

# OWEB Ecological Priorities for Land Acquisition by Basin

Adopted by the OWEB Board September 14, 2004

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## **Introduction**

### *Background*

In 1998, voters approved a statewide ballot measure (Measure 66) amending the Oregon constitution to direct a portion of state lottery proceeds to be used “for the public purpose of financing the restoration and protection of native salmonid populations, watersheds, fish and wildlife habitats and water quality in Oregon.” Passage of the ballot measure capped a multi-year effort by a number of stakeholders to identify and secure a dedicated source of revenue for natural resource programs, especially fish and wildlife habitat protection and restoration.

Legislation enacted subsequently established the Oregon Watershed Enhancement Board (OWEB) as the agency responsible for administering key portions of the ballot measure and related legislation, including making grants in support of specific watershed purposes. Among other things, these purposes include land acquisition, which is defined as “entering into agreements to obtain from willing owners determinate interests in lands ... that protect watershed resources, including but not limited to fee simple interests in land, leases of land or conservation easements”.

State statutes, and the high demand for grants relative to available funding, require that OWEB establish priorities to guide its grant-making decisions, including decisions on land acquisition project applications. This report identifies high priority ecological attributes for each major drainage basin in Oregon. Focusing on applications that address these attributes will help ensure that land acquisition projects provide significant ecological benefits in support of OWEB’s mission.

### *Purpose and Scope*

The primary purposes of establishing land acquisition priorities are to 1) help OWEB respond to acquisition applications and expend funds on acquisition projects in an informed and strategic manner; and 2) ensure that acquisition projects address critical watershed resources and processes. This report describes both a general framework for identifying priorities as well as specific high priority attributes for each basin.

The report focuses only on priorities related to ecological benefits - the habitats, species and key ecosystem principles and processes that should be addressed by land acquisition project applications. OWEB considers many other factors when it reviews land acquisition applications, including such things as the capacity of the grantee to manage the property over time and the level of community support. Projects with strong ecological benefits may not be funded if they fail to meet other criteria. Moreover, OWEB may decide to approve projects with lower priority ecological attributes when such projects address other agency goals.

## *Process*

A project consulting team with facilitation, data analysis and natural resource planning expertise was retained to develop recommendations regarding land acquisition priorities. An advisory committee comprising conservation professionals from a range of backgrounds assisted the consulting team. The committee met seven times during the last half of 2003.

In its initial meetings, the consulting team and committee developed project assumptions, general conservation principles for acquisition projects, and a multi-step framework to be used in identifying basin-specific priority attributes. In the next phase of the project, the framework was applied to the fifteen major OWEB river basins, leading to development of draft priority attributes for each basin.

The draft framework and specific recommendations for the North Coast basin were reviewed and discussed by regional stakeholders in December 2003. The OWEB board reviewed draft recommendations in January 2004 and authorized extension of the analysis to all fifteen OWEB basins. Additional stakeholder review will be conducted by OWEB as part of the agency's continuing rulemaking process for the land acquisition grant program.

## *Key Considerations*

Several important considerations served to frame the scope of the recommendations and guided the approach to identifying acquisition priorities:

***Policy Context*** – The effort to identify priority ecological attributes is but one element of the continuously evolving policy framework that guides OWEB's response to acquisition applications. Past policy-making has addressed the general purposes of acquisition projects and clarified grant application and decision-making guidelines. In addition to acquisition priorities, future policy-making may be needed to address such issues as the role of easements in meeting watershed goals, the weight accorded factors other than ecological benefit in making funding decisions and the sequence of processing acquisition grant applications. This report does not address these issues.

***OWEB's Unique Role*** – As the single largest source of state funding for watershed restoration and protection projects, OWEB receives far more grant requests than it is able to fund. Given this demand, and the relative expense of acquisition projects compared to other OWEB-supported watershed work, it is essential that approved acquisition projects are responsive to the goals of the ballot measure (the restoration and protection of native salmonid populations, watersheds, fish and wildlife habitats and water quality) and the statutory authorization to fund acquisition projects for the purposes of "maintaining or restoring watersheds, habitat and native salmonids." Projects aimed at other goals should seek primary funding from other sources.

