

# Background Information on Scope and Range of Conservation Assessments In Washington State

---

Report to  
Washington State  
Interagency Committee for Outdoor Recreation  
September 2005

CommEn Space



Prepared by  
CommEn Space  
1402 3<sup>rd</sup> Ave. #1015  
Seattle, WA 98101  
[www.commenspace.org](http://www.commenspace.org)

**Project Summary:**

In June 2005, the Washington Biodiversity Council charged CommEn Space with reviewing a select number of assessments and plans designed to guide the protection and preservation of Washington State's natural biodiversity. A set of review criteria were provided by the Council and were revised at our suggestion to include additional information regarding analysis methods, data resolution and other attributes.

We met with members of the Council's science team three times in the course of this work: first, in June, to more clearly define the information needs of the Council and to review the list of completed assessments available for consideration; a second meeting took place in late July when members were provided a summary of assessments reviewed to date and some preliminary findings. Following the July meeting, debate among science team members regarding the priority issues and information needs to be addressed by this initiative continued.

In August we presented a draft report of findings organized around a set of questions as science committee members requested. Additional feedback was provided, including a refined list of organizing questions. This final report reflects the implementation of that feedback and summarizes the complete list of assessments reviewed for this scope of work.

**IDENTIFICATION OF ASSESSMENTS:**

Council staff provided an initial list of assessments for consideration. Drawing on extensive experience developing conservation plans for private organizations in the Pacific Northwest, we augmented that list to include analyses produced by land trusts, environmental organizations and researchers from government agencies. The list continued to evolve through July since even assessments that were not ultimately included needed to be quickly reviewed to determine whether they warranted deeper consideration.

The June meeting of the science team produced several resolutions that helped guide the selection of assessments of evaluation. After much discussion about how geographic scale and data resolution influence findings, we decided to classify assessments in one of three categories based on geographic scale.

1. Statewide – covering all or slightly more than the State of Washington
2. Regional – covering an entire ecoregion or multiple watersheds
3. Local – covering a single watershed or political jurisdiction such as a county or city

Appendix A provides a list of the assessments that were evaluated for this effort. It also includes a hard copy of the contents of an Access database that was provided with this report containing descriptive information on each of the 17 assessments reviewed in detail.

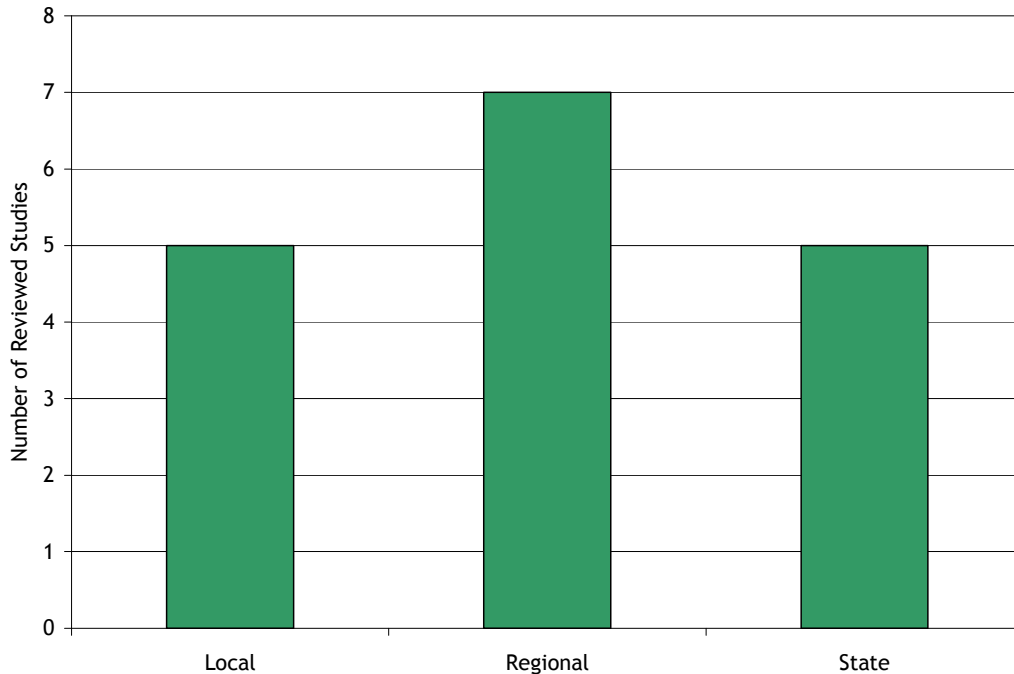
**SUMMARY OF REVIEWED ASSESSMENTS**

We reviewed 17 assessments in the course of this work. Depending on the criteria used to define an assessment, there were potentially hundreds of research efforts, policy initiatives and landscape analyses to consider. Candidates for review were selected according to several criteria:

1. We prioritized assessments completed since 1990
2. We sought a relatively equal distribution across the three geographic scales
3. When possible, we selected multi-species analyses
4. We prioritized assessments that provided insight on data and methods that would expand the Council's understanding of available information resources

### Geographic Distribution

The majority of studies that best met these criteria were focused at the regional scale. A nearly equal number were focused at both the local and the statewide scale (Figure 1).



*Figure 1*

### Site Prioritization

Most of the assessments reviewed here led to the prioritization of discrete sites or locations for conservation (Figure 2). Prioritized sites may be at the scale of sub-basins, river reaches, or shoreline segments, depending on the scale and minimum mapping units characterizing the analysis. Nearly half of the assessments also establish quantifiable targets to guide conservation efforts and to gauge progress against measurable goals. These may include acreages or percentages of habitat, abundance of species, etc.

Site priorities often result from the synthesis of a wide range of geographic data and frequently derive from some kind of analytical modeling method. A variety of modeling methods are used in these studies, most of them technical spatial analysis models executed in a geographic information system (GIS). Others are limited to providing current conditions assessments and do not necessarily involve extensive modeling.

### Production Process

Two thirds of the assessments reviewed here involve public agencies fulfilling policy

mandates. Consequently public involvement is a common attribute of most them. The major privately produced assessments were done by advocacy/conservation organizations with a strong connection to local community and typically also incorporated public input. Two assessments (Skagit Bays Blueprint and the Jefferson County Assessment) used public participants in the gathering of data used in the analysis and prioritization.

A smaller number (9) of the assessments reviewed here went through a formal peer review process. Nine of the plans engaged outside experts from agencies and the scientific community to review and comment on the data, processing and results. Consequently some form of outside review and comment appears to be a common practice among nearly all of the conservation planning efforts reviewed here.

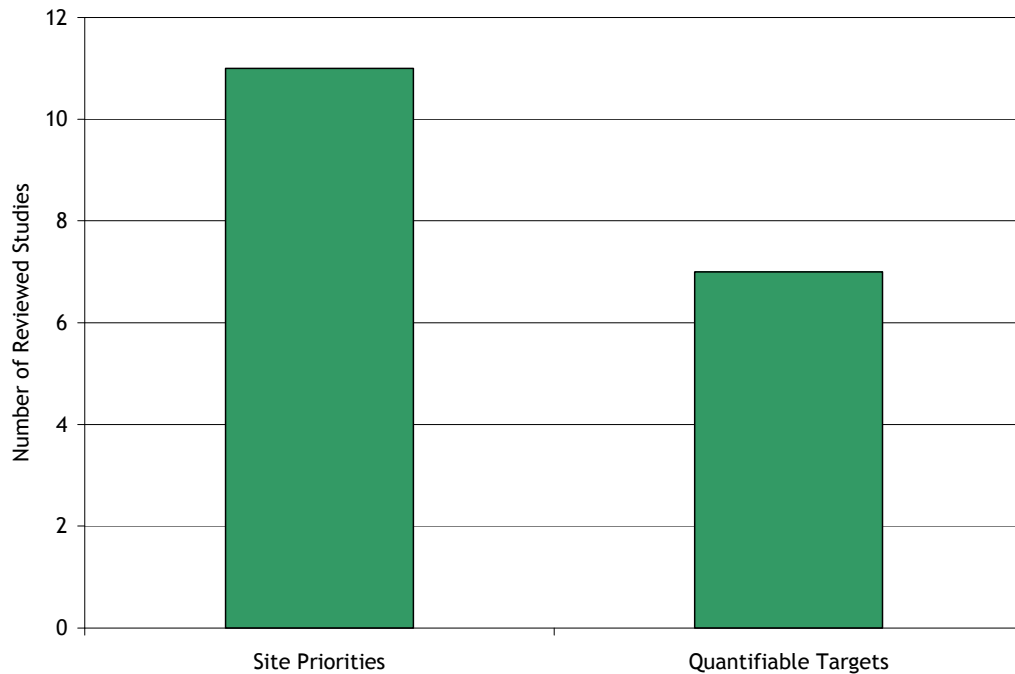


Figure 2

**GENERAL FINDINGS:**

Drawing from the 18 assessments reviewed, the narrative attempts to synthesize the findings around key questions. The question/answer approach was suggested by science team members at the July review. Questions were provided by the Science Team following the August meeting.

