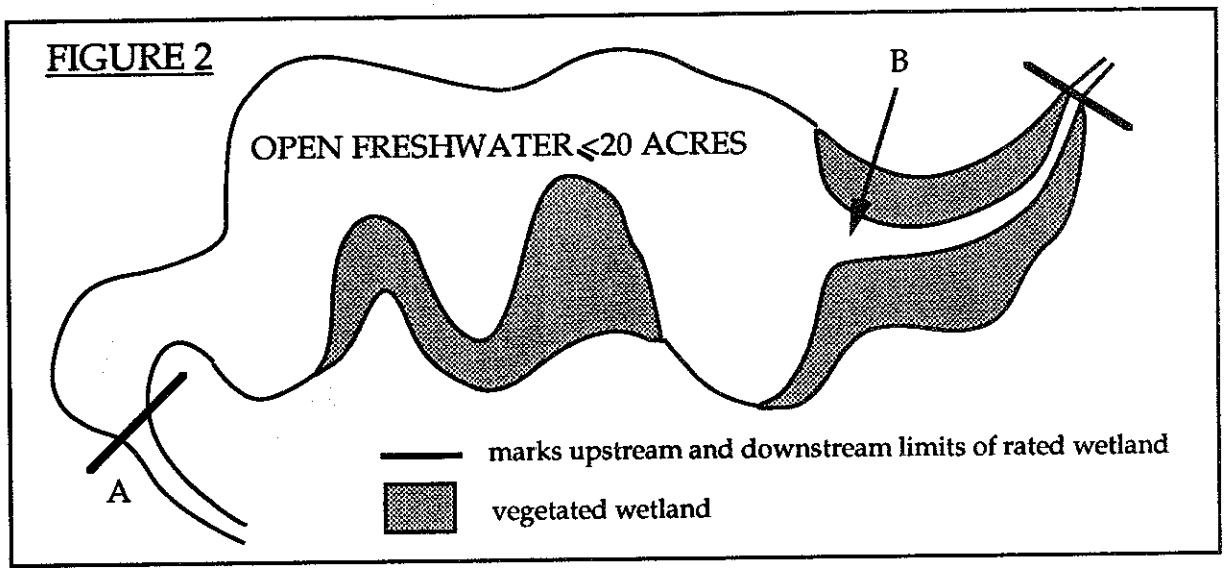
1 Rate the entire wetland as a Category I wetland, or

2. Give the wetland a dual rating as a I/II, or a I/III.

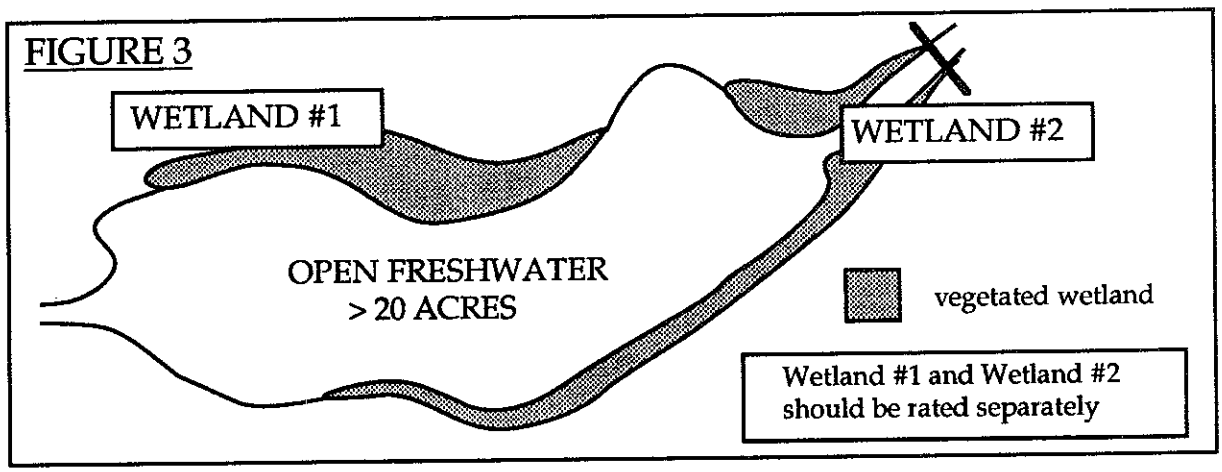
To establish a dual rating you will need to establish a boundary within the delineated and rated wetland that clearly establishes the area of Category I and the area of Category II or III as the case may be. This will be difficult, and in some cases may not be possible. Then, in making management decisions for developments to the lower category of a I/II, or a I/III wetland area, it will be necessary to show that the development will not adversely impact the Category I part of the system in any way. This demonstration would involve considerable expertise and a detailed study.

HOW TO DECIDE WHAT AREA TO RATE WHEN THE WETLAND IS CONTIGUOUS WITH A LARGE AREA OF OPEN FRESH WATER OR A STREAM:

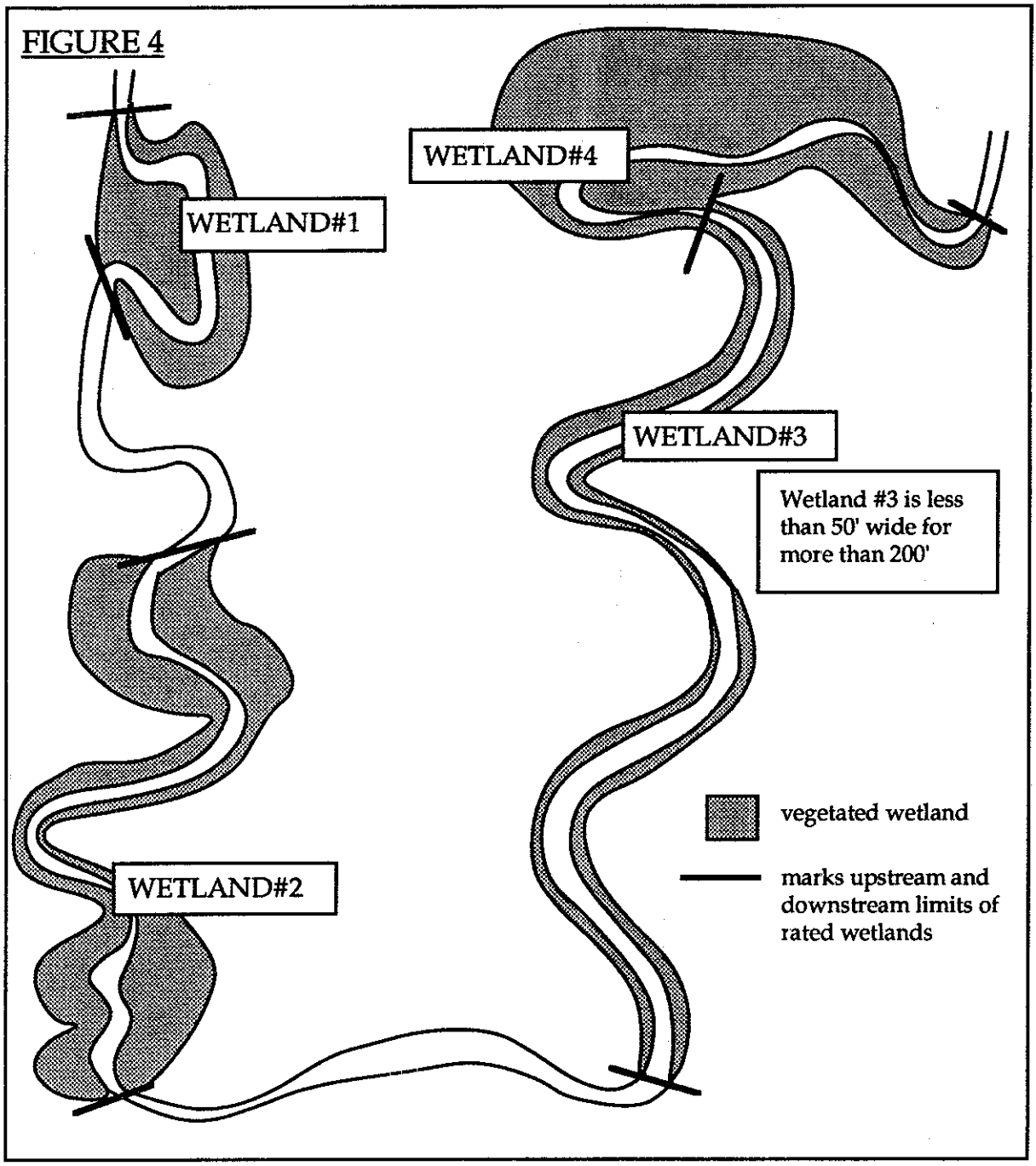
1). If any part of a regulated wetland is contiguous with an area of open freshwater less than or equal to 20 acres, rate the entire area including all of the open water, and any other wetlands that are contiguous with the open water. This is shown in Figure 2. At "A" the open water is delineated where a stream begins (i.e. there is at least a seasonal flow of water that is predominantly in one direction and there is a defined bank or series of banks containing the water). At "B" there is a similar delineation between open water and stream. Where wetlands are adjacent to open water and streams, they are rated with the open water. Wetlands on opposite sides of a stream are rated as one wetland, together with the area of the stream itself.



2). If any part of a regulated wetland(s) is contiguous with an area of open freshwater greater than 20 acres, rate the wetland(s) separately from the open fresh water area. See Figure 3. You should add 1/2 acre for open water, where it applies, to each separate wetland you are rating. For example, if the wetland area that you are rating is 4.6 acres and is contiguous with 25 acres of open fresh water you should score the wetland as 4.6 acres plus 1/2 acre = 5.1 acres. Aquatic beds may also be present in the adjacent open water and if present would score points as a wetland class. Where a wetland is contiguous with open water and a stream, i.e. Wetland #2 below, first priority should be given to rating the wetland in relation to the open freshwater area.



3). Regulated wetlands contiguous with a stream: Any regulated wetland that is contiguous with a stream may be rated separately when it is separated from any other part of the wetland by an area of wetland that is less than 50 feet in width (including the stream channel) for at least 200 feet. See Figure 4.