***Project Focus and Scope*** – This report makes recommendations regarding priority attributes of land acquisition projects, not conservation priorities in general. As a result, the recommendations de-emphasize habitat and species types with significant distribution on public land or conservation needs that cannot be addressed by land acquisition (e.g. certain marine species). The recommendations are not referenced to particular geographic areas within basins, except when examples are cited in the narrative to better define or distinguish certain attributes.

While the focus of the analysis is relatively narrow, its scope is broad. Priority attributes are identified from a statewide perspective (see below), and basin priorities are viewed within statewide and ecoregional contexts. In addition, the recommendations encompass a broad range of aquatic and terrestrial habitats and species. This broad scope is consistent with state law, which authorizes grants for the restoration and protection of “native salmonid populations, watersheds, fish and wildlife habitats and water quality.” It also acknowledges the important relationships between aquatic and terrestrial diversity and watershed health and the role individual species play as indicators of habitat and system condition.

***Statewide Perspective*** – Although OWEB has many local and regional partners and constituencies, it is a state agency and, as such, must set its priorities within a statewide context. While this report does not identify “state priorities” per se, viewing basin priorities through a statewide lens does result in a focus on habitat and species types of statewide significance. In some cases, it results in different priorities than would similar analyses at a smaller spatial scale. For example, habitat and species types that are rare or locally significant in a particular basin, but found more commonly elsewhere in Oregon, would not be identified as priorities in that basin. Also, some statewide priorities may not be identified as priorities in a given basin (even though they occur in that basin) if they are better addressed in another part of the state.

***Credible Information*** – The complexity, sensitivity and expense involved in land acquisition projects – from assembling and reviewing applications to expending funds on the acquisition itself – makes it essential that identified priorities are supported by credible information. Accordingly, the project relied primarily on data from the Oregon Natural Heritage Information Center at Oregon State University, the Oregon Department of Fish and Wildlife, and multi-partner sources of information such as Partners in Flight, the Oregon Biodiversity Project and the State of the Environment Report. Watershed assessments and sub-basin planning documents were also consulted.

***Limitations*** – The wealth of information generated over the past decade about Oregon’s watershed resources was enormously helpful to the analysis of priority attributes. At the same time, statewide analysis requires statewide data, the availability and accuracy of which is still uneven in some areas. Much information about riparian area and wetland location and condition simply does not exist. While the project was able to use expert review and input to overcome some of these limitations, it is important that the identification of priority attributes be revisited as new information becomes available.

The state wildlife conservation plan currently in the planning stages by ODFW will provide a near-term opportunity to incorporate updated information.

## **Framework for Land Acquisition Priorities**

### *Land Acquisition as a Conservation Tool*

Land acquisition, one of many tools available to OWEB, can be an effective way to achieve watershed and habitat protection and restoration goals. Land acquisition projects can support OWEB's goals by:

1. Ensuring continued long-term management in support of specific watershed resources and/or functions; for example, when land containing critical habitat is for sale, and potential future owners could significantly affect that habitat through a change in land use or management; or
2. Allowing active, intensive management or restoration requiring most of a parcel or parcels to be dedicated to conservation to maintain or recover species and/or functions. In these situations, acquisition may be the only way to address landowner needs and meet restoration goals at the same time. In situations in which goals can be met with active restoration on only a portion of a parcel otherwise dedicated to non-conservation uses, conservation easements may be a more appropriate tool than fee acquisition.

Acquiring interests in land, whether in fee simple or through easements, can be complex and expensive. In order to achieve promised goals, land acquisition requires a long-term commitment to stewardship and management. As a result, land acquisition applications demand careful consideration by both project proponents and OWEB. The following framework is intended to enable OWEB to be more informed in its decision-making regarding the ecological benefits of acquisition applications, and to ensure that funded applications address critical watershed resources and processes.