***What information do we have that depicts the state of biodiversity in Washington State?***

There are many working definitions of biodiversity in the literature and in use by agencies interesting in monitoring. In most cases these definitions include several components:

- Habitats and ecosystems – their extent, condition and integrity
- Species – their distribution, variety and abundance
- Genetics – the life history variety exhibited within and among species

As concern for the status of species and habitat loss have grown, a number of methodological approaches to measuring or assessing biodiversity have emerged from the scientific community. Most of these (Shannon-Weiner index, Simpson index) are highly technical. Consequently NGOs such as those involved with the Convention on Biological Diversity or agencies such as California's Resource Agency have adapted simpler methods such as assessing species richness to approximate the state of biodiversity for a particular region.

There are few efforts to depict the state of biodiversity in Washington State using methods like those outlined here to depict biodiversity as it has been generally characterized above. The Ecoregional Assessment process, led by the Nature Conservancy in partnership with state agencies, constitutes the broadest effort to combine data and analysis so that we understand what areas require protection in order to preserve statewide biodiversity. Other assessments, like the Columbia Land Trust effort or the Pierce County Biodiversity Plan, provide additional detail at more local scales.

The lack of a statewide biodiversity assessment in Washington is not indicative of a shortage of information about plant and animal species in the state. It is evident from this review that conservation planning efforts in Washington have access to significant data resources that may be used to assess biodiversity at various geographic scales. However of the assessments reviewed here, only the Ecoregional Assessments developed jointly between The Nature Conservancy (TNC), Washington State Department of Fish and Wildlife (WDFW) and their partners capture information about multiple species and habitats with the intent of identifying priorities that could ensure biodiversity is sustained at the ecoregional scale.

Thanks to these data and analyses, the assessments reviewed here suggest the Council will have access to a considerable amount of useful information as the State Biodiversity Strategy takes shape. For instance:

- Some of the assessments track environmental variables at various scales and set broad strategic goals (Puget Sound Conservation Plan; Pierce County Biodiversity Plan);
- Others prioritize key places and isolate discrete locations for protection (Ecoregional Assessments; Sub-Basin Plans);
- Some are well suited to provide relevant benchmarks of current conditions that may contribute to baselines and progress reporting later (Washington GAP; Landscape Permeability for Carnivores Study of Washington).

### ***How is biodiversity currently being assessed in Washington?***

The ecoregional planning process used by TNC and its partners is the primary example of a landscape analysis method that relies on statewide data to model relative biodiversity across the landscape and at multiple scales. The assessment process incorporates data regarding conservation value, quality, current protected status as well as threat and other measures that may inhibit protection. The result is a "portfolio" – a collection of geographically discrete locations which, if protected, would be presumed to secure a broadly

representative amount of the biodiversity of the ecoregion.

The ecoregional planning process is a systematic, or reasonably uniform, approach to modeling biodiversity that is nonetheless flexible enough to be adapted to the conservation goals and data limitations that differentiate one geographic area from another. The model (a spatial analysis model called SITES) can be re-run and results modified as various primary data sources are updated. Explicit goals are established, often at multiple geographic scales, which quantify the amount of habitat or the number of sites that must be protected in order to conserve the vast majority of species in the region.

While providing the best example of an assessment explicitly focused on measuring biodiversity in Washington, the approach has some relevant shortcomings. The analysis process is complex and expensive and typically requires several years of gathering data from existing sources and expert opinion. Like most of the studies included here, it represents a snapshot of conditions characterizing the landscape at the time data were gathered. Ecoregional Assessments provide no trend data and no ongoing monitoring information. They also rely on data that is best evaluated at what is referred to here as the regional scale. They currently do not summarize biodiversity information at the state level and, perhaps more importantly, are of limited use to localized conservation planning efforts (EAs typically aggregate data in 750 hectare units which are suitable for broad scale regional analysis but are insufficiently precise to be used by local land trusts planning for transactions).

Few of the remaining assessments reviewed here assess biodiversity in its various aspects. Instead, they measure current habitat conditions and in some cases rank those areas on criteria designed to isolate the most functional or widely used habitat as does the Columbia Land Trust conservation plan. Other efforts like the Skagit Bays Blueprint or the Northwest Straits Nearshore Inventory measure optimal habitat for focal species and make recommendations hypothesizing that protecting these targets will provide broad benefits to additional species. The Ecoregional Assessments refer to these as umbrella species.

The focal-species approach is a common proxy for planning for biodiversity. In Washington, one of the explanations for why there have been limited efforts to measure biodiversity may be that no agency has been explicitly called upon to do so. Another is surely the difficult task of developing measurable indicators that experts can agree represent the natural biodiversity of the state.

Recognizing the difficulty in establishing direct measures of biodiversity, the Northwest Forest Plan sought to define suitable indicators that would help gauge the success of the plan. In a recent conference on Science and the Northwest Forest Plan, Sarr and Latham (2005) summarized the problems this effort has faced. Their conclusions may also help explain why biodiversity assessments in Washington have been limited:

1. There is uncertainty about the right species, species groups or guilds to monitor.
2. Our knowledge of species associations is only developing; we have much to learn about predicting abundance or richness by looking at things we can measure such as vegetation or land cover.
3. Species adapt. Usage patterns change and species requirements evolve over space and time.

4. We don't always know the relationships between focal species and more rare species.
5. To understand the factors that influence rare species requires us to be able to monitor a large percentage of their known occurrences in order to obtain statistically valid findings.

***What is the quality of data used by the assessments reviewed here?***

There is a significant volume of data on factors that impact biodiversity in Washington State. The assessments reviewed here rely on many of the same spatial datasets even as they incorporate local data that add richness and detail to the broad scale resources produced by state agencies.

Among the most commonly utilized are:

The Priority Habitat and Species Data (WDFW) – known distribution of important/designated fish, wildlife and habitat resources

Washington Natural Heritage Program (WDNR) – known distribution of rare and endangered native ecosystems and plant species

Washington GAP Analysis – predicted distribution of most terrestrial vertebrate species native to Washington State

Shorezone – physical conditions and geomorphological classification of shoreline throughout Puget Sound, including modifications.

National Land Cover Data – classified land cover data set derived from satellite imagery every five years by US Geological Survey.

Species distribution and occurrence data as they are available in the datasets above are used frequently by private and public agencies producing the analyses reviewed here. They are the workhorses of conservation planning at various geographical scales though it is not clear that all users appreciate and acknowledge their limitations.

For instance, natural heritage data are frequently used to evaluate the presence of at risk habitats and community assemblages. Some approaches to locating areas of endemism rely on these data as well. However heritage data are compiled via irregular surveys and field work over time. They are not the product of comprehensive field research. The result is that data may underestimate the distribution of rare plants and communities. Prioritizations designed to isolate areas of endemism or concentrations of endangered communities, may be highly susceptible to errors of omission. Without information about survey history and location and without an indication of uncertainty, we may not be able to make assumptions about areas of apparently low priority in such studies.

Other problems that arise from an unqualified reliance on species distribution data include the influence of current land use on range distribution. Species distribution data may reflect expert opinion on the current distribution of key species, although their habitat range may be restricted by agriculture, urbanization or other changes to the landscape. Or they may ignore the influence of these patterns. In setting conservation targets and goals based on protecting

percentages of available habitat, it is often unclear how the influence of current land use is taken into account. Some assessments overcome this by setting targets as a percentage of historical conditions.

An additional criticism of site prioritization analyses such as those cited here stems from our evolving understanding of ecological systems. Conservation efforts often focus heavily on protecting specific sites without considering the processes that sustain them. These processes may originate or carry out over a broader spatial scale than is accounted for in the site selection process. A blunt example would be the selection of a rich spawning area that supports a high quantity of multiple salmon species. The site may be the product of a process that begins far upstream and delivers substrate from several erosional banks whose destruction would negate the value of the downstream site.