DETAILED GUIDANCE FOR THE WETLAND RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Put names of rater(s), organization, date etc., the location of the wetland using Section, Township and Range coordinates, and sources of your information in the spaces provided.

QUESTION 1. HIGH QUALITY NATURAL HERITAGE WETLANDS:

During the site visit, assess the extent of damage to the natural system by human caused disturbance. If lack of disturbance is indicated based on question 1, contact staff of the Washington Natural Heritage Program. A site visit by their staff may be required to make a final determination.

Note: evidence of human-caused disturbance is often obscured or not evident from a single site visit or without additional research. Past disturbance can be difficult to quantify. Inventories have not been completed for most areas of the State. Unidentified plant species collected during site visits should be identified by qualified botanists familiar with the Pacific Northwest flora.

QUESTION 2. REGIONALLY RARE NATIVE WETLAND COMMUNITIES:

The Department of Ecology is developing a methodology for identifying regionally rare native wetlands. Until it is available, local government may want to develop their own methodology based on local knowledge of the frequency of occurrence of different wetland communities. Consideration of regional rarity should take into account the historical presence of wetlands, and the current geographical extent (or range) of the wetland type.

QUESTION 3. IRREPLACEABLE ECOLOGICAL FUNCTIONS - TERMINOLOGY:

Peat Wetlands: Means wetlands with undrained organic soils (histosols). These soils can be determined by consulting the Soil Conservation Service Soil Surveys or by physically examining the soil. An organic soil will have a high proportion of un-decomposed plant matter, and will be very dark brown in color.

There is high variability in peat wetlands and it may be difficult to make an accurate determination at some sites. It is important to consult someone with experience or expertise in peat wetlands if there is doubt. The intent of the criteria is to include in Category I those peat wetlands which have at least 1/2 acre of relatively undisturbed native plant communities with the exception of those peat wetlands which are nearly monotypic *Spirea douglasii*.

A Forested wetland class: Means any area of vegetated wetland where woody vegetation over 20 ft. (such as alder, cedar, hemlock, cottonwood, and some willow species, etc.) comprises at least 30% of the areal cover.

Estuaries are: areas where there are usually salt tolerant plant species and the tidal waters are semi-enclosed by land with open, partly obstructed sporadic access to the ocean, and in which seawater is at least occasionally diluted by freshwater runoff from the land. Estuarine boundaries extend upstream and landward to where ocean derived salts measure less than 0.5 ppt during the period of average annual low flow, and downstream or out to sea where freshwater dilution is minimal (salinities seldom fall below 30 ppt). An estuarine wetland is defined as the intertidal subsystem described by Dethier (1990) as the stratum from extreme low water of spring tides (ELWS = ELLW) to upper limit or influence of ocean-driven salts.

Minimum disturbance in estuarine wetlands means the predominant character of the plant community, soils, and hydrology is undisturbed. Structures (e.g., fences, broken tide gates, etc.) or activities (e.g., minimal grazing or isolated occurrences of filling or draining) that have not affected the predominant character of the plant community, soils, or hydrology are considered a minimum disturbance.

QUESTION 4. CATEGORY IV WETLANDS. TERMINOLOGY:

Hydrologically isolated wetland means: those regulated wetlands which:
1) have no surface water connection to a lake, river or stream during any part of the year;
2) are outside of and not contiguous to any 100-yr floodplain of a lake, river, or stream; and
3) have no contiguous hydric soil between the wetland and any lake, river or stream.

Use the following lists when answering Q.4.1 and 4.2:

List of native species for Question 4.1 rating of Category IV wetlands. (This list is the same as Table 6., and is provided here for use with the field data form.)

Scientific name	Common name
Juncus effusus	Soft rush
Spiraea douglasii	Hard hack
Typha latifolia	Cattail

List of invasive/exotic plant species for Question 3a1, (Peat Wetlands), Question 3b3 (mature forested wetlands) and Question 4.2 (Category IV wetlands). (This list is the same as Table 7., and is provided here for use with the field data form.)

Scientific name	Common name
Agropyron repens	Quackgrass
Alopecurus pratensis, A. aequalis	Meadow foxtail
Arctium minus	Burdock
Bromus tectorum, B. rigidus, B. brizaeformis, B. secalinus, B. japonicus, B. mollis, B. commutatus, B. inermis, B. erectus	Bromes
Cenchrus longispinus	Sandbur
Centaurea solstitialis, C repens, C. cyanus, C. maculosa C. diffusa	Knapweeds
Cirsium vulgare, C. arvense	Thistles
Cynosurus cristatus, C. echinatus	Dogtail
Cytisus scoparius	Scot's broom
Dactylis glomerata	Orchardgrass
Dipsacus sylvestris	Teasel
Digitaria sanguinalis	Crab Grass
Echinochloa crusgalli	Barnyard grass
Elaeagnus augustifolia	Russian Olive
Euphorbia peplus, E. esula	Spurge
Festuca arundinacea, F. pratensis	Fescue
Holcus lanatus, H. mollis	Velvet grass
Hordeum jubatum	Foxtail Barley
Hypericum perforatum	St. John's wort
Juncus effusus	Soft Rush
Lolium perenne, L multiflorum, L. temulentum	Ryegrass
Lotus corniculatus	Birdsfoot trefoil
Lythrum salicaria	Purple loosestrife
Matricaria matricarioides	Pineapple weed
Medicago sativa	Alfalfa
Melilotus alba, M. officinalis	Sweet clover
Phalaris arundinacea	Reed Canary Grass
Phleum pratense	Timothy
Phragmites communis	Reed
Poa compressa, P. palustris, P. pratensis	Bluegrass
Polygonum aviculare, P. convolvulus, P. cuspidatum, P. lapathifolium, P. persicaria	Knotweeds
Ranunculus repens	Buttercup
Rubus discolor, R. laciniatus, R. vestitus, R. macrophyllus	Non-native blackberry
Salsola kali	Russian Thistle
Setaria viridis	Green Bristlegrass
Sisymbrium altissimum, S. loeselii, S. officinale	Tumblemustards
Tanacetum vulgare	Tansy
Trifolium dubium, T pratense, T. repens, T. arvense, T. subterraneum, T. hybridum	Clovers
Cultivated species:	wheat,corn, barley, rye etc.

QUESTION 5. SIGNIFICANT HABITAT VALUE:

5a. Total Wetland Acreage:

Use aerial photographs or NWI maps to measure and/or visually estimate acreage. Cite the source used. Unless you have considerable experience, visual estimation of acreage is unreliable. Use the p.14 guidance when the wetland is contiguous with large areas of open fresh water and/or streams.

5b. Wetland Classes:

The rating system has specific criteria (below) for determining whether or not wetland classes are present at all, and if wetland classes are present, whether there is enough area of a wetland class to score points. For example, the presence of a few trees scattered in a wetland is not enough for the wetland to qualify as having a forested wetland class or to score points.

SPECIFIC CRITERIA FOR WETLAND CLASSES

AQUATIC BED

An Aquatic bed wetland class is: any area(s) of open water with rooted aquatic plants such as lily pads, pondweed, etc. Aquatic bed vegetation does not always reach the surface and care must be taken to look into the water.

An Aquatic bed class qualifies for points in the rating system if the total area of aquatic beds is at least 1/2 acre or 10% of the total area of open water in the entire wetland being rated.

OPEN WATER

An Open Water wetlands class is: any area of standing water present for more than one month at any time of the year without emergent, scrub-shrub or forested vegetation. Open water includes any aquatic beds. At certain times of year it may be difficult to determine if open water (with or without aquatic beds) is present. Use aerial photographs, talk with landowners or neighbors, look for dried or muddy areas without vegetation which indicate that open water was present earlier in the year, or in past years. Estimate the acreage of open water or the percentage of total acreage. Cite your source of information for making this determination.

An Open water class qualifies for points in the rating system if the total area of the open water class is at least 1/2 acre or 10% of the entire wetland being rated.

EMERGENT

An Emergent wetland class is: any area of vegetated wetland where non-woody vegetation (such as cattail, grasses, sedges, etc.) comprises at least 30% of areal cover.

An Emergent wetlands class qualifies for points in the rating system if the total area of emergent wetland class is at least 1/2 acre or 10% of the entire wetland area being rated.

SCRUB-SHRUB

A Scrub-shrub wetland class is: any area of vegetated wetland where woody vegetation less than 20 ft. tall (such as most willow species, hardhack, dogwood, salmonberry, etc.) comprises at least 30% of the areal cover.

A Scrub-shrub vegetation class qualifies for points in the rating system if the total area of the scrub-shrub wetland class is at least 1/2 acre or 10% of the entire wetland area being rated.

FORESTED WETLAND

A Forested wetland class is: any area of vegetated wetland where woody vegetation over 20 ft. tall (such as alder, cedar, hemlock, cottonwood, and some willow species, etc.) comprises at least 30% of the areal cover.

A Forested wetland class qualifies for points in the rating system if the total area of the forested wetland class is at least 1/2 acre or 10% of the entire wetland area being rated.

USING AREAL MEASUREMENTS

Measurements of area are used in the rating system to determine scoring for: the size of the entire wetland system being rated, open water, aquatic beds, wetland classes and whether or not total areas of wetland classes are large enough to score points.

Areal measurements are those made as if upland (or wetland) were being viewed from the air. They are best made from recent air-photographs, if available, or derived from maps drawn from on the ground measurement. The latter method is time consuming and, unless the measurements are extensive, not as accurate. On the ground visual estimates can also be made, however, unless the rater has considerable experience these estimates are likely to be inaccurate.

The term areal cover: means the % of vegetation covering any area of vegetated wetland. It is used to decide what classes are present in the wetland.

DECIDING ON CLASSES

For example, consider that you are deciding what wetland classes are present in a 5 acre wetland. You have determined that the wetland has 3 acres that is vegetated with emergent and scrub-shrub species and two acres of open water in which there is 3/4 acres of aquatic bed plants. What classes are present?

First consider the open water and aquatic bed areas. Open water and aquatic bed classes are present, and they both qualify for points because there is at least 1/2 acre of each class present.