### *General Framework*

When considering grant applications for land acquisition projects, OWEB should give priority to projects that have the following attributes:

1. The project addresses the conservation needs of *priority habitat and species types* identified according to the methodology described below, *and*
2. The project supports one or more of the resource *conservation principles* described below, and/or assists in implementing a scientifically credible resource conservation plan.

A recommended approach to identifying priority habitats and species is described in the next section, followed by a discussion of the conservation principles that should be supported by acquisition projects.

## *Priority Habitats and Species*

For this project, priority habitats and species were initially identified by synthesizing information from a variety of sources, including the Oregon Natural Heritage Information Center at Oregon State University, the Oregon GAP analysis project, the Oregon Biodiversity Project, ecoregional assessments conducted by The Nature Conservancy, and the Oregon Department of Fish and Wildlife (ODFW). In general, recommended priorities emphasize habitats and species that have experienced significant losses in distribution or population levels over time. Focusing on these types will help ensure a diverse array of species and habitat types in the future. As noted in the State of the Environment Report, such diversity “is critical for the normal functioning of ecological and evolutionary processes...Ecosystems with good representation of native species are better able to resist invasions by exotic species, regenerate in response to disturbances and provide such ecosystem services as erosion prevention, water purification and climate amelioration.”

### ***Priority Habitats***

In order to identify habitat priorities in a consistent manner, the project relied on two widely used habitat classification systems, both of which are mapped statewide in Oregon. The first, developed by the Oregon GAP analysis project, breaks state habitat types into 30-40 relatively broad categories. The GAP project identifies as priorities those habitat types that have lost significant acreage since European settlement, and which are poorly represented in the existing network of conservation lands in the state. GAP priorities are identified as recommended priorities in any basin in which they are found. Natural riparian areas and wetlands are statewide GAP priorities and critical to terrestrial and aquatic diversity and watershed function throughout the state. Accordingly, these areas are also identified as priorities in every basin.<sup>1</sup>

Because it is a statewide assessment based on broad habitat types, GAP yields very general results. To provide more detail at the basin level, the project used a second classification system, developed by NatureServe, that recognizes 115 “ecological system” types in Oregon. A “prioritization index” was developed, similar to GAP, based on the

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<sup>1</sup> It should be noted that the availability and accuracy of historical and contemporary data regarding riparian areas and wetland is variable across the state, and the linear nature of riparian areas makes them very difficult to map and use in GAP-type analyses of habitat loss and protection. As a result, the status of specific riparian and wetland ecological system types has not been analyzed for this project, and no recommendations are made regarding priorities among different riparian and wetland types in a given basin, unless a system type is known to occur primarily on public lands (see Step 2). Additional data collection and analysis to be conducted by ODFW in conjunction with the state Wildlife Conservation Plan, and improvements in the Oregon Plan monitoring project, will allow more detailed analysis of natural riparian and wetland types in the near future. In the meantime, priorities within basins will be established based on the potential benefit to rare or at-risk plants and animals.

extent of reduction in the distribution of each ecological system since European settlement and the amount of that system type's remaining distribution on public lands.<sup>2</sup>

For this project, which focuses on land acquisition, we looked at whether or not a significant proportion of the remaining distribution of the ecological system types was on public lands, not whether those lands were managed to protect habitat values.<sup>3</sup> The project applied the same philosophy to the identification of priority species, as discussed below.