### ***What gaps in data or knowledge emerge from the assessments reviewed here?***

Council staff agreed that it is not possible to definitively list gaps in the data required to adequately measure statewide biodiversity before a specific approach to measuring biodiversity is established. Moreover a review of 17 assessments at various geographic scales is not sufficient to infer all important data gaps. Nevertheless some of the assessments reviewed here list important gaps and some needs are apparent even from the limited sample set.

Assessments that explicitly commented on data gaps include the Ecoregional Assessments, the Skagit Bays Blueprint, the Northwest Straits Habitat Inventory. The Natural Heritage Plan identifies data research needs by in part addressing past sampling and survey efforts; the Northwest Forest Plan lists data survey work both completed and as yet undone; it appears that the Washington State Wildlife Strategy may provide the means to more thoroughly address data gaps through its structure for monitoring.

Some of the needs specifically addressed by these studies include:

- Poor knowledge of key species-habitat relationships, particularly for critical marine species other than salmon. A better understanding of these relationships is necessary to gauge the real impact of impaired habitats on species.
- Better survey history information. The time, location and frequency of field surveys such as those done for marine species by WDFW as well as the terrestrial work of the Natural Heritage Program have great influence on the interpretation of data. More information on where and when field work has **not** occurred is important to guiding future work and interpreting existing results.
- Marine and sub-tidal data problems are highlighted in several assessments. Habitat datasets are limited and the inherent mobility of marine species has hindered better understanding of their distribution and abundance.
- Some critical plant species communities, particularly rare and highly endemic types, may occur in patches too small for sensing techniques

used at the regional or statewide scale to measure. This is similarly true for numerous wetland types in both freshwater and tidal environments. These critical resources are likely to be under-represented in regional or statewide analyses.

- Habitat *condition* may not always be inferred from habitat extent. Tree farms may not be distinguished from natural forests in habitat maps of western conifer forests, though they lack the complexity to provide the ecosystem functions of natural forest systems and thus do not contribute equally to statewide biodiversity.

Other findings that emerge from the review of these assessments include:

- A generally accepted classification system for delineating vegetation communities and wildlife habitats does not emerge from a review of the studies included here. To better link assessments and conservation monitoring across geographic scales, some agreement on habitat classification systems for terrestrial, freshwater and marine systems is needed. The system should support nested relationships at different scales so that local monitoring and conservation efforts can be “rolled up” to measure their impact on regional or statewide conservation goals.
- Few data are systematically gathered in a way that supports trend and change analysis of factors that affect biodiversity (the Puget Sound Conservation Plan is one possible exception that draws upon regularly sampled data, albeit for regulatory purposes). This is particularly problematic with land cover data resources which exist at multiple geographic scales for random points in time. Ongoing statewide monitoring of any of the indicators or metrics that could reflect the status of biodiversity in Washington is not possible without a concerted effort to establish a limited number of well designed monitoring efforts that track changes in a limited number of systems over time.
- Protected lands data are managed at the level of state and federal agencies. But a significant quantity of land protection occurs at the local level through county programs such as the public benefits rating system or conservation futures programs. To date the only attempts to integrate the state and federal public lands data with these resources has been a private effort originating with foundation support in the conservation community.

Finally, a key to better understanding of the condition of biodiversity in Washington is better trend information. Most of the data referenced by the assessments reviewed here provide snapshots of conditions at various geographic scales. Some of the data are regularly updated (Washington Shorezone; National Land Cover Data). Most are updated erratically if at all (GAP, Marine Vegetation). The best examples of assessments outside of Washington identify important trends. After defining the condition of key resources, they ask how are these features changing? Are species declining or recovering? Is a particular habitat type expanding or becoming more fragmented? The answers to these questions imply qualitative assessments of key indicators over time. They are not addressed by most of the assessments reviewed here and can not be answered with most of the commonly listed data resources without considerable analysis.

*(Note: Wildlife Conservation Strategy will include a Species of Greatest Conservation Need list which warrants additional consideration; also, the Biodiversity Index effort currently underway at WDFW currently has the tracking of key long term trends as one of its aims).*

### **How is our understanding of the state of biodiversity affected by the geographic scale of existing analyses?**

The influence of geographic scale will depend on how the Council ultimately defines its objectives. Should the Council focus on synthesizing information to provide a statewide picture of biodiversity in the way that other states like California and Massachusetts have done, it will be able to integrate the findings of a number of regional assessments but it may find that some potentially important elements go unconsidered because they are “invisible” at broad geographic scales.

It may seem desirable to “roll up” local assessments to solve this problem. This is more difficult to accomplish in practice however. The more local an assessment, the more varied the data and methods used to produce it are likely to be. The Skagit Bays Blueprint and the Bainbridge Nearshore study have similar aims: the prioritization of shorelines for conservation and restoration. However the methods and data used to arrive at their recommendations vary greatly and a comparison of the Bainbridge nearshore conditions to those of the Skagit using the results of these studies would be misguided.

If the Council aims to provide support to local conservation planning efforts as has been discussed, than many of the statewide and some of the regional assessments reviewed here will offer limited useful information. Broad scale analyses (1:500,000; watershed aggregations) may identify patterns and areas of consistent and important character. These are *not* sufficient to identify specific lands, parcels or smaller scale features that should be targeted by local groups.

By example, a local land trust seeking to use the statewide plan to confirm the importance of a local patch of Gary Oak may be disappointed not to find it prioritized. The absence of the Gary Oak stand in the statewide data set may be explained by scale: a statewide analysis of plant communities must by necessity be generalized to be manageable and will fail to identify small patches of habitat. It may also be obscured by aggregation. Some of the analytical methods used in the studies reviewed here aggregate biological information in varying spatial unit such as hexagons, shoreline segments or watersheds. On some occasions these spatial units may be diverse enough to mask out the important features.

### **Conclusions**

We were asked to complete this narrative by noting any general recommendations that emerge from this brief review. These recommendations are based on the strengths and weaknesses that are evident in the assessments reviewed here as well as our understanding of the goals of the Biodiversity Council.

1. Articulate a series of quantifiable goals for protecting biodiversity at the

statewide scale. None of the existing assessments reviewed here translate their results into measureable goals that would secure the breadth of species and their supporting habitat processes at the statewide scale. With some effort, the Ecoregional Assessments completed at the regional level may provide quantitative statewide targets. The Comprehensive Wildlife Strategy may also contribute important target information.

2. Identify appropriate indicators. Currently we lack a strategy for utilizing existing data and developing new data that will support the monitoring of meaningful indicators at the statewide scale.
3. Identify criteria for indicators. Establish criteria that should characterize the indicators to ensure that they are suitable. Some criteria seem to have emerged in conversations with science team members during this process and might include. Indicators should:
  - Utilize existing data and ongoing assessment efforts at the regional scale
  - Be measures that can be re-evaluated over time to improve our understanding of the changing status of biodiversity
  - Provide information that is meaningful and compelling to the general public to support the Council's objective of elevating public awareness and building support for biodiversity
  - Incorporate goals that local efforts can contribute to
4. Seek expertise in measuring biodiversity and developing indicators. Other states and research organizations have developed statewide efforts that the Council could learn from. There are several individuals who have national and multi-national experience in the development of biodiversity measures who could assist the Council in developing meaningful, measurable indicators that meet the criteria.
5. Seek cross-scale connections. Many important components of biodiversity can not be tracked at the statewide scale. Moreover, the State needs the support and assistance of local conservation efforts to do what is necessary to protect biodiversity. Statewide goals should be designed so that the accomplishments of local efforts are recognized and contribute to the monitoring results at the statewide level. There are many opportunities to build linkages between local and statewide actions. Improving the flow of data in both directions – to provide local efforts guidance and to provide statewide programs information on conservation results – would build broader support for biodiversity and improve coordination across scales.