Now consider the relative areal cover of scrub shrub and emergent species. If there is more than 30% areal cover of scrub-shrub vegetation, in any part of the vegetated 3 acres, a scrub-shrub class is present and that part of the wetland is scrub-shrub. Decide if other parts of the 3 acres have more than 30% areal cover of scrub-shrub vegetation. Answer similar questions for emergent areas. Do not count aquatic beds as a part of the vegetated wetland area. When you have determined which parts of the wetland are scrub-shrub or emergent wetland class, total the areas of each class. If the total area of the scrub-shrub class is at least 1/2 acre or 10% of the entire wetland, the class qualifies for points. Similarly for the emergent class.

Note: Whenever more than one vegetated wetland class is present on the same area the tallest class prevails. In the example above, if there is more than 30% scrub-shrub species and more than 30% emergent species on the same area of wetland, that area would be called a scrub-shrub class. Similarly, a forested class would prevail over a scrub-shrub class.

5c. Plant Species diversity:

Count the number of different plant species you can find within each vegetated wetland class, and aquatic beds. This does not mean you have to name the species.

5d. Structural diversity :

Because question 5b. in the rating system gives priority to the tallest vegetation class, question 5d. is designed to recognize the underlying structural diversity. For example, emergent vegetation under a forested canopy > 50' tall would score 2 points.

5e. Interspersion:

Is a measure of the complexity of wetland classes. Select the drawing which most closely approximates the distribution of vegetative classes, open water and aquatic beds in the wetland.

5f. Habitat features:

Beaver usage. Look for signs of current beaver activity (fresh cuttings, maintained dams or lodges). Note whether ponded water is a result of beaver activity.

Snags, perches, and down logs should be in or adjacent to the wetland.

5g. Connection to stream:

A wetland is connected if some part of the wetland boundary has a surface water connection to seasonal or perennial flowing surface water, including floodwater, via natural or man-made channel, or an area of open water. The connection could be through a culvert, or a series of culverts, for example. To qualify for points the surface water connection can be at any time of the year and does not have to be present at the time a site is rated.

Flooding of a wetland could be shown by drift lines, sediment deposits or material such as grass wrapped on branches at higher flood levels. Determine if the stream is perennial or seasonal and whether or not the stream contains fish at any time of the year. It will require careful work to determine if a connection exists.

A stream: Means there is at least a seasonal flow of water that is predominantly in one direction and there is a defined bank or series of banks containing the water.

5h. Buffers:

The wetlands rating system assigns points for wetland buffers according to three variables: The type of buffer, the distance (as measured on a horizontal plane) from the edge of the wetland to the upland edge of the buffer, and the percentage of the wetland boundary which adjoins buffered areas.

Note: Roads, buildings and parking lots are not assigned buffering function, and therefore points. Well vegetated areas between an actual road surface and the wetland could provide some buffering function.

5i. Connection to other habitat areas. Terminology:

A riparian corridor: Means an area between aquatic and terrestrial ecosystems defined by the presence of vegetation that requires moist conditions and, usually, periodic free flowing water. The benefits of vegetation cover and food sources and the availability of water in riparian corridors means that they are likely to be preferentially used by wildlife and enable wildlife movement between wetlands.

Significant habitat area: Means high quality natural land or water areas such as parks, reserves and forests, or areas in essentially natural condition that could be used by wildlife species that use wetlands to provide a part of their life cycle needs.

Habitat area: Means any forested, shrub and herbaceous areas that could be used by wildlife species that use wetlands to provide a part of their life cycle needs. Developed areas such as farming and urban landscapes would not generally be considered as habitat areas. However, there are important areas within urban areas and farming landscapes that are connected to wetlands by corridors, and these areas function to provide life cycle needs to wildlife.

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: _____ Affiliation: _____ Date: _____

Name of wetland (if known): _____

Government Jurisdiction of wetland: _____

Location: 1/4 S: _____ of 1/4 S: _____ SEC: _____ TWNSHP: _____ RNGE: _____

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: ____ USGS Topo Map: ____ NWI map: ____ Aerial Photo: ____ Soils survey: ____

Other: ___ Describe: _____

WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE:	
Q.1. <u>High Quality Natural Heritage Wetland.</u> Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.	Circle answers
1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes <u>could</u> include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: _____ _____ _____	Yes: go to Q.3. No: go to 1b.
1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____ _____ _____	Yes: go to Q.3. No: go to 1c.
1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc. Briefly describe: _____ _____ _____	Yes: go to Q.3. No: <u>Possible Category I</u>

Q.2. Regionally Rare Native Wetland Communities The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.	
Q.3. Irreplaceable Ecological Functions: Does the wetland:	No to all: go to Q.4.
- have at a least 1/2 acre of contiguous peat wetland;	Yes: go to 3a.
- or, have a forested class greater than 1 acre ;	Yes: go to 3b.
- or, have characteristics of an estuarine system;	Yes: go to 3c.
- or, have eel grass, floating or non-floating kelp beds?	Yes: go to 3d.
3a. Peat Wetlands. 3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, and have < 80% areal cover of *Spirea douglasii*?	Yes: Category I No: go to Q.4.
Q.3b. Mature forested wetland. 3b1. Is the average age of dominant trees in the forested wetland > 80 years?	Yes: Category I No: go to 3b2.
3b2. Is the average age of dominant trees in the forested wetland 50-80 years, and is the structural diversity high as characterized by a multi-layer community of trees > 50' tall and trees 20'-49' tall and shrubs and herbaceous groundcover?	Yes: go to 3b3. No: go to Q.5.
3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list?	Yes: go to Q.5. No: Category I

Q.3c. Estuarine wetlands.	
3c1. Is the wetland listed as National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park, or Educational, Environmental or Scientific Reserves designated under WAC 332-30-151?	Yes: Category I No: go to 3c2.
3c2. Is the wetland > 5 acres;	Yes: Category I
or is the wetland 1-5 acres;	Yes: go to 3c3.
or is the wetland < 1 acre?	Yes: go to 3c4.
3c3. Does the wetland meet at least 3 of the following 4 criteria:	Yes: Category I No: Category II
- minimum existing evidence of human related disturbance such as diking, ditching, filling, cultivation, grazing or the presence of non-native plant species (see guidance for definition);	
- surface water connection with tidal saltwater or tidal freshwater;	
- at least 75% of the wetland has a 100' buffer of ungrazed pasture, open water, shrub or forest;	
- has at least 3 of the following features: low marsh; high marsh; tidal channels; lagoon(s); woody debris; or contiguous freshwater wetland.	
3c4. Does the wetland meet all of the four criteria under 3c3. (above)?	Yes: Category II No: Category III
Q.3d. Eel Grass and Kelp Beds.	
3d1. Are eel grass beds present?	Yes: Category I No: go to 3d2.
3d2. Are there floating or non-floating kelp bed(s) present with greater than 50% macro algal cover in the month of August or September?	Yes: Category I No: Category II
Q.4. Category IV wetlands	
4.1. Is the wetland: less than 1 acre and, hydrologically isolated and, comprised of one vegetated class that is dominated (> 80% areal cover) by one species from the list in guidance p.18.	Yes: Category IV No: go to 4.2.
4.2. Is the wetland: less than two acres and, hydrologically isolated, with one vegetated class, and > 90% of areal cover is any combination of species from the list in guidance p.19.	Yes: Category IV No: go to Q.5.

Q.5. Significant habitat value. Answer all questions and enter data requested.	Circle scores that qualify

5a. Total wetland area

Estimate area, select from choices in the near-right column, and score in the far column:

Enter acreage of wetland here:_____acres, and source:___________

acres	
> 20.00	Yes=6
10 - 19.99	Yes=5
5 - 9.99	Yes=4
1 - 4.99	Yes=3
0.1 - 0.99	Yes=2
<0.1	Yes=1

5b. Wetland classes: Circle the wetland classes below that qualify:

Open Water: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: ____________________

Aquatic Beds: if the area of aquatic beds > 10% of the open water area or > 1/2 acre.

Emergent: if the area of emergent class is > 1/2 acre or > 10% of the total wetland area.

Scrub-Shrub: if the area of scrub-shrub class is > 1/2 acre or > 10% of the total wetland area.

Forested: if area of forested class is > 1/2 acre or > 10% of the total wetland area.

Add the number of wetland classes, above, that qualify, and then score according to the columns at right.

e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 7 points in the far right column.

# of classes	
1	Yes =1
2	Yes =3
3	Yes =5
4	Yes =7
5	Yes =10

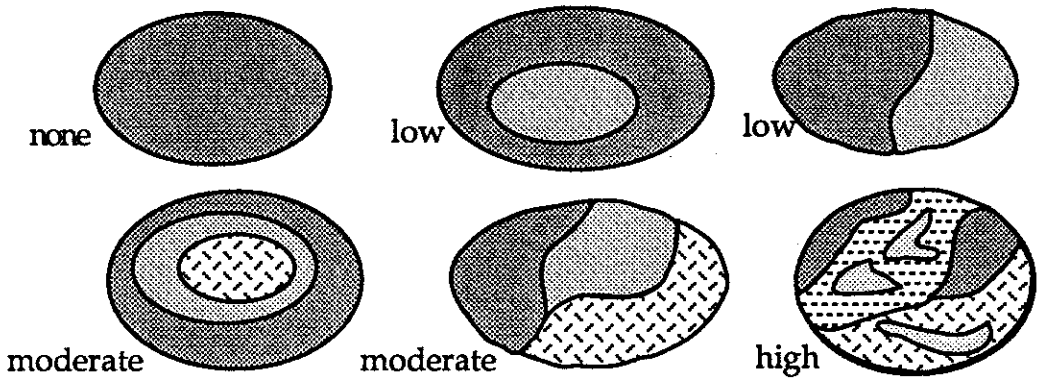
5c. Plant species diversity.

For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.

Score in column at far right:

e.g. If a wetland has an aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2, 2, and 1 in the far column.