### *Priority Species*

In addition to important habitat types, the project identified important fish, wildlife and plant species in each basin. Lists of species of concern were developed based on a variety of sources, including:

- State and federally listed threatened and endangered species;
- Species identified as at-risk by agencies or organizations with recognized expertise, such as Partners in Flight (birds)<sup>4</sup>, the Oregon Natural Heritage Information Center (ONHIC), (plants, mammals, invertebrates, reptiles and amphibians ranked as G1, G2, T1, T2 and S1)<sup>5</sup>, the Oregon Department of Fish and Wildlife (fish) and others.
- Other key fish or wildlife species: either widespread but declining or both poorly protected and which have lost significant habitat based on changes since European settlement (the Gap Analysis priority index).
- Rare plants and plant communities identified by ORNHIC.

Once initial lists of species of concern were developed, a set of screening criteria was used to eliminate some species from consideration as basin acquisition priorities. Generally, the criteria served to screen out species already adequately addressed or able to be addressed in that basin (for example, if they occur primarily on public lands), more appropriately addressed elsewhere in the state (for example, a species occurs in a basin

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<sup>2</sup> The following formula was used to develop a priority index for ecological systems:  $\text{Index} = [(h-c/h) - p/c]^* - 100$ , where  $h$  = area of historic distribution,  $c$  = area of current distribution, and  $p$  = area currently protected.

<sup>3</sup> Some reviewers have raised questions about this decision. Given limited resources, the project team believes it is important to focus on resources not already well-represented on existing public lands. Management of public land resources can be addressed through other processes.

<sup>4</sup> Birds identified by the Partners in Flight (PIF) Species Assessment Database as at-risk as a result of threats to habitat or declining population trends, plus species identified as at-risk by other regional bird prioritization efforts as a result of declining habitat, species status and ecology, and species associations with key habitat attributes or conditions

<sup>5</sup> The Oregon Natural Heritage Information Center (ORNHIC) participates in an international system for ranking rare, threatened and endangered species throughout the world. The system was developed by The Nature Conservancy and is now maintained by NatureServe in cooperation with Heritage Programs or Conservation Data Centers (CDCs) in all 50 states, in 4 Canadian provinces, and in 13 Latin American countries. G1 and G2 elements are imperiled globally; S1 elements are imperiled at the state level. The "T" designation indicates an imperiled subspecies of a more common species type.

peripheral to its core habitat), or better conserved through the application of other restoration or protection tools.

Specific screening criteria were as follows:

- Eliminate species or plant communities from the list if there is a low degree of confidence regarding their existence in the basin; e.g. if occurrences are not well documented; or if no occurrences have been reported in recent years;
- Eliminate all introduced and extirpated species;
- Eliminate species if land acquisition is not appropriate based on its habitat requirements;
- Eliminate ecological systems, species and plant communities if their conservation needs can adequately be addressed on public lands; and
- Eliminate species, ecological systems or plant communities for which the basin in question is out-of-range or “peripheral” (at the edge of its historical range).

### *Conservation Principles*

An acquisition application may include high priority ecological systems and species, yet still fail to deliver ecological benefits. To be effective, acquisition projects must also be structured in ways that support sound principles of resource conservation and restoration. These principles are important for many reasons – they help leverage OWEB’s investments with others’ to expand results, improve the viability of smaller projects by placing them in a larger geographic context, and can help avoid – and possibly resolve – the kind of resource “train wrecks” seen throughout the region in recent years.

Priority projects should therefore support the following widely accepted resource conservation principles. The order in which the principles are listed is not intended to connote priority or relative importance. Because of Oregon’s geographic and economic diversity, different regions have different resource conservation needs and goals. Consequently, application of a particular conservation principle may be more or less appropriate, or important, in different parts of the state.

1. Protecting Large, Intact Areas. Large areas, or smaller but key portions of larger landscapes, containing a diverse array of important fish and wildlife species and habitat types and relatively intact, functioning systems.
2. Stabilizing Areas “On the Brink”. Areas where natural systems and processes are still functioning, but where a trend toward ecosystem degradation requires action to prevent conditions from “tipping” to an unrecoverable (or very difficult to recover) state. Acquisition and restoration of key parcels can help stabilize such areas. However, OWEB should only invest in such areas when there are other significant restoration activities planned or in place, or where there is strong evidence that restoration of a key parcel can be a catalyst for broader efforts.
3. Securing Transition Areas. Areas or sites providing critical habitat or watershed function in areas undergoing transition from undeveloped to developed conditions.