## Appendix A – List of Reviewed Plans

Bainbridge Nearshore  
Carnivore Permeability  
Columbia Land Trust Conservation Priorities  
ICEBMP  
Jefferson County Plan  
King County Greenprint  
Lower Columbia Sub-Basin Plan  
Natural Heritage Plan  
Northwest Forest Plan  
Northwest Straits Nearshore Habitat Inventory  
Pierce County Biodiversity Plan  
Puget Sound Conservation and Recovery Plan  
Skagit Bays Blueprint  
Willamette Valley-Puget Sound -Georgia Basin Ecoregional Assessment - Marine  
Willamette Valley-Puget Sound -Georgia Basin Ecoregional Assessment -  
Terrestrial/Freshwater  
Washington GAP  
Washington Wildlife Conservation Strategy

Name	Phone Number	Email Address
Peter Namtvedt Best	206-842-2552	pcd@ci.bainbridge-isl.wa.us

**Organization**

City of Bainbridge Island

**Description of effort**

The Bainbridge Island Nearshore Assessment project attempts to assess the status of the nearshore ecosystem and could become a model for other such assessments elsewhere in the region. The nearshore includes both the land and marine areas that lie adjacent to the shoreline, including shallow subtidal, intertidal, backshore/bluff, and marine riparian areas.

**Completion date**

2004

**Jurisdictional Scale**

City of Bainbridge Island

**Geo or Ecoregional Scale**

Local

**Geographic Scale**

Bainbridge Island

**Goals or Vision**

Provide data and prioritization to decision makers to guide restoration and protection activities on the nearshore in line with habitat priorities, shoreline management plan regulations and in support of the goals of the Shared Strategy for Puget Sound salmon recovery planning process

**Habitat Classification**

Terich (1987) geomorphological classification system used to type shoreline types.

**Methods and Peer Review**

The Environmental Technical Advisory Committee - local experts from business, government and policy advising on process

**Stakeholder Involvement**

See Peer Review

**Current Conditions Described****Conditions Notes**

Bainbridge Island nearshore assessment metrics provide current conditions data and are based on the status of controlling factors in each shoreline reach. In total, nine controlling factor metrics are used, as follows:

- 1) Wave Energy
- 2) Light Regime (Loss of Natural Shade)
- 3) Light Regime (Artificial Shade)
- 4) Sediment Supply
- 5) Substrate Type

- 6) Depth/Slope
- 7) Pollution (Toxics, Nutrients)
- 8) Hydrology
- 9) Physical Disturbance.

**Data Description**  
 Nearshore Structures Inventory; Beach Seining for nearshore species survey; Bainbridge Island Nearshore Habitat Characterization; 2001 5 meter Land Cover classified from multi-spectral imagery yielding 8 cover types, sourced from Kitsap County; Feeder Bluff Locations/Activity from City of BI

**Resolution of Spatial Data**  
 Shoreline segments defined by Shorezone;

**Data Sources (1)**  
 COBI shoreline structure survey, 2003

**Data Sources (2)**  
 Kitsap County 5 meter land cover classification used to type coastal land use,

**Data Sources (3)**  
 Shorezone

**Data Sources (4)**  
 Department of Ecology Shoreline Photos

**Data Sources (5)**

**Data Sources (6)**

**Metadata**

**Data Gaps**

**Data Access**

**Conservation Targets**  
 In-tact shoreline reaches of uniform geomorphology and in-tact habitat forming systems such as drift cells

**Threats to Target**  
 Modification of shoreline; alteration of shoreline processes

**Site Prioritization**  
 Analysis prioritizes marine planning areas (9 of these) and geomorphologically similar beach reaches. Sites are scored for the existing habitat potential and along a multi-scale gradient that provides a link to restoration actions.

**Monitoring**



**Conservation Strategies**

Prioritizations drive management strategies. Plan identifies five of these: Creation, Enhancement, Restoration, Conservation and Preservation. Additional factors are used to refine management response for a given reach including lot size, reach length, environmental quality, accessibility, connectivity, etc.

Name	Phone Number	Email Address
Peter Singleton	503-808-2592	psingleton@fs.fed.us

**Organization**  
 US Fores Service Pacific Northwest Research Station

**Description of effort**  
 Regional -scale evaluation of landscape permeability for large carnivores in Washington and adjacent portions of BC and Idaho. Assesses permeability of landscape connectors situated between five concentrations of large carnivore habitat . Intends to provide a consistent measure of estimated landscape permeability across analysis area to support conservation strategies and management pirorities for focal species.

**Completion date**  
 2002

**Jurisdictional Scale**  
 USFS Lands, Washington and Oregon

**Geo or Ecoregional Scale**  
 Statewide

**Geographic Scale**  
 Washington State and bordering areas in Idaho and BC with significant habitat potential

**Goals or Vision**  
 Quantitatively estimate, compare and map the relative potential for animal movement between patches of large carnivore habitat at a regional scale. Focused on focal species survival by addressing strategies to connect meta-populations in BC with smaller populations in US, as Washington populations may not be viable without genetic exchange opportunities. Additional focus on identifying areas where highways intersect potential habitat and linkages between habitat blocks.

**Habitat Classification**  
 GAP land cover/veg class data. Use of Anderson land cover classification system

**Methods and Peer Review**  
 Focal species approach, modelling habitat needs of lynx, grey wolf, grizzly bear and wolverine. Permeability referes to how open to passage the landscape is and the study methods come from literature on connectivity and corridors.

**Stakeholder Involvement**  
 no

**Current Conditions Described**

**Conditions Notes**  
 yes, indirectly - current permeability indices based on index derived from obstacles including vegetation, roads, and landcover.

**Data Description**

GIS weighted distance and least-cost corridor analysis model; Peer reviewed methods that characterize habitat suitability for migratory functions necessary to carnivores. Method recognizes "sources" of carnivore habitat and prioritizes opportunities to connect these with other areas of high potential. Overlay analysis demonstrates areas of potential for multiple species.

**Resolution of Spatial Data**

90 M cells; 1:250,000 vector data

**Data Sources (1)**

1997 WA GAP Data; BTM Veg Cover for BC, 1998; DEM 90 M from USGS/ICBEMP; Human Population Density processed from US Census Block Groups, 1997

**Data Sources (2)**

**Data Sources (3)**

**Data Sources (4)**

**Data Sources (5)**

**Data Sources (6)**

**Metadata**

**Data Gaps**

Analyses were conducted by using regional scale spatial data sets that are effective for evaluating broad scale patterns but should not be expected to provide precise information for specific locations on the ground. Areas identified are not necessarily suitable habitat as other features such as food availability, denning habitats, etc. were not evaluated. Future analysis with higher resolution data may help further characterize condition of opportunity areas.

**Data Access**

**Conservation Targets**

Results highlighted five areas that are available habitat for two or more of the focal species: Southern Cascade Range; North-Central Cascade Range; British Columbia Coast Range; Kettle Monashee Ranges; Selkirk Columbia Mountains; Snoqualmie Pass

**Threats to Target**

**Site Prioritization**

yes - broad patterns

**Monitoring**

**Conservation Strategies**

Name	Phone Number	Email Address
Lynn Palensky	503-222-5161	lpalensky@nwcouncil.org

**Organization**

Lower Columbia Fish Recovery Board

**Description of effort**

Part of Northwest Power and Conservation Council's sub-basin planning effort designed to establish 25 year plans to recover harvestable fish levels in the Columbia System

**Completion date**

2004

**Jurisdictional Scale**

12 Lower Columbia Sub-Basins, including estuary. One of several dozen throughout Columbia Basin

**Geo or Ecoregional Scale**

Regional

**Geographic Scale**

12 Lower Columbia Sub-Basins, including estuary. One of several dozen throughout Columbia Basin

**Goals or Vision**

Recover Washington Lower Columbia salmon, steelhead, and bull trout to healthy, harvestable levels that will sustain productive sport, commercial and tribal fisheries through the restoration and protection of the ecosystems upon which they depend and the implementation of supportive hatchery and harvest practices.

**Habitat Classification**

NA

**Methods and Peer Review**

The TRT (technical recovery team, NOAA Fisheries) reviewed and approved. Three rounds of public comment. In order to ensure consistency in goals, strategies and actions and to eliminate needless duplication of effort, the process integrated planning for Federal Endangered Species Act (ESA) recovery, Northwest Power and Conservation Council (NPCC) fish and wildlife program, and Washington State watershed management and salmon recovery

**Stakeholder Involvement**

The plan is the product of a collaborative process facilitated by the Lower Columbia Fish Recovery Board (LCFRB) and involving federal and state agencies, tribes, local governments, and the public.