Class	# of species	
Aquatic Bed	1-2.....	Yes=1
" "	3.....	Yes=2
" "	> 3.....	Yes=3
Emergent	1-2.....	Yes=1
"	3-4.....	Yes=2
"	> 4.....	Yes=3
Scrub-Shrub	1-2.....	Yes=1
"	3-4...	Yes=2
"	> 4...	Yes=3
Forested	1-2...	Yes=1
"	3-4.....	Yes=2
"	> 4...	Yes=3

5d. Structural diversity. If the wetland has a forested class, add 1 point for each of the following: -trees > 50' tall -trees 20'- 49' tall -shrubs -herbaceous ground cover	 Yes=1 Yes=1 Yes=1 Yes=1
5e. Decide from the diagrams below whether interspersion between wetland classes is high, moderate, low or none?  	High=3 Moderate=2 Low=1 None=0
5f. Habitat features. Answer questions below, circle features that apply, and score to right: Is there evidence of current use by beavers ? Is a heron rookery located within 300'? Are raptor nest/s located within 300'? Are there at least 3 standing dead trees (snags) per acre? Are any of these standing dead trees (snags) > 10" in diameter? Are there any other perches (wires, poles or posts)? Are there at least 3 downed logs per acre?	 Yes=3 Yes=2 Yes=1 Yes=1 Yes=1 Yes=1 Yes=1
5g. Connection to streams. (Score one answer only.) Is the wetland connected at any time of the year via surface water: to a perennial stream or a seasonal stream with fish; or, to a seasonal stream without fish; or, is not connected to any stream?	 Yes=5 Yes=3 Yes=0

5h. Buffers

STEP 1 Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply the %/s by the factor(s) below and enter result in column to right:	STEP 2 Multiply result(s) of step 1: by 1, if buffer width is 25-50'; by 2, if buffer width is 50-100'; by 3, if buffer width is >100'. Enter results below and add subscore:
roads, buildings or parking lots: %___ x 0 =	0
lawn, grazed pasture, vineyards or annual crops: %___ x 1 =	_____ x __ = ___
ungrazed grassland or orchards: %___ x 2 =	_____ x __ = ___
open water or native grasslands: %___ x 3 =	_____ x __ = ___
forest or shrub: %___ x 4 =	_____ x __ = ___
	Add Buffer total =___

STEP 3. Score points according to table at right :

Buffer total	
900-1200	Yes=4
600-899	Yes=3
300-599	Yes=2
100-299	Yes=1

5i. Connection to other habitat areas:

- Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor > 100' wide with good forest or shrub cover to any other habitat area? ..... Yes =5

- Is there a narrow corridor < 100' wide with good cover or a wide corridor > 100' wide with low cover to any other habitat area? ..... Yes=3

- Is there a narrow corridor < 100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? ..... Yes=1

- Is the wetland and buffer completely isolated by development and or cultivated agricultural land? ..... Yes=0

NOW: Add the scores circled (for Q.5a - Q.5i above) to get a Total ..... Total =_____

Is the Total greater than or equal to 22 points ..... Yes: Category II
No: Category III

CRITERIA, SUBCRITERIA, SOURCES AND JUSTIFICATION FOR EACH CRITERIA

CATEGORY I WETLANDS

CRITERIA: CATEGORY I(i) DOCUMENTED HABITAT RECOGNIZED BY FEDERAL OR STATE AGENCIES FOR THREATENED OR ENDANGERED SPECIES OF PLANT OR POSSIBLY EXTINCT OR EXTIRPATED PLANT, ANIMAL, OR FISH.

SUB-CRITERIA: PLANT SPECIES

The wetland contains individuals of Federal or State-listed Threatened or Endangered plant species; or the wetland is an historic location of a plant species thought to be possibly Extinct or Extirpated from Washington.

SOURCE OF INFORMATION

Contact the Washington Natural Heritage Program by mail to determine if any plant species of concern have been located in or near the study area. A sample letter is included in Appendix 1. Send a map of the study area along with township, range, section information. A fee may be charged for a search of the Natural Heritage Program database. Searches for public agencies (i.e. local governments) and non profit organizations are free.

Washington Natural Heritage Program
Department of Natural Resources
Division of Land and Water Conservation
Mail Stop: EX-13
Olympia, Washington 98504
(206) 753-2449

The Washington Natural Heritage Program maintains a comprehensive database of site-specific information on reported occurrences of Sensitive, Threatened, Endangered and known historic occurrences of Possibly Extinct or Extirpated plant species in Washington. At the time of writing most wetlands in Washington have not been surveyed for the occurrence of State Sensitive, Threatened, Endangered and Possibly Extinct or Extirpated plant species.

Note: Unidentified plant species collected during site visits should be identified only by qualified botanists familiar with the Pacific Northwest flora. If the study site is an historic collection site for a Possibly Extinct or Extirpated plant species or is within 1/2 mile of such a site, then a rare plant survey by a qualified botanist familiar with the Pacific Northwest flora should be conducted to determine the presence of the species of concern.

JUSTIFICATION

Some species of Threatened or Endangered plants are found exclusively or predominantly in wetland habitats. An example is howellia *Howellia aquatilis* in Clark and Spokane Counties. Table 2. lists State-listed Threatened and Endangered species that may be found in wetlands.

Some species of Possibly Extinct or Extirpated plant species are (were) found exclusively or predominantly in wetland habitats. An example is the swamp sandwort *Arenaria paludicola* west of the Cascades. Table 3. lists State-listed species thought to be Possibly Extinct or Extirpated from Washington and that may be found in wetlands.

TABLE 2. State-listed Threatened and Endangered plant species that may be found in wetlands (From Washington Natural Heritage Program, 1990).

THREATENED SPECIES	
Scientific name	Common name
Calamagrostis crassiglumis	thick-glume reedgrass
Corydalis aquae-gelidae	Clackamas corydalis
Lobelia kalmii	Kalm's lobelia
Platanthera chorisiana	Choriso bog orchid
Sisyrinchium sarmentosum	pale blue-eyed grass
ENDANGERED SPECIES	
Scientific name	Common name
Cypripedium calceolus var. *parviflorum*	yellow lady's slipper
Delphinium viridescens	Wenatchee larkspur
Howellia aquatilis	howellia
Liparis loeselii	twayblade
Polemonium pectinatum	Washington polemonium
Rorippa columbiae	persistentsepal yellowcress

TABLE 3. State-listed Possibly Extinct or Extirpated plant species that may be found in wetlands (From Washington Natural Heritage Program, 1990).

Scientific name	Common name
Arenaria paludicola	swamp sandwort
Eleocharis atropurpurea	purple spike-rush
Juncus hemiendytus var. hemiendytus	dwarf rush
Nymphaea tetragona	pygmy water-lily
Sidalcea malviflora var. virgata	rose checker-mallow

SUB-CRITERIA: ANIMAL SPECIES

The wetland contains documented habitats for State-listed or candidate Threatened or Endangered wildlife species managed by the Washington Department of Wildlife.

SOURCE OF INFORMATION

Contact the Department of Wildlife by mail to determine if priority habitat for any state listed or candidate species has been documented in or near the wetland being studied. A sample letter is included in Appendix 2. Send a map showing the location of the wetlands along with township, range and section information. A fee may be charged for a search of the Washington Department of Wildlife database. Searches for public agencies (i.e. local governments) and non profit organizations are free.

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

The Department of Wildlife maintains a database of the locations of habitat for all wildlife designated as priority species in Washington. The database includes documented breeding sites, colonial or communal roosts, areas of regular concentration and/or locations of individual observations. This information is mapped onto a geographic information system. All federally listed or proposed Threatened and Endangered wildlife species occurring in Washington also have State-listed status. There is relatively complete information on habitats for state listed or candidate Endangered or Threatened wildlife.

JUSTIFICATION

There are few listed or candidate State Endangered or Threatened species that are confined to wetland habitats. One of the few examples is the western pond turtle *Clemmys marmorata*, a State-listed Threatened species. However, the peregrine falcon *Falco peregrinus* and Columbian white-tailed deer *Odocoileus virginianus leucurus*, both State Endangered species, use wetlands as well as other habitats.

SUB-CRITERIA: FISH SPECIES

The wetland contains documented habitats of State or Federally listed or State or Federal candidate Threatened or Endangered fish species, or races of fish, managed by the Washington Department of Wildlife or the Washington Department of Fisheries.

SOURCE OF INFORMATION

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

Washington Department of Fisheries
115 General Administration Building
Olympia, Washington 98504
(206) 753-6650

Presence of these species is indicated by identifying those river drainages in which these species are found. Distribution tables or maps can serve as a primary method for determining if wetlands areas are potentially used by listed or candidate Threatened or Endangered species. Additional information can be sought from the Washington River Information System (WARIS), a PC-based and GIS-based database which provides information on anadromous fish habitat, resident fish habitat, rare habitat, and habitat used by species of concern. This database currently includes habitat information for over 2,000 river and stream reaches in the State of Washington. It is being upgraded to include over 60,000 reaches. Information from this database can be acquired from the Washington Department of Wildlife (GIS Section) in Olympia, and may be available in the future at district offices, universities and colleges, and selected libraries.

Most stream/river reaches in the State have not been surveyed for listed or candidate Threatened or Endangered fish species. The statewide distribution of bull trout is currently under investigation.

JUSTIFICATION

These are wetlands that contain individuals, populations, or priority habitat of State or Federally listed or State or Federal candidate Threatened or Endangered fish species, or races of fish, managed by the Washington Department of Wildlife or the Washington Department of Fisheries. At the time of publication, no fish species or races of fish species within the State of Washington are listed by the State or Federal government as Threatened or Endangered species. The Olympic mudminnow *Novumbra hubbsi* and bull trout *Salvelinus confluentus* are classified as Federal candidate Threatened species. No fish species or races are currently listed as State candidate Threatened or Endangered.

Only one candidate fish species, the Olympic mudminnow, is likely to be dependent upon wetland habitat. This fish occurs in coastal lowlands of the western Olympic Peninsula. It is found in the Queets River south to Grays Harbor, and along the north side of the Chehalis River valley to the Skookumchuck River. Within this range of distribution, the Olympic mudminnow is abundant in marshes and marshy streams. They are generally found in quiet waters with mud substrate and dense aquatic or riparian vegetation. Bull Trout are found in higher Cascade Mountain drainages in clean, cold water.