4. Restoring Function. Areas where restoration and active management are necessary to re-establish critical ecological functions supporting broader, landscape-scale conservation strategies. Individual parcels in these areas may be in a degraded condition but still have potential for restoration within the geographic and management context of larger conservation efforts.
5. Protecting Sites with Exceptional Biodiversity Values. Areas containing aggregations of local endemics or at-risk species and habitat types, but only where the species or habitat types can be demonstrated to be viable and sustainable.
6. Improving Connectivity. Sites that contribute to habitat connectivity by expanding or connecting areas already managed to protect watershed resources and/or functions; for example, acquiring a parcel connecting two sections of a publicly owned migratory corridor for fish or wildlife.
7. Complementing Existing Networks. Parcels or sites that complete or complement existing networks or patterns of conserved areas; for example, a project contains land with a system type significantly underrepresented in the current network of lands managed for conservation purposes.

In addition to projects that support the above principles, OWEB should give priority to projects in which acquisition supports the implementation of scientifically credible plans for the conservation, restoration, recovery or protection of fish and wildlife and the habitats upon which they depend.

#### *Projects Aimed at Benefiting Native Fish*

The above conservation principles apply equally to applications involving terrestrial and aquatic resources. Projects aimed primarily at addressing the needs of priority fish species should in addition provide high ecological benefits to a large portion of the native species assemblage and/or species of concern. High ecological benefits are the result of acquisitions that address bottlenecks to survival based on the life cycle needs of the species.

Land acquisition projects aimed at benefiting native fish should involve stream segments within American Fisheries Society Aquatic Diversity Areas or other areas identified as native fish strongholds based on scientifically credible research and planning initiatives. Documentation of the importance of the basin to salmonid production or maintenance of aquatic species biodiversity should be developed for each application involving proposed acquisition of stream segments.

Preferred stream conditions for projects intended to benefit native fish are as follows:

1. Low Gradient, Unconfined Channels: Stream channel types that are unconfined and low gradient have the greatest potential for salmonid production. Channel habitat types that include estuarine channels (ES, EL), Low Gradient channels (FP1, FP2, FP3, AF, and LM) that are unconfined or moderately confined are the highest priority for protection. While these channel types are not sufficient to support all species, they are appropriate for protection actions.

2. Tributary Junctions: The confluence between tributaries and main stem channels is often the site of significant aquatic diversity. The complexity of channel junctions can create a diverse array of aquatic habitats suitable for protection. Preference should be on channel junctions with 6<sup>th</sup> order or greater channels.
3. Estuarine Channels: While often in public ownership, estuarine environments are highly productive and important to a number of life stages of anadromous and other fishes. Acquisition of estuarine channels and lands where estuarine channels can be restored should be considered a priority.

## **Application of the Framework**

As noted previously, it is important that projects address both conservation principles *and* priority species and habitats. By focusing applicants' and OWEB's attention on the connections between parcel-specific acquisition proposals and the larger landscape, the conservation principles will help to ensure that desired conservation goals are achieved. At the same time, it should be noted that use of the species priorities and conservation principles to evaluate acquisition applications will not yield cut-and-dried, formula-driven decisions. Professional judgment – and other goals – will still be important parts of the process.

## **Basin Priorities**

The rest of this report is devoted to separate descriptions of specific priority attributes of land acquisition projects for each of the state's fifteen major river basins. Each basin summary begins with a brief narrative describing the basin's physical characteristics and conservation issues and highlighting ecological system and species priorities. Lists and tables of priority ecological systems, species and plant communities are provided. More detailed information is provided in a separate documentation folder.

The basin summaries are presented (roughly) in “clockwise geographic order”, beginning with the North Coast basin.