**Current Conditions Described****Conditions Notes**

EDT model captures geomorphological conditions. Streamnet GIS data on species abundance at reach level; sub-basin delineations; Streamnet based blockages; land cover from ICBMP

<b>Data Description</b>
Basin plans summarize conditions and opportunities for discovery, much based on expert opinion. Also use "Integrated Watershed Assessment (IWAs), GIS based analyses of disturbance factors that provide a composite score used to rank sub-basins for general habitat conditions. Estuarine habitat, mud flats and salt marsh protection and restoration; maintenance of adequate instream flows; others related to each of harvest, hatcheries, hydropower management.
<b>Resolution of Spatial Data</b>
30 Meters Pixel Vegetation Classification. Manual isoclustering. Plan covers the Lower Columbia in Washington State to Klickitat County. Sub basin plans augment the regional findings, providing prioritizations. This is a subbasin plan and as such, contains additional data at the scale of individual watersheds that comprise the subbasin.
<b>Data Sources (1)</b>
Streamnet - abundance, blockages
<b>Data Sources (2)</b>
ICBMP - Land Cover
<b>Data Sources (3)</b>
Extensive watershed modeling
<b>Data Sources (4)</b>
EDT
<b>Data Sources (5)</b>
<b>Data Sources (6)</b>
<b>Metadata</b>
<input checked="" type="checkbox"/>
<b>Data Gaps</b>
<b>Data Access</b>
<input checked="" type="checkbox"/>
<b>Conservation Targets</b>
Focal aquatic species: Chum, Chinook, Coho Salmon, Steelhead and Bull Trout; other species of concern including migratory waterfowl, fishers, sea lions, and a variety of mammals. Assumption is that other species (lists provided) will benefit from the ecosystem scale recommendations that come from this report.
<b>Threats to Target</b>
Thoroughly covered in the limiting factors analyses provided of each basin. Some geographically explicit threats incorporated into the model.
<b>Site Prioritization</b>
EDT models identify reaches and subbasins with greatest potential to support habitat.

**Monitoring**



**Conservation Strategies**

Conservation strategies and priority actions are provided per each subbasin and watershed. Subbasin reports include inventory of Federal programs that may affect habitat restoration. Actions are proposed with direct linkages to limiting factors.

Name	Phone Number	Email Address
Joe La Tourette	360-902-2247	cwcs@dfw.wa.gov
<b>Organization</b>		
WDFW		
<b>Description of effort</b>		
Statewide initiative to develop a strategy to protect Washington's species and habitats in greatest need of conservation.		
<b>Completion date</b>		
In Process		
<b>Jurisdictional Scale</b>		
Washington State		
<b>Geo or Ecoregional Scale</b>		
Statewide		
<b>Geographic Scale</b>		
Washington State		
<b>Goals or Vision</b>		
Inventories distribution and abundance of priority wildlife in Washington State; identifies essential supporting habitat; identifies problems that may affect these habitats; identifies conservation actions; provides a structure for monitoring actions and results; provides coordination with federal and tribal entities; incorporates public input; provide for review of progress and course correction every 10 years.		
<b>Habitat Classification</b>		
Wildlife habitats defined in Wildlife-Habitat Relationships in Oregon and Washington, 2001.		
<b>Methods and Peer Review</b>		
Currently taking public comment on initial draft.		
<b>Stakeholder Involvement</b>		
Public review of the draft document commenced in June, 2005. Final revisions due to be implemented by October, 2005.		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Uses Priority Habitat & Species data (GIS coverages) to map known habitat extent of priority species.		
<b>Data Description</b>		
Tabular data identifying species of greatest conservation need. Includes fish, birds, amphibians, reptiles and mammals.		
<b>Resolution of Spatial Data</b>		
Data organized by ecoregion.		

<b>Data Sources (1)</b>
PHS Distribution Data
<b>Data Sources (2)</b>
<b>Data Sources (3)</b>
<b>Data Sources (4)</b>
<b>Data Sources (5)</b>
<b>Data Sources (6)</b>
<b>Metadata</b>
<input type="checkbox"/>
<b>Data Gaps</b>
Strategy is not currently a source of spatial data. Summary statistics of prioritized species, threats and recommended conservation actions separated by ecoregion available from website.
<b>Data Access</b>
<input type="checkbox"/>
<b>Conservation Targets</b>
Habitats and species in greatest need of conservation because of a combination of rarity, reduced habitat, natural endemism and threat; poor understanding of current conditions
<b>Threats to Target</b>
Habitat fragmentation, degradation and conversion Exotic species; Water issues; Climate change Disease Pollution
<b>Site Prioritization</b>
NA - will be available via associated Ecoregional Assessments being produced jointly by TNC, WDNR and WDFW.
<b>Monitoring</b>
<input checked="" type="checkbox"/>
<b>Conservation Strategies</b>
Combination of research and survey priorities; broad strategies stated in terms of protecting core habitat areas and improving knowledge of habitat usage by key species; public education. Review strategy every two years to update priority species list. Distinguishes between strategies WDFW and partners can use on public vs. private lands to protect habitat.

Name	Phone Number	Email Address
Doug Meyer		dmeyer@psat.org
<b>Organization</b>		
Puget Sound Action Team		
<b>Description of effort</b>		
<p>A bi-annual effort to identify protection priorities, supporting strategies and budget needs for protecting the Puget Sound ecosystem. Clean up contaminated sites and sediments. Priorities include:</p> <ul style="list-style-type: none"> <li>· Reduce continuing toxic contamination and prevent future contamination.</li> <li>· Reduce the harm from stormwater runoff.</li> <li>· Prevent nutrient and pathogen pollution caused by human and animal wastes.</li> <li>· Protect shorelines and other critical areas that provide important ecological functions.</li> <li>· Restore degraded nearshore and freshwater habitats.</li> <li>· Conserve and recover orca, salmon, forage fish and groundfish.</li> </ul>		
<b>Completion date</b>		
December, 2004, Reviewed Bi-annually		
<b>Jurisdictional Scale</b>		
Puget Sound and bordering counties		
<b>Geo or Ecoregional Scale</b>		
Regional		
<b>Geographic Scale</b>		
Puget Sound and adjacent nearshore environments		
<b>Goals or Vision</b>		
Work toward the restoration of ecosystem processes that support Puget Sound and its resident wildlife and ensure the health of the system.		
<b>Habitat Classification</b>		
NA		
<b>Methods and Peer Review</b>		
Support of local agencies and tribal representatives who provided input on the priorities.		
<b>Stakeholder Involvement</b>		
See Methods		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Relies on existing monitoring protocols including PSAMP; shelfish monitoring and other surveys that are part of the State of the Sound Report.		
<b>Data Description</b>		
Citations and references to a variety of studies related to the priority areas. The Conservation plan does not involve primary data analysis. Plan does direct agency to collaborate with other agencies on data development and research. Includes updating of		

Puget Sound Ambient Monitoring Program which monitors chemical contamination of Puget Sound seafood.

**Resolution of Spatial Data**

NA

**Data Sources (1)**

**Data Sources (2)**

**Data Sources (3)**

**Data Sources (4)**

**Data Sources (5)**

**Data Sources (6)**

**Metadata**

**Data Gaps**

**Data Access**

**Conservation Targets**

Performance related targets attached to each of the priority areas listed in Description section. These are all largely policy related, achieved through public education, partnerships with other agencies and NGOs and policy reform/advocacy.

**Threats to Target**

Summarized in State of the Sound report, 2004. Include failed septic, continued shoreline development and modification; invasive species; historical contamination.

**Site Prioritization**

Identifies broad geographic areas, particularly Hood Canal as immediate priorities for action.

**Monitoring**

**Conservation Strategies**

Coordinate policy actions among Action Team partners in local government.

Name	Phone Number	Email Address
Zach Ferdana	206-343-4345	zferdana@tnc.org

**Organization**  
 The Nature Conservancy, WDFW, WDNR

**Description of effort**  
 Analyses to identify a set of conservation areas (i.e., an ecoregional portfolio) that, if conserved, will protect a representative subset of the nearshore marine biodiversity of those waters.

**Completion date**  
 2003

**Jurisdictional Scale**  
 None

**Geo or Ecoregional Scale**  
 Regional

**Geographic Scale**  
 Primarily Puget Sound-Georgia Basin or Puget Trough marine and nearshore environments to a depth of 40 meters

**Goals or Vision**  
 Identify the most important sites supporting marine biodiversity throughout Puget Sound.

**Habitat Classification**  
 Coarse filter phase classifies physical shoreline conditions using geomorphological system and a generalized typology for modifications.