CRITERIA: CATEGORY I(ii) DOCUMENTED HIGH QUALITY NATURAL HERITAGE WETLAND SITES OR HIGH QUALITY NATIVE WETLAND COMMUNITIES WHICH QUALIFY AS A NATURAL HERITAGE WETLAND SITE.

SUB-CRITERIA:

1). The wetland is already on record with the Washington Natural Heritage Program as a high quality native wetland; or

2). There is no significant evidence of human-caused changes to topography or hydrology of the wetland (significant changes include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland); and,

there are no populations of non-native plants which are currently present and appear to be invading native populations; and,

there is no significant evidence of human-caused degradation of the water quality of the system, (degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, or oily sheens, eutrophic conditions, livestock use or dead fish etc.).

SOURCE OF INFORMATION

1). Contact the Washington Natural Heritage Program by mail to determine if a Natural Heritage wetland has been identified in or in the vicinity of the project. A sample letter is provided in Appendix 1. The Washington Natural Heritage Program maintains a data system on high quality wetland systems. The data set is not complete but is well developed for the lowlands west of the Cascade Mountains.

Washington Natural Heritage Program
Department of Natural Resources
Division of Land and Water Conservation
Mail Stop: EX-13
Olympia, Washington 98504
(206) 753-2449

and/or

2). Site examination as in Field Data Form. Answer the questions if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the wetland has very little disturbance based on the questions in the Field Data Form contact the Natural Heritage program of DNR.

JUSTIFICATION

Despite the relative abundance of certain types of wetlands, extremely high quality, undisturbed examples of those wetlands are rare. This subcriteria attempts to identify and to afford a high level of protection to the undisturbed character of remaining extremely high quality wetlands in the State.

CRITERIA: CATEGORY I(iii) DOCUMENTED HABITAT OF REGIONAL (PACIFIC COAST) OR NATIONAL SIGNIFICANCE FOR MIGRATORY BIRDS.

SUB-CRITERIA:

Wetlands that are documented habitat of regional (Pacific Coast) or national significance for migratory birds.

SOURCE

Contact the Department of Wildlife by mail to determine if the wetland is documented habitat of regional (Pacific Coast) or national significance for migratory birds. A sample letter is included in Appendix 2. Send a map showing the location of the wetlands along with township, range and section information.

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

JUSTIFICATION

Some wetland areas are of particular importance in the life cycles of migratory birds. The birds use them as breeding sites, as resting or feeding sites along migratory routes or as sites for shelter during storms. Because of the recognized national importance of migratory birds and international obligations it is important to afford these areas high levels of protection.

CRITERIA: CATEGORY I(iv) REGIONALLY RARE NATIVE WETLAND COMMUNITIES.

SUB-CRITERIA

The Department of Ecology is developing a methodology to determine regionally rare wetland types. The methodology for determining regionally rare wetland communities will be designed to protect examples of the full range of wetland plant associations, and the range of these associations. The methodology is not yet available.

CRITERIA: CATEGORY I(v) WETLANDS WITH IRREPLACEABLE ECOLOGICAL FUNCTIONS.

SUB-CRITERIA: PEAT WETLANDS.

Does the wetland have at a least 1/2 acre of contiguous peat wetland; and,

does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19 (or Table 7), and have < 80% areal cover of *Spirea douglasii*?

SOURCE

Wetlands Rating Field Data Form.

JUSTIFICATION

Bogs and fens are very stable wetland types with peat soils which are very sensitive to disturbance. Bogs and fens form when organic material accumulates faster than it decomposes. Bog/fen systems form extremely slowly, at rates approximating one inch per 40 years in western Washington. Bogs are hydrologically closed systems without flowing water. They are extremely acidic and low in nutrients and the plants which grow in them are specifically adapted to such conditions. Fens normally support a greater diversity of plant species and have greater amounts of available nutrients and a higher pH than bogs.

A variety of specialized plants live in bogs and fens. Most bog/fen plants have developed adaptations to survive in the acidic, low-nutrient environment. Thus, minor changes in the hydrology or nutrient levels in these systems can have major adverse impacts on the plant communities. Peat systems also provide significant habitat for a variety of wildlife species and perform important hydrologic functions including groundwater and stream recharge.

The majority of the bogs/fens observed in western Washington have been degraded through hydrologic modification and reduction in species diversity and integrity. In addition, there is no known technology for replicating or creating a bog/fen.

SUB-CRITERIA: MATURE FORESTED WETLANDS

Forested wetlands qualify as mature forested wetlands when the average age of dominant trees in the forested wetland is > 80 years

or

the average age of dominant trees in the forested wetland is 50-80 years, and there is high structural diversity as characterized by a multi-layer community of trees > 50' tall and trees 20'-49' tall and shrubs and herbaceous groundcover

and

< 50% of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) are invasive/exotic plant species listed in Table 7.

SOURCE

Wetlands Rating Field Data Form.

JUSTIFICATION

Forested wetlands are important because of the variety of functions that these wetlands provide and the very long time that they take to develop. Mature forested wetlands require at least 50 years to develop and are most valuable for wildlife habitat when left undisturbed for several generations.

Forested wetlands have exceptionally high functional values for wildlife habitat due to the multiple layers of vegetation which provide a variety of food, breeding and nesting sites, and thermal and hiding cover. Some forested wetlands are associated with standing water during all or part of the year which makes them extremely valuable, especially when the surrounding area is arid or semi-arid. Birds, mammals, and amphibians often reach their greatest densities and diversity within forested wetlands.

The tree canopy provides a moderated temperature within the wetland that is cooler in summer and warmer in winter than surrounding open areas and this reduces energy needs for wildlife. Trees may shade open water providing cover for fish, and downed trees provide large organic debris essential for fish habitat structure in streams. Leaves and insects which are important in the aquatic food-chain drop into the water from overhanging trees.

Riparian forested wetlands are those forested wetlands along streams and rivers. Riparian forests may contain both wetland and non-wetland forest components. Non-wetland riparian forests are extremely important as a transition between wetland and upland.

Flood waters are slowed and diminished as they spread out in riparian forested wetlands and the trees and other vegetation trap sediments from the flood waters. Sediments, shorelines and streamsides are stabilized by the extensive root systems and protected from erosion by vegetative cover.

SUB-CRITERIA: ESTUARINE WETLANDS

1. Wetlands listed as National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park, or Educational, Environmental or Scientific Reserves designated under WAC 332-30-151.

2. Estuarine wetlands > 5 acres;

3. Estuarine wetlands 1-5 acres that meet any 3 of the following 4 criteria:

- at least two estuarine wetland habitat classes (Dethier, 1990);

- minimum existing evidence of human related physical alteration such as diking, ditching, filling, cultivation, grazing or the presence of non-native plant species);

- surface water connection with tidal saltwater or tidal freshwater;

- at least 75% of the wetland has a 100' buffer of ungrazed pasture, open water, shrub or forest.

SOURCE

Wetlands Rating Field Data Form

JUSTIFICATION

Estuaries are among the most highly productive and complex ecosystems where tremendous quantities of sediments, nutrients and organic matter are exchanged between terrestrial, freshwater and marine communities. This availability of resources benefits an enormous variety of plants and animals. Fish, shellfish and birds are the most visible along with emergent plants, however, there is also a huge variety of other life-forms, for example; diatoms, algae and invertebrates.

Estuarine systems have substantial economic value as well as environmental value. All Washington State estuaries have been modified to some degree, bearing the brunt of development pressures through filling, drainage, port development and disposal of urban and industrial wastes. The over-harvest of certain selected economic species has also modified the natural functioning of estuarine systems. Many Puget Sound estuaries such as the Duwamish, Puyallup, Snohomish and Skagit have been extensively modified. Up to 99% of some estuarine wetland areas have been lost. Willapa Bay as a whole is probably the most pristine large estaurine wetland remaining in Washington State (Albright et al., 1980). Even so, Willapa Bay has been modified by development.

SUBCRITERIA: EEL GRASS BEDS and KELP BEDS

1) When an Eel grass bed is present; or,

2) When a floating or non-floating kelp bed is present which has > 50% macro algal cover in the month of August or September.

SOURCE

Wetlands Rating Field Data Form

JUSTIFICATION

Broad bladed eel-grass *Zostera marina* is a vascular plant which grows in the marine environment. Together with floating kelp beds *Nereocycstis leutkeana* and *Macrocystis integrifolia* as well as other non-floating kelp species, these plants provide some of the most highly productive and unique habitats in the marine environment.

The importance of these plants in the ecosystem fall primarily into four areas: productivity, habitat, hydrodynamics and exploitative. Marine plants, particularly kelps, provide a major input of detritus and dissolved organic matter to the food web. They provide a significant habitat for a number of organisms as a place of refuge and a substrate for reproduction. Eelgrass and kelp beds reduce current flow and wave action, creating a protected environment and influencing beach slope stability. Finally, seaweeds are a source of human food, fodder, fertilizer and valuable extracted chemicals, (Mumford, 1988).

CATEGORY II WETLANDS

CRITERIA: CATEGORY II(i) DOCUMENTED HABITAT FOR SENSITIVE SPECIES OF PLANT, ANIMAL OR FISH RECOGNIZED BY FEDERAL OR STATE AGENCIES.

SUB-CRITERIA: PLANT SPECIES

Wetlands that contain individuals of State-listed Sensitive plant species.

SOURCE OF INFORMATION

Contact the Washington Natural Heritage Program by mail to determine if any plant species of concern have been located in or near the study area. A sample letter is included in Appendix 1. Send a map of the study area along with township, range and section information. A fee may charged for a search of the Natural Heritage Program database. Searches for public agencies (i.e. local governments) and non profit organizations are free.

Washington Natural Heritage Program
Department of Natural Resources
Division of Land and Water Conservation
Mail Stop: EX-13
Olympia, Washington 98504
(206) 753-2449

The Washington Natural Heritage Program maintains a comprehensive database of site-specific information on reported occurrences of Sensitive, Threatened, and Endangered plant species in Washington. Unidentified plant species collected during site visits should be identified by qualified botanists familiar with the Pacific Northwest flora. Most wetlands in Washington have not been surveyed for the occurrence of State Sensitive, Threatened, and Endangered plant species.