**Methods and Peer Review**  
 Expert review involved regional scientists with varying disciplinary expertise in marine ecology and Puget Sound systems. They were asked to critique data and preliminary results and to provide feedback on critical areas identified in the modeling phase. Additional data on more than 130 species targets was gathered and synthesized then processed in a spatial model using heuristics to prioritize regions based on biodiversity metrics.

**Stakeholder Involvement**

**Current Conditions Described**

**Conditions Notes**  
 Conditions data synthesized from a wide range of physical habitat data with widely varying dates of origin.

**Data Description**  
 Analysis produces a portfolio of spatially explicit sites via a combination of data-driven models and expert opinion to develop a conservation portfolio

**Resolution of Spatial Data**

Analysis identified both "coarse filter" and "fine filter" conservation targets. Coarse filter data summarized by shoreline segment (length varies). Fine filter summarized at 750 hectare hexagons.

**Data Sources (1)**

Shorezone - Washington State

**Data Sources (2)**

Shoreline Data - British Columbia

**Data Sources (3)**

Protected areas and public tidal/subtidal lands

**Data Sources (4)**

Many others defining distribution of species of concern and measures of human disturbance

**Data Sources (5)**

Forage fish spawning areas

**Data Sources (6)**

occurrences of declining invertebrates as identified in expert workshops

**Metadata**

**Data Gaps**

Fine filter targets were defined from expert opinion and from lists of species of concern for which data existed to model distributions and known habitats. Prioritizations are based on these identified focal species and do not represent all marine biodiversity native to Puget Sound - Georgia Basin. No data on sub-tidal systems and organisms were deemed adequate to analyze for the EA. Very limited invertebrate data. Rockfish data were sampled at depths of less than 40 meters. Numerous additional caveats and species specific data limitations detailed in metadata.

**Data Access**

**Conservation Targets**

Coarse filter targets are marine habitat systems, primarily nearshore habitat types classified using primarily geomorphological and substrate based systems defined in British Columbia and Washington. Fine filter targets are specific species and their supporting habitats, including included rockfish and lingcod, forage fish (herring, sand lance, surf smelt), seabirds and shorebirds, marine mammals, and some invertebrates. Conservation goals set dynamically for habitats and species at both filters, using some expert chosen percentages of current existing or historically assumed extent.

**Threats to Target**

Permitted uses within existing protected areas; degradation of nearshore habitats and attendant land use change

**Site Prioritization**

Based on SITES modelling technique. Spatial model aggregating species occurrence and abundance data at the scale of 750 hectare hexagons. Portfolio sites identified as key to achieving minimum representation goals. Also explicitly accounts for "cost" as defined by site condition.

**Monitoring**

**Conservation Strategies**

Ecoregional plan to be used as a guide for acquisition strategy and coordination with agencies for conserving and restoring key areas of Puget Sound.

Name	Phone Number	Email Address
Katherine Brooks	253-798-3181	kbrooks@co.pierce.wa.us

**Organization**  
Pierce County

**Description of effort**  
Developed as part of the county open space plan, the biodiversity plan uses GAP methodology to map the distribution and extent of priority habitats within the county.

**Completion date**  
2004

**Jurisdictional Scale**  
Pierce County

**Geo or Ecoregional Scale**  
Local

**Geographic Scale**  
Pierce County and slightly larger

**Goals or Vision**  
To ensure that Pierce County biodiversity is accounted for and plans are made for conservation within the open space comprehensive planning process. Part of a broader effort to apply GAP analysis to county planning efforts statewide.

**Habitat Classification**  
WAGAP vegetation cover

**Methods and Peer Review**  
Relied on GAP staff expertise and developed habitat suitability models.

**Stakeholder Involvement**  
In addition to the public mandate supported by open space planning, listed stakeholders include: Washington Department of Fish and Wildlife, University of Washington (Department of Urban Design and Planning - Remote Sensing Applications Laboratory and Cooperative Fish and Wildlife Unit - NatureMapping Program), Tahoma Audubon, and Metro Parks - Tacoma.

**Current Conditions Described**

**Conditions Notes**  
Current land conditions as defined by 1991 WAGAP classification; species distribution defined based on same.

**Data Description**  
Analysis begins by creating a current vegetation map. From that, distribution of wildlife species is derived and areas of high biodiversity are identified. The map is refined or ground-truthed with any and all known plant community and wildlife occurrences from WDFW's Priority Habitats and Species and Streamnet databases, the Department of Natural Resources' Heritage and Sensitive Plant Species databases, county natural resource inventories, and local expert biological opinion. These core habitat areas are connected by corridors of habitat, which are often located along waterways. The resulting coverage is the Biodiversity Network. The final Biodiversity Network identifies 16 biologically rich areas and connecting corridors that cover 267,784 acres of land.

<b>Resolution of Spatial Data</b>
30 Meter cells and 100 hectare minimum mapping unit (see WAGAP description)
<b>Data Sources (1)</b>
PHS - WDFW
<b>Data Sources (2)</b>
Streamnet
<b>Data Sources (3)</b>
Natural Heritage - WDNR
<b>Data Sources (4)</b>
WAGAP Land Cover (1991)
<b>Data Sources (5)</b>
GAP derived habitat models
<b>Data Sources (6)</b>
<b>Metadata</b>
<input type="checkbox"/>
<b>Data Gaps</b>
<b>Data Access</b>
<input type="checkbox"/>
<b>Conservation Targets</b>
Focused on multiple species and locations which support them. Attempts to proactively avoid responses to single species problems by taking a multi-species approach.
<b>Threats to Target</b>
<b>Site Prioritization</b>
Identify areas of high biodiversity potential via GAP analysis techniques aimed at mapping species richness. Identify a biodiversity network of Biodiversity Management Areas and Connectors.
<b>Monitoring</b>
<input checked="" type="checkbox"/>
<b>Conservation Strategies</b>
Appears to be some monitoring pilot projects designed to help implement strategies to outreach to private landholders and to collect newer, better information on local distribution of species of concern. Small groups of citizen volunteers are being trained to do field surveys aimed at quantifying existence of predicted species in habitats.

Name	Phone Number	Email Address
John Gammon	360-902-1667	john.gamon@wadnr.gov
<b>Organization</b>		
WDNR		
<b>Description of effort</b>		
Biannual report required to guide state policies for Natural Areas Program. NAP selection driven by presense of priority habitats and species. Among other things, the plan attempts to identify priority ecosystems and species for protection and to delineate the roles of various agencies in protecting these resources.		
<b>Completion date</b>		
2003, updated 2005		
<b>Jurisdictional Scale</b>		
Washington State		
<b>Geo or Ecoregional Scale</b>		
Statewide		
<b>Geographic Scale</b>		
Washington State		
<b>Goals or Vision</b>		
Ensure the state's unique and extraordinary biological resources are protected. Tracks progress in obtaining protection for priority species and habitats via public and private mechanisms in each of the state's ecoregions. Sets goals for protection of key ecosystem types per ecoregion.		
<b>Habitat Classification</b>		
Relies on state designated priority habitats and species, a discrete list maintained by WDFW ( <a href="http://wdfw.wa.gov/hab/phslist.htm">http://wdfw.wa.gov/hab/phslist.htm</a> ). Utilizes ecoregional designations established by WDFW and used in the Ecoregional Assessments and the Wildlife Conservation Strategy.		
<b>Methods and Peer Review</b>		
NA		
<b>Stakeholder Involvement</b>		
Collaboration with public and private entities focused on land protection.		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Uses PHS data for prioritizing. Current conditions of protected status updated biannually.		
<b>Data Description</b>		
Tabular data (derived from PHS) associating the occurrence of priority species within ecoregions. Also tracks the number of plant and animal species protected by the Natural Areas Program per ecoregion. Spatial data obtained from WDFW.		

<b>Resolution of Spatial Data</b>
NA
<b>Data Sources (1)</b>
PHS Data
<b>Data Sources (2)</b>
Natural Heritage Data
<b>Data Sources (3)</b>
<b>Data Sources (4)</b>
<b>Data Sources (5)</b>
<b>Data Sources (6)</b>
<b>Metadata</b>
<input checked="" type="checkbox"/>
<b>Data Gaps</b>
<b>Data Access</b>
<input checked="" type="checkbox"/>
<b>Conservation Targets</b>
Plan offers definitions of biodiversity and statistical data on species variety in Washington State for the purposes of quantifying conservation targets aimed at preserving as much of the historical abundance of these as possible. Specifically prioritizes 250 of more than 800 plant communities inventoried in the State.
<b>Threats to Target</b>
Evaluates threat in terms of habitat destruction, invasive species and management strategies, including fire and resource extraction. Also isolation and fragmentation of remaining habitat.
<b>Site Prioritization</b>
<b>Monitoring</b>
<input checked="" type="checkbox"/>
<b>Conservation Strategies</b>
Combination of state acquisitions, coordination with recreational programs and private landowner incentive programs all designed to confer protection of various degrees of permanence to priority species and habitats. Private landowner education on stewardship.

Name	Phone Number	Email Address
Dave Christensen	360-379-4450	

**Organization**  
Jefferson County

**Description of effort**  
Jefferson County initiated the identification of important wildlife habitat units in an effort to protect and enhance key wildlife habitat areas and corridors linking wildlife habitat in eastern Jefferson County.

**Completion date**  
March 2004

**Jurisdictional Scale**  
Eastern Jefferson County

**Geo or Ecoregional Scale**  
Local

**Geographic Scale**  
Eastern Jefferson County - non federal lands

**Goals or Vision**  
The objectives of this project are to facilitate public education and involvement in wildlife conservation in eastern Jefferson County and to advance official (legislative) involvement in wildlife conservation. Four principle goals of the effort include:  
.To provide protection of biodiversity in eastern Jefferson County, with particular attention to wildlife species of significance  
.To identify for enhancement or restoration areas that have the potential to become valuable wildlife habitat areas  
.To make specific management recommendations for core habitat areas and corridors where possible  
.To maintain habitat values and quality in a way that preserves existing property rights

**Habitat Classification**  
Used Johnson and O'neil (2001) to predict distribution of species classes. Land use data containing the following classifications supported designation of core areas: The natural environment is composed of coniferous, deciduous, and mixed forest ranging in age from sapling to mature (>100 years), but mostly in young (<20 years) and mid-aged (20-80 years) stands; recent clear cuts and plantations; palustrine open water (POW), emergent (PEM), scrub-shrub (PSS), and forested (PFO) wetlands; meadows and pastureland; streams and riparian zones; estuaries; and shorelines. Land uses in the project area include residential, commercial, and rural development; light industry; mining; parks and open space; agriculture; and forestry.

**Methods and Peer Review**  
Delineation of core areas in three hierarchical categories that qualify habitat quality for select species. Corridors were defined as riparian zones connecting two core areas.

**Stakeholder Involvement**

**Current Conditions Described**

**Conditions Notes**

**Data Description**  
Relied on PHS and Heritage data to map known occurrences of priority species in E. Jefferson County. Added to this manual delineations of areas of concern to federally listed species. Some attribute analysis performed to classify areas into one of three core groups according to the intactness of native habitat conditions.

**Resolution of Spatial Data**  
NA

**Data Sources (1)**  
PHS predicted distribution

**Data Sources (2)**  
Heritage Data (plants)

**Data Sources (3)**  
NWI Wetlands

**Data Sources (4)**  
Jefferson County Land Use Comp Plan

**Data Sources (5)**  
Manually delineated habitats within PHS areas derived from aerial photos.

**Data Sources (6)**

**Metadata**

**Data Gaps**  
NA

**Data Access**

**Conservation Targets**  
NA

**Threats to Target**  
NA

**Site Prioritization**

Establishment of core areas and corridors provides some prioritization and guidance regarding relevant conservation actions.

**Monitoring**

**Conservation Strategies**

Report recommends management strategies in response to habitat goals loosely defined for each core area. These may include revised forestry practices; new riparian management strategies; wetland management strategies; Areas suitable for restoration based on evaluative criteria established in analysis phase are also identified.

Name	Phone Number	Email Address
No individual available - See contacts website		<a href="http://www.fs.fed.us/r5/nwfp/contact">http://www.fs.fed.us/r5/nwfp/contact</a>
<b>Organization</b>		
US Forest Service		
<b>Description of effort</b>		
Plan to manage 24 million acres of forest land in Washington, Oregon and California. Ecosystem based approach to managing forests with greater consideration of biodiversity, including an aquatic conservation strategy, reserve plans for key endangered species. Includes a socio-economic component aimed at supporting rural, timber dependent communities.		
<b>Completion date</b>		
2003 - updated in in 2003 with reports on progress		
<b>Jurisdictional Scale</b>		
Federal timber lands in Oregon, Washington and Northern California.		
<b>Geo or Ecoregional Scale</b>		
Regional		
<b>Geographic Scale</b>		
Regional - Federal Lands		
<b>Goals or Vision</b>		
NWFP has broadly stateid goals: Cooperative planning, improved decision making, and coordinated implementation of the forest ecosystem management component of the NWFP on Federal lands within the range of the northern spotted owl. AND Improved coordination and collaboration with State, Tribal, and local governments as they seek to implement management approaches that support or complement the goals of the NWFP.		
<b>Habitat Classification</b>		
Numerous		
<b>Methods and Peer Review</b>		
Management standards and practices were thoroughly vetted by science teams in the development of the NWFP.		
<b>Stakeholder Involvement</b>		
NWFP went through EIS development which involved two years of public input and stakeholder interaction.		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Aquatic strategy prioritizes sub-watersheds of particular importance to supporting salmon and othe aquatic organisms;		
<b>Data Description</b>		
NWFP provides access to significant spatial data constrained to federally owned forestlands		

**Resolution of Spatial Data**

Wide range of data sets; variety of remotely sensed data and vegetation classifications, mostly at 30 meter pixel resolution.

**Data Sources (1)**

Forest Stand Age

**Data Sources (2)**

Conifer Percentage Coverage

**Data Sources (3)**

Late Successional Reserve and Additional Mgmt Designations

**Data Sources (4)**

Prioritized Aquatic Reserve Areas

**Data Sources (5)**

Various Veg Classifications supporting change analysis

**Data Sources (6)**

Critical habitat areas for spotted owls, murrelets and other at risk species

**Metadata****Data Gaps****Data Access****Conservation Targets**

Protection of old growth forest, as variably defined according to ecoregional characteristics. Protection of rare and endangered species (spotted owl, marbled murrelet); adaptive management approach to surveying and monitoring plant species such as lichens and broad leaves.

**Threats to Target**

Timber practices, endangered species invasions, fire.

**Site Prioritization**

Aquatics plan identifies sub-basins providing particularly good habitat to freshwater species and prescribes rigorous riparian practices in these areas;

**Monitoring****Conservation Strategies**

Improved timber management practices; altered harvest practices in critical areas; ongoing monitoring. Adherence to the standards and guidelines published in the plan to ensure forestry practices support ecosystem and habitat goals.

Name	Phone Number	Email Address
<b>Organization</b>		
USFS and US BLM		
<b>Description of effort</b>		
Develop a scientifically sound and ecosystem based strategy for forest and rangelands administered by the Forest Service and Bureau of Land Management in the interior Columbia River basin and portions of the Klamath and Great Basins.		
<b>Completion date</b>		
1997		
<b>Jurisdictional Scale</b>		
64 million acres of Federal Forest land of the Interior Columbia Basin, including portions of Washington, Oregon and Idaho		
<b>Geo or Ecoregional Scale</b>		
Regional		
<b>Geographic Scale</b>		
Interior Columbia Basin, including portions of Washington, Oregon and Idaho		
<b>Goals or Vision</b>		
Goals include establishing multi-scale frameworks for ecosystem management of the basins; provide scientific assessments of biophysical conditions of the basin; facilitate cooperation on implementation between governments and tribes.		
<b>Habitat Classification</b>		
Omernik and Bailey ecoregional classification system; Model developed to simulate vegetation successions throughout the ecoregions of the Basin.		
<b>Methods and Peer Review</b>		
Scientific team within agencies; models received extensive peer review. Some data, including hotspot designation and other indicators derived from Peer workshops. Scientific advisory group oversees report production and recommendation process.		
<b>Stakeholder Involvement</b>		
Extensive public process involving two EIS and more than 83,000 public comments.		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Conditions for vegetation, species etc. derived largely from expert opinion, remote sensing and some spatial analysis current as of mid 1990s.		
<b>Data Description</b>		
ICEBMP has produced more than 300 spatial data sets. Most data are current through the mid-1990s and are grouped thematically to cover topics such as demographics, disturbance from fires, weeds and human development; fisheries distribution; species distribution; areas of concern for biodiversity; potential and extant habitats and		

vegetation, etc. Data available at: <http://www.icbemp.gov/spatial/html/gis-theme.shtml>

**Resolution of Spatial Data**

Widely varied; AVHRR is 1 KM; also at 1:24,000

**Data Sources (1)**

Numbering in the 100s.