JUSTIFICATION

Some species of Sensitive plants are found exclusively or predominantly in wetland habitats. Examples include interrupted sedge *Carex interrupta* scattered throughout Washington, and swamp gentian *Gentiana douglasiana* in Clallam and King Counties. Table 4. lists State-listed Sensitive species that may be found in wetlands.

TABLE 4. State-listed Sensitive plant species that may be found in wetlands. (From Washington Natural Heritage Program 1990).

Scientific name	Common name
Adiantum pedatum ssp. subpumilum	dwarf maidenhair fern
Aster junciformis	(rush aster
Bolandra oregana	bolandra
Botrychium lanceolatum	lance-leaved grape-fern
Botrychium lunaria	moonwort
Botrychium minganense	Victorin's grape-fern
Botrychium pinnatum	St. John's moonwort
Botrychium simplex	little grape-fern
Carex aenea	bronze sedge
Carex anthoxanthea	yellow-flowered sedge
Carex atrata var. atrosquama	blackened sedge
Carex atrata var. erecta	erect blackened sedge
Carex buxbaumii	Buxbaum's sedge
Carex comosa	bristly sedge
Carex densa	dense sedge
Carex hystricina	porcupine sedge
Carex interrupta	green-fruited sedge
Carex macrochaeta	large-awn sedge
Carex norvegica	Scandanavian sedge
Carex pauciflora	few-flowered sedge
Carex paupercula	poor sedge
Carex pluriflora	several-flowered sedge
Carex saxatilis	russet sedge
Carex scirpoidea var. scirpoidea	Canadian single-spike sedge
Carex scopulorum var. prionophylla	saw-leaved sedge
Carex stylosa	long-styled sedge
Carex sychnocephala	many-headed sedge
Chrysosplenium tetrandum	northern golden-carpet
Cicuta bulbifera	bulb-bearing water-hemlock
Cimicifuga elata	tall bugbane
Coptis asplenifolia	gold-thread
Cyperus rivularis	shining flatsedge
Dodecatheon pulchellum	few-flowered shooting star
Eleocharis rostellata	beaked spike-rush
Epipactis gigantea	giant helleborine
Eriophorum viridicarinatum	green-keeled cotton-grass
Erythronium revolutum	pink fawn-lily
Fritillaria camschatcensis	black lily
Gentiana douglasiana	swamp gentian
Gentiana tenella	slender gentian
Geum rivale	water avens
Illiamna longisepala	longsepal globemallow
Isoetes nuttallii	Nuttall's quillwort
Juncus kelloggii	Kellogg's rush

TABLE 4. (Continued) State-listed Sensitive plant species that may be found in wetlands. (From Washington Natural Heritage Program 1990).

Scientific name	Common name
Limosella acaulis	southern mudwort
Listera borealis	northern twayblade
Lobelia dortmanna	water lobelia
Lycopodium inundatum	bog clubmoss
Meconella oregana	meconella
Mimulus pulsiferae	Pulsifer's monkeyflower
Mimulus suksdorfii	Suksdorf's monkeyflower
Montia diffusa	branching montia
Muhlenbergia glomerata	Marsh muhly
Oryzopsis hendersonii	Henderson's ricegrass
Parnassia fimbriata var. hoodiana	fringed grass-of-Parnassus
Parnassia kotzebuei	Kotzebue's grass-of-Parnassus
Parnassia palustris	northern grass-of-Parnassus
Pedicularis rainierensis	Mt. Rainier lousewort
Platanthera obtusata	small northern bog-orchid
Platanthera sparsiflora	canyon bog-orchid
Potamogeton obtusifolius	blunt-leaved pondweed
Puccinellia nutkaensis	Alaska alkaligrass
Ranunculus longirostris	long-beaked water buttercup
Salix candida	hoary willow
Salix maccalliana	MacCall's willow
Salix sessilifolia	soft-leaved willow
Salix tweedyi	Tweedy's willow
Samolus parviflorus	water pimpernel
Sanicula marilandica	black snake-root
Sanguisorba menziesii	Menzies' burnet
Saxifraga integrifolia var. apetala	swamp saxifrage
Sisyrinchium septentrionale	blue-eyed grass
Spartina pectinata	prairie cordgrass
Spiraea densiflora var. splendens	subalpine spirea
Teucrium canadense ssp. viscidum	woodsage
Thalictrum dasycarpum	purple meadowrue
Tillaea aquatica	pygmy-weed
Tillaea erecta	erect pygmy-weed
Utricularia intermedia	flat-leaved bladderwort
Vaccinium myrtilloides	blueberry

SUB-CRITERIA: ANIMAL SPECIES

Does the wetland contain documented habitat for State-listed or candidate sensitive wildlife species managed by the Washington Department of Wildlife?

SOURCE OF INFORMATION:

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

JUSTIFICATION

Only some State listed or candidate Sensitive species are confined to wetland habitats. One example is the spotted frog *Rana pretiosa*, a candidate Sensitive species. Other candidate Sensitive species, such as the Vaux's swift *Chaetura vauxi* use wetlands for some essential life needs and other habitats for other essential life needs.

SUB-CRITERIA: FISH SPECIES

The wetland contain documented habitats of State or Federally listed or candidate Sensitive fish species managed by the Washington Department of Wildlife or the Washington Department of Fisheries.

SOURCES OF INFORMATION

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

Washington Department of Fisheries
115 General Administration Building
Olympia, Washington 98504
(206) 753-6650

JUSTIFICATION

At the time of this publication, no fish species or races are currently listed or candidate State or Federal Sensitive species.

CRITERIA: CATEGORY II(ii) DOCUMENTED PRIORITY HABITATS AND SPECIES RECOGNIZED BY STATE AGENCIES.

SUB-CRITERIA: WILDLIFE SPECIES

The wetland contains priority habitats and species documented by Washington Department of Wildlife's Priority Habitats and Species Program.

SOURCE OF INFORMATION

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

Washington Department of Wildlife
Priority Habitat and Species Program
600 Capitol Way North
Olympia, Washington 98501
(206) 753-3318

The Washington Department of Wildlife, through its Priority Habitats and Species Program, plans to establish a database documenting locations of areas with high abundance or diversity of wildlife. The database is not expected to be complete until about 1993.

Few wetlands in Washington have been surveyed for wildlife diversity or abundance.

Contact the Department of Wildlife by mail to determine if a high diversity or large concentration of wildlife has been documented in or near the wetland being studied. A sample letter is included in Appendix 2. Send a map showing the location of the wetlands along with township, range and section information. A fee may be charged for a search of the database. Searches for public agencies (i.e. local governments) and non profit organizations are free.

SUB-CRITERIA: FISH SPECIES

Does the wetland provide habitat for priority fish species managed by the Washington Department of Wildlife?

SOURCE OF INFORMATION

The presence of a priority fish species in a river or stream reach can be identified from the Washington Department of Wildlife's WARIS database, or by consulting Washington Department of Wildlife biologists. A list of priority fish species is provided in Table 5.

Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091
(206) 586-1449

Washington Department of Fisheries
115 General Administration Building
Olympia, Washington 98504
(206) 753-6650

TABLE 5. Priority fish species managed by Washington Department of Wildlife that are dependent on vegetated wetlands.

Scientific Name	Common Name	Special Designation
Salvelinus confluentus	Bull Trout	FC2
Salvelinus malma	Dolly Varden	
Oncorhynchus nerka	Kokanee Salmon	
Catostomus platyrhynchus	Mountain Sucker	SC
Prosopium williamsoni	Mountain Whitefish	
Prosopium coulteri	Pygmy Whitefish	SC
Oncorhynchus mykiss	Rainbow and Steelhead Trout	
Oncorhynchus clarki	Cutthroat trout	

SC = State Species of Concern
FC2 = Proposed Federal Threatened, Candidate 2 status

CRITERIA: CATEGORY II(iii) WETLANDS WITH SIGNIFICANT FUNCTIONS WHICH MAY NOT BE ADEQUATELY REPLICATED THROUGH CREATION OR RESTORATION.

SUB-CRITERIA:

Estuarine wetlands 1-5 acres not meeting the criteria for Category I; or,

Estuarine wetlands < 1 acre and meeting all the following 4 criteria:

- at least two estuarine wetland habitat classes (Dethier, 1990);

- minimum existing evidence of human related physical alteration such as diking, ditching, filling, cultivation, grazing or the presence of non-native plant species);

- surface water connection with tidal saltwater or tidal freshwater;

- at least 75% of the wetland has a 100' buffer of ungrazed pasture, open water, shrub or forest.

CRITERIA: CATEGORY II(iv) WETLANDS WITH SIGNIFICANT HABITAT VALUE GREATER THAN OR EQUAL TO 22 POINTS (FRESHWATER WETLANDS).

SOURCE OF INFORMATION

Wetlands Rating Field Data Form.

JUSTIFICATION

The detailed system of assessing significant habitat value was developed to identify wetlands which have characteristics that are valuable for wildlife species (mammals, birds, amphibians, etc.) and to protect them accordingly.

CATEGORY III WETLANDS

CRITERIA:

i). WETLANDS WHERE THE HABITAT SCORE FOR SIGNIFICANT HABITAT VALUE IS LESS THAN OR EQUAL TO 21 POINTS;

OR,

ii). WETLANDS IDENTIFIED AS CATEGORY III WETLANDS OF LOCAL SIGNIFICANCE;

OR,

iii). ESTUARINE WETLANDS NOT SATISFYING CATEGORY I AND CATEGORY II CRITERIA.

SOURCE OF INFORMATION

i). Wetlands Rating Field Data Form; or,

ii). Local Government; or,

iii). Wetlands Rating Field Data Form.

JUSTIFICATION

These wetlands provide important functions and values. They are important for a wide variety of wildlife species. Generally these wetlands will be smaller, have less diverse vegetation and would often be more isolated than Category II wetlands, for example, not connected to a stream and/or not connected to other habitat areas.