**Data Sources (2)**

AVHRR - for veg classifications

**Data Sources (3)**

Analytical products such as road density analysis and population projection models

**Data Sources (4)**

Historical habitat models

**Data Sources (5)**

**Data Sources (6)**

**Metadata**

**Data Gaps**

**Data Access**

**Conservation Targets**

Scientific data intended to directly support land management decision making. Project has led to Columbia Basin Strategy, published in 2003: A Strategy For Applying The Knowledge Gained By The Interior Columbia Basin Ecosystem Management Project To The Revision Of Forest And Resource Management Plans And Project Implementation

**Threats to Target**

Management practices; invasive species; human disturbance

**Site Prioritization**

None

**Monitoring**

**Conservation Strategies**

None

Name	Phone Number	Email Address
Andrea Copping	360.428.1084	info@nwstraits.org

**Organization**

Northwest Straits Commission

**Description of effort**

The overall goal of this project was to evaluate nearshore habitat conditions in the Northwest Straits region by compiling, organizing, and analyzing existing nearshore habitat and resource datasets.

Specifically it evaluates nearshore habitat for salmon and forage fish in order to assign priorities for restoration and conservation. The results intend to accomplish the following:

- Assist the MRCs in compiling existing datasets characterizing nearshore habitats - Identify gaps in nearshore habitat information
- Identify high priority areas for habitat restoration or increased levels of conservation
- Integrate longer-term data collection efforts throughout the region

**Completion date**

2002

**Jurisdictional Scale**

Intended to provide each Marine Resources Committee in the seven counties of the Northwest Straits Counties (Whatcom, Skagit, Snohomish, Island, San Juan, Clallam and Jefferson).

**Geo or Ecoregional Scale**

Regional

**Geographic Scale**

Northern Straits Counties

**Goals or Vision**

Provide a general overview of nearshore habitat conditions. Information such as sub- and intertidal vegetation, shoreline modifications, tributary stream locations, and shellfish, marine mammal, seabird, and fish distributions are interspersed over four maps.

**Habitat Classification**

Use of shorezone for shoreline geomorphology and built structures. Separate typologies provide characterizations of physical, biological, and anthropogenic features on shorelines.

**Methods and Peer Review**

Inventory and prioritization received input from Technical Advisory Group (TAG) consisting of reps from state and county agencies and the University of Washington. Analytical methods utilize focal species approach assuming habitat management goals will bring broadly beneficial impacts to other nearshore systems.

**Stakeholder Involvement**

MRC public meetings to gather local input on prioritizations.

**Current Conditions Described****Conditions Notes**

Provides a regional scale inventory of vegetation and sub-tidal habitats, degree of anthropomorphic impact; distribution of key marine species including shellfish, forage fish spawning sites, rock fish and sea lions.

**Data Description**

Nearshore habitat characterization maps by county; Potential conservation and potential restoration maps by county and species. The datasets used for these analyses were limited to regional coverages given the large project area. However, it is expected that the MRCs will incorporate existing and new local and/or site-specific information into these analyses to address their individual restoration and/or conservation goals.

**Resolution of Spatial Data**

Considered a regional analysis, the report cautions against local use without the addition of locally gathered data. Multiple regional data sets obtained from state agencies are listed in appendix. Most maps intended to be reviewed at a scale of 1:75,000. Interpretation at a smaller scale would require refinements to the analysis process as well as the input data. The results are qualitative in nature despite having a numeric value. They are more useful in comparing the shorelines of a single MRC than in making comparisons between MRCs.

**Data Sources (1)**

Washington Shorezone

**Data Sources (2)**

WDFW PHS

**Data Sources (3)**

WDFW Streamnet

**Data Sources (4)**

WDFW Rockfish

**Data Sources (5)**

WDFW Sealion Atlas

**Data Sources (6)**

PSAMP

**Metadata****Data Gaps**

Appendix lists data gaps identified by inventory. The following list represents lapses in information common to nearshore datasets in general:

- A lack of complete coverage by region and county exists in most of the available nearshore habitat data. Only a few datasets cover the entire Northwest Straits region (i.e., ShoreZone) or an entire county. Most of the identified datasets cover only a portion of the region and/or county of interest.
- The regional datasets are limited in resolution at specific sites (i.e., +/- 0.25 miles).
- There is limited knowledge of species-habitat associations for marine species, especially rockfish. Species-habitat associations are important for determining the effect of impaired habitat condition on biological resources. Additional review of gaps in habitat data, distribution data, survey locations of forage fish to support interpretation of distribution data

**Data Access**



**Conservation Targets**

Prioritization of sites for multi-species use.

**Threats to Target**

Continued nearshore habitat degradation through development; loss of species.

**Site Prioritization**

Based on a combined scoring system considering qualitative habitat condition and influence of built structures. Results classified as restoration or conservation priorities.

**Monitoring**



**Conservation Strategies**

Conservation and restoration strategies are generally referenced. Inventory intended to guide MRC activity and work to establish Marine Protected Areas. See MRC plans for more strategy directions.

Name	Phone Number	Email Address
Karen Dvornitch	206- 616-2031	vicon@u.washington.edu
<b>Organization</b>		
Washington GAP		
<b>Description of effort</b>		
The overall goal of Gap Analysis is to identify elements of biodiversity that lack adequate representation in the nation's network of reserves (i.e., areas managed primarily for the protection of biodiversity). Gap Analysis is a coarse-filter approach to biodiversity protection. It provides an overview of the distribution and conservation status of several components of biodiversity, with particular emphasis on vegetation and terrestrial vertebrates		
<b>Completion date</b>		
1991		
<b>Jurisdictional Scale</b>		
None		
<b>Geo or Ecoregional Scale</b>		
Statewide		
<b>Geographic Scale</b>		
Washington		
<b>Goals or Vision</b>		
Essential goal of the National GAP program is to identify elements of biodiversity that lack adequate representation in the nation's network of reserves. WA GAP provides GIS data that predicts the potential extent of habitat for a wide variety of species based on vegetation types. Analyses are used to identify vegetation types, individual species, and species-rich areas that are unrepresented or underrepresented in existing biodiversity management areas.		
<b>Habitat Classification</b>		
Manual delineation and classification of primary, secondary and tertiary vegetation communities. Species distribution coverages available for reptiles, amphibians, and birds based on modeled relationships that account for vegetation cover and ecoregional character. GAP is considered a coarse scale tool for biodiversity protection, focused primarily on terrestrial vertebrates and plants.		
<b>Methods and Peer Review</b>		
Unsupervised cluster analysis followed by manual delineations of and assignments of vegetation values to clustered polygons.		
<b>Stakeholder Involvement</b>		
Unknown		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
1991 only; no subsequent revisions		

**Data Description**

Species distribution models based on combination of vegetation data derived from imagery classification and combined spatial data including elevation, roads and infrastructure.

**Resolution of Spatial Data**

30 meter TM image; unsupervised classification and manual editing of vegetation communities; minimum mapping unit 100 hectares used in species distribution models which rely on classified vegetation maps.

**Data Sources (1)**

1991 TM images; vegetation classes in 31 categories

**Data Sources (2)**

Museum Data on Observations

**Data Sources (3)**

Literature

**Data Sources (4)****Data Sources (5)****Data Sources (6)****Metadata****Data Gaps**

The static nature of the Gap Analysis data limit their utility in conservation risk assessment. The database provides a snapshot of a region in which land cover and land ownership are dynamic and where trend data would be especially useful.

Gap Analysis is not a substitute for a thorough national biological inventory. As a response to rapid habitat loss, Gap Analysis is intended to provide a quick assessment of the distribution of vegetation and associated species before they are lost and to provide focus and direction for local, regional, and national efforts to maintain biodiversity. The process of improving knowledge in systematics, ecology, and distribution of species is lengthy and expensive. That process must be continued and expedited in order to provide the detailed information needed for a comprehensive assessment of the nation's biodiversity.

Gap Analysis is a coarse-filter approach. The network of Conservation Data Centers (CDC) and Natural Heritage Programs established