CATEGORY IV WETLANDS

CRITERIA:

i). WETLANDS LESS THAN 1 ACRE AND, HYDROLOGICALLY ISOLATED AND, COMPRISED OF ONE VEGETATED CLASS THAT IS DOMINATED (> 80% AREAL COVER) BY ONE SPECIES FROM THE LIST IN TABLE 6; OR,

ii). WETLANDS LESS THAN TWO ACRES AND, HYDROLOGICALLY ISOLATED, WITH ONE VEGETATED CLASS, AND > 90% OF AREAL COVER IS ANY COMBINATION OF SPECIES FROM THE LIST IN TABLE 7.

SOURCE OF INFORMATION

Wetlands Rating Field Data Form.

JUSTIFICATION

Category IV wetlands include some wet pastures and other wetlands that provide important functions including, floodwater control, wildlife habitat, groundwater recharge, water quality improvement, and recreation and aesthetic values. Even though many of these wetlands have been partly degraded, they provide valuable functions within the landscape.

TABLE 6. List of native species for rating Category IV wetlands.

Scientific name	Common name
Juncus effusus	Soft rush
Spiraea douglasii	Hard hack
Typha latifolia	Cattail

TABLE 7. List of invasive/exotic plant species for Question 3a1, (peat wetlands), Question 3b3 (mature forested wetlands) and Question 4.2 (Category IV wetlands).

Scientific name	Common name
Agropyron repens	Quackgrass
Alopecurus pratensis, A. aequalis	Meadow foxtail
Arctium minus	Burdock
Bromus tectorum, B. rigidus, B. brizaeformis, B. secalinus, B. japonicus, B. mollis, B. commutatus, B. inermis, B. erectus	Bromes
Cenchrus longispinus	Sandbur
Centaurea solstitialis, C. repens, C. cyanus, C. maculosa C. diffusa	Knapweeds
Cirsium vulgare, C. arvense	Thistles
Cynosurus cristatus, C. echinatus	Dogtail
Cytisus scoparius	Scot's broom
Dactylis glomerata	Orchardgrass
Dipsacus sylvestris	Teasel
Digitaria sanguinalis	Crab Grass
Echinochloa crusgalli	Barnyard grass
Elaeagnus augustifolia	Russian Olive
Euphorbia peplus, E. esula	Spurge
Festuca arundinacea, F. pratensis	Fescue
Holcus lanatus, H. mollis	Velvet grass
Hordeum jubatum	Foxtail Barley
Hypericum perforatum	St. John's wort
Juncus effusus	Soft Rush
Lolium perenne, L. multiflorum, L. temulentum	Ryegrass
Lotus corniculatus	Birdsfoot trefoil
Lythrum salicaria	Purple loosestrife
Matricaria matricarioides	Pineapple weed
Medicago sativa	Alfalfa
Melilotus alba, M. officinalis	Sweet clover
Phalaris arundinaceae	Reed Canary Grass
Phleum pratense	Timothy
Phragmites communis	Reed
Poa compressa, P. palustris, P. pratensis	Bluegrass
Polygonum aviculare, P. convolvulus, P. cuspidatum, P. lapathifolium, P. persicaria	Knotweeds
Ranunculus repens	Buttercup
Rubus discolor, R. laciniatus, R. vestitus, R. macrophyllus	Non-native blackberry
Salsola kali	Russian Thistle
Setaria viridis	Green Bristlegrass
Sisymbrium altissimum, S. loeselii, S. officinale	Tumblemustards
Tanacetum vulgare	Tansy
Trifolium dubium, T. pratense, T. repens, T. arvense, T. subterraneum, T. hybridum	Clovers
Cultivated species:	wheat, corn, barley, rye etc.

WETLANDS OF LOCAL SIGNIFICANCE

CRITERIA: CATEGORY I, II OR III WETLANDS OF LOCAL SIGNIFICANCE (WOLS): ANY WETLAND, IDENTIFIED AND ADOPTED BY A LOCAL GOVERNMENT AS PART OF IT'S PLANNING PROCESS, FOLLOWING PUBLIC REVIEW AND APPEALS, AND SATISFYING SUB-CRITERIA SUCH AS THOSE BELOW:

SUBCRITERIA: A WETLAND OF LOCAL SIGNIFICANCE:

a) is locally rare, or

b) is documented as a groundwater recharge area, or contributes functional value to a local government water quality or flood mitigation program, or

c) provides habitat for fish and wildlife that is considered important by the local community, or

d) is a recognized or planned educational site, or

e) is part of a recognized or planned recreation resource, or

f) is part of an open space or planned open space resource, or

g) is planned for restoration or enhancement as a part of a local government protection program, or

h) is part of a wildlife corridor or connects wetland areas of greater value, or

i) is recognized and valued as a part of the local landscape, or

j) is considered sensitive to development or disturbance, or

k) is considered irreplaceable, or

l) is a buffer area for a growth management boundary, or

m) is an integral part of a wetland system that would benefit from better overall protection, or

n) satisfies other criteria developed by local government in its comprehensive planning process.

SOURCE

The use of the wetland of local significance concept should be fully described within the planning documents of the local jurisdiction. To be recognized as WOLS, each wetland should be specifically identified and adopted as a "wetland of local significance" under local government legal authorities. The WOLS concept is intended to provide local government flexibility in integrating the local government model ordinance for wetlands with the requirements of local governments to protect critical areas, including wetlands, under the Growth Management Act.

JUSTIFICATION

The purpose of criteria for wetlands of local significance (WOLS) is to provide ways for local government to protect wetlands within the wetlands rating system to a degree higher than that afforded by strict application of the other state criteria. It may be that particular local wetlands require more protection than that afforded by a strict application of rating criteria. For example wetlands may be critical to a local water supply, or provide for storage capacity for floodwaters. Or, the wetlands may provide a combination of values that, when considered together, provide important values that require a higher level of protection.

By using the WOLS concept a local government could: promote an otherwise Category IV wetland to Category III, II or I protection levels, promote an otherwise Category III wetland to Category II or I protection levels, or promote an otherwise Category II wetland to Category I protection levels.

WOLS could also be identified and categorized on the basis of inter-local agreements where local government boundaries arbitrarily divide a wetland. This would be essential when additional protection of a watershed-wide wetland function was sought (i.e. flood-storage capacity) and the watershed is divided by multiple jurisdictions.

For inventory purposes, WOLS would be identified on the basis of strict application of the criteria, regardless of the level of protection afforded them. Local Government inventories should record both ratings. The WOLS concept does not allow a reduction of protection to wetlands where protection is already required by local, state, or federal laws.

GLOSSARY

Areal cover: Means the % of vegetation covering any area of vegetated wetland. It is used to decide what classes are present in the wetland. Areal measurements are those made as if upland (or wetland) were being viewed from the air.

Aquatic bed wetland class : Means any area/s of open water with rooted aquatic plants such as lily pads, pondweed, etc.). Aquatic bed vegetation does not always reach the surface and care must be taken to look into the water.

Connection to a stream (Q.5g.): Means a wetland is connected if some part of the wetland boundary has a surface water connection to seasonal or perennial flowing surface water, including floodwater, via natural or man-made channel, or an area of open water. The connection could be through a culvert, or a series of culverts for example.

Emergent wetland class is: any area of vegetated wetland where non-woody vegetation (such as cattail, grasses, sedges, etc.) comprises at least 30% of areal cover.

Forested wetland class: Means any area of vegetated wetland where woody vegetation over 20 ft. (such as alder, cedar, hemlock, cottonwood, and some willow species, etc.) comprises at least 30% of the areal cover.

Habitat area (Q5i): Means any forested, shrub and herbaceous areas that could be used by wildlife species that use wetlands to provide a part of their life cycle needs. Developed areas such as farming and urban landscapes would not generally be considered as habitat areas. However, there are important areas within urban areas and farming landscapes that are connected to wetlands by corridors, and these areas function to provide life cycle needs to wildlife.

Hydrologically isolated wetland (for the determination of Category IV wetlands): Means those regulated wetlands which 1) have no surface water connection to a lake, river or stream; 2) are outside of and not contiguous to any 100-yr floodplain of a lake, river, or stream; and 3) have no contiguous hydric soil between the wetland and any surface water.

Open water wetland class: Means any area of standing water present for more than one month at any time of the year without emergent, scrub-shrub or forested vegetation. Open water includes any aquatic beds. At certain times of year it may be difficult to determine if open water (with or without aquatic beds)are present. Use aerial photographs, talk with landowners or neighbors, look for dried or muddy areas without vegetation which indicate that open water was present earlier in the year, or in past years. Estimate the acreage of open water or the pct. of total acreage. Cite your source of information for making this determination.

Peat wetlands: Means wetlands with undrained organic soils (histolics). These soils can be determined by consulting the Soil Conservation Service Soil Surveys or by physically examining the soil. An organic soil will have a high proportion of un-decomposed plant matter, and will be very dark brown in color.

Priority Habitat: A seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain or increase population over the long term. These might include areas of high relative density, breeding habitat, winter range, and movement corridors. Priority habitats might also include areas that are of limited availability or high vulnerability to alteration, such as cliffs, talus, wetlands, etc.

Priority Species: Animal species that are of concern due to their population status and their sensitivity to habitat manipulation. Priority species include species of concern, monitor species, priority game species, as well as other game and nongame species.

Scrub-shrub wetland class: Means any area of vegetated wetland where woody vegetation less than 20 ft. tall (such as most willow species, hardhack, dogwood, salmonberry, etc.) comprises at least 30% of the areal cover.

Significant Habitat area(Q.5i): Means high quality natural land or water areas such as parks, reserves and forests, or areas in essentially natural condition that could be used by wildlife species that use wetlands to provide a part of their life cycle needs.

Riparian corridor (Q.5i): Means an area between aquatic and terrestrial ecosystems defined by the presence of vegetation that requires moist conditions and, usually, periodic free flowing water. The benefits of vegetation cover and food sources and the availability of water in riparian corridors means that they are likely to be preferentially used by wildlife and enable wildlife movement between wetlands.

Species of Concern: are those animal species that are listed or candidates for designation as Endangered, Threatened, or Sensitive by the Washington Department of Wildlife.

State Endangered Species are those that are seriously threatened with extirpation throughout all or a significant portion of their range within Washington.

State Potentially Extirpated Plant Species: Also referred to as Possibly Extinct or Possibly Extirpated. Plant taxa thought to be extinct or extirpated in Washington. Plants in this category are all high priorities for field investigation. If found, they will be assigned Endangered, Threatened, or Sensitive status.

State Sensitive Species: Animal and plant species that could become threatened in Washington due to limited population size and distribution, sensitivity to disturbance during critical stages in their life cycle, or dependence on a very specific habitat type.

State Threatened Species: Means Animal and Plant species that are not presently Endangered in Washington but could become so in the foreseeable future.

Stream: Means there is at least a seasonal flow of water that is in one predominant direction and there is a defined bank or series of banks containing the water.

REFERENCES

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Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. US Army Corp of Engineers, US Environmental Protection Agency, US Fisheries and Wildlife Service and USDA Soil Conservation Service. Washington DC. Cooperative Technical Publication. 76 pp. plus Appendices.

Mumford, T.F. 1988. Marine Plants on State-Owned Aquatic Lands: Their Status and Management. Proceedings of the First Annual Meeting on Puget Sound Research. Puget Sound Water Quality Authority, Seattle.

Reed, P.B., Jr. 1988. National List of Plant Species that occur in Wetlands: Northwest (Region 9). U.S. Fish and Wildlife Service, Biological Report 88(26.9). 89pp.

Washington Natural Heritage Program. 1990. Endangered, Threatened, and Sensitive Vascular Plants of Washington. Department of Natural Resources, Olympia, Washington.

APPENDIX 1

SAMPLE LETTER TO WASHINGTON NATURAL HERITAGE PROGRAM TO REQUEST INFORMATION

__ _____ 1991

Data Manager
Washington Natural Heritage Program
Department of Natural Resources
Mail Stop EX-13
Olympia, Washington 98504

To Whom This Concerns,

_____ is planning to (_____(describe activity)_____) in the _____ drainage, approximately___miles (insert direction) of the town of_____, (Sec.___,T.___,R.___). The area of the proposed activity contains (a) wetland(s).

Therefore we are requesting that the Washington Natural Heritage Program answer and document the following questions for this/these wetland(s):

* Does the wetland(s) contain individuals of Federal or State-listed Threatened or Endangered plant species; or is the wetland an historic location of a plant species thought to be possibly Extinct or Extirpated from Washington?

* Is the wetland(s) already on record with the Washington Natural Heritage Program as a high quality native wetland?

* Does the wetland(s) contain individuals of State-listed Sensitive plant species?

Enclosed are maps of the proposed activity and the location of the wetland(s). We understand that we may be billed and must remit payment prior to receiving the results of the data search. If you have any questions, please contact_____at (___)_____.

Thanks in advance for your help.

Sincerely,

enclosures: Map of _____

APPENDIX 2

SAMPLE LETTER TO WASHINGTON DEPARTMENT OF WILDLIFE TO REQUEST INFORMATION

__ _____ 1991

Data Base Manager
Washington Department of Wildlife
Nongame Program, Mail Stop GJ-11
600 Capital Way North
Olympia, Washington 98501-1091

To Whom This Concerns:

_____is planning a (_____(describe the activity)_____) in the_____drainage, approximately____miles (direction) of the town of_____, (Sec.___,T.___,R.___). The area of the proposed activity contains (a) wetland(s).

Therefore we are requesting that the WDW answer and document the following questions for this/these wetland(s):

* Does the wetland(s) contain documented habitats for State-listed or candidate Threatened or Endangered wildlife species managed by the Washington Department of Wildlife?

* Does the wetland(s) contain documented habitats of State or Federally listed or State or Federal candidate Threatened or Endangered fish species, or races of fish, managed by the Washington Department of Wildlife or the Washington Department of Fisheries?

* Is the wetland(s) documented as habitat of regional (Pacific Coast) or national significance for migratory birds?

* Does the wetland(s) contain documented habitat for State-listed or candidate sensitive wildlife species managed by the Washington Department of Wildlife?

* Does the wetland(s) contain priority species or habitats documented by Washington Department of Wildlife's Priority Habitats and Species Program.

Enclosed are maps of the proposed activity and the location of the wetland(s). We understand that we may be billed and must remit payment prior to receiving the results of the data search. If you have any questions, please contact_____at (___)_____.

Thanks in advance for your help.

Sincerely,

enclosure: Map of _____

APPENDIX 3

SAMPLE LETTER TO WASHINGTON DEPARTMENT OF FISHERIES TO REQUEST INFORMATION

__ _____ 1991

Data Base Manager
Washington Department of Fisheries
115 General Administration Building
Olympia, Washington 98504

To Whom This Concerns:

_____is planning a (_____(describe activity)_____) in the _____drainage, approximately____miles (direction) of the town of_____, (Sec.___,T.___,R.___). The area of the proposed activity contains (a) wetland(s).

Therefore we are requesting that WDF answer and document the following questions for this/these wetland(s):

* Does the wetland contain documented habitats of State or Federally listed or State or Federal candidate Threatened or Endangered fish species, or races of fish, managed by the Washington Department of Wildlife or the Washington Department of Fisheries?

* Does the wetland contain documented habitats of State or Federally listed or candidate Sensitive fish species managed by the Washington Department of Wildlife or the Washington Department of Fisheries?

Enclosed are maps of the proposed activity and the location of the wetland(s). We understand that we may be billed and must remit payment prior to receiving the results of the data search. If you have any questions, please contact_____ at (___)_____.

Thanks in advance for your help.

Sincerely,

enclosure: Map of _____

APPENDIX 4

THE REVIEW PROCESS: WETLANDS RATING SYSTEM TECHNICAL AND IMPLEMENTATION REVIEW TEAMS.

Known wetlands specialists were contacted by phone in April 1991 to determine whether they were willing to review draft documents. A team of about 35 Technical Reviewers (those marked by an asterisk in the list below) was established and a draft technical review of the rating system was sent out for comment. Following consideration of comments from the Technical Review Team, a field methodology was developed. In May 1991 copies of the draft wetlands rating system, including a revised draft field methodology were sent to an Implementation Review Team. The Implementation Review Team comprised the members of the Technical Review Team plus about 20 other people involved in developing local government wetlands plans.

All members of the Implementation Review Team were invited to review, and if possible, field test the draft wetlands rating system. The Department of Ecology undertook in-house field testing and in some cases was able to field test the system with members of the Implementation Team. Where possible, all comments from reviewers were taken into account in preparing the methodology and the final document.

WETLANDS RATING SYSTEM TECHNICAL AND IMPLEMENTATION REVIEW TEAMS.

Paul Adamus*
USEPA
CORVALLIS, OREGON

John Andrews*
Washington Department of Wildlife
SPOKANE

Ken Bierly*
Oregon Division of State Lands
SALEM, OREGON

Marc Boule*
Shapiro and Associates
SEATTLE

Steve Campbell
Soil Conservation Service
SPOKANE

Laura Arnold
San Juan County Planning Department
FRIDAY HARBOUR

Dennis Beich
City of Everett
EVERETT

Jim Blake
Soil Conservation Service
REPUBLIC

Carol Burnthall
Island County Planning Department
COUPEVILLE

Jean Cheney
Stevens County Planning Department
COLVILLE

Sue Comis
Pierce County Planning
TACOMA

Sarah Cooke*
c/- PENTEC
EDMONDS

Rex Crawford*
DNR Natural Heritage Program
OLYMPIA

Paula Ehlers
Thurston County Planning
OLYMPIA

Mike Erkkinen
Pierce County Planning
TACOMA

Banks Evans
Tacoma City Planning and Development
TACOMA

Mike Folsom*
Department of Geography
Eastern Washington University
CHENEY

Joel Fordenthal
Clallam County Division of Water Quality
SEQUIM

Marilyn Freeman
Snohomish County Planning
EVERETT

Bob Frenkel*
Department of Geoscience
Oregon State University
CORVALLIS, OREGON

Bob Furstenburg*
King County Storm Water Management
SEATTLE

Phil Gaddis
Clark County Dept. of Public Service
VANCOUVER

Terry Galvin
Whatcom County Planning
BELLINGHAM

Jim Good*
College of Oceanography
Oregon State University
CORVALLIS, OREGON

Rich Horner*
Center for Urban Water Resources Mgt.
University of Washington
SEATTLE

Lou Jurs*
Bureau of Land Management
SPOKANE

Will Keller*
Soil Conservation Service
OKANOGAN

Mary Kentula*
USEPA
CORVALLIS, OREGON

Bud Kovalchik*
U.S. Forest Service
COLVILLE

Dave Kaumheimer*
USF&WS
MOSES LAKE

Kathy Kunz*
US Army Corps of Engineers
SEATTLE

Linda Kunze
DNR
OLYMPIA

Ivan Lines*
Soil Conservation Service
SPOKANE

Steve Morrison
Thurston County Planning
OLYMPIA

Kerry Paul-Reese
College of Forestry
University of Idaho
MOSCOW, IDAHO

Chuck Perry*
Washington Department of Wildlife
MOSES LAKE

Alisa Ralph*
USF&WS
OLYMPIA

Carol Richmond
Department of Natural Resources
OLYMPIA

Ralph Rogers*
USEPA
PORTLAND, OREGON

Ruth Schaefer
Surface Water Management Division
King County, SEATTLE

Charles Simenstad*
University of Washington
SEATTLE

Anne Soule
Clallam County Div. of Water Quality
SEQUIM

Dennis Strohbusch
City of Mount Vernon
MOUNT VERNON

Tina Miller*
King County Building & Land
Development
BELLVUE

Tom Mumford*
Department of Natural Resources
OLYMPIA

Jim Pearson
Jefferson County
PORT TOWNSEND

Doug Pineo*
Department of Ecology
SPOKANE

Brent Renfrow*
Washington Department of Wildlife
YAKIMA

Betty Roderick*
Washington Department of Wildlife
OLYMPIA

Emily Roth
Oregon State Department of Lands
SALEM, OREGON

Dyanne Sheldon*
Sheldon and Associates
SEATTLE

Billy Somorall
Grant County Planning
EPHRATA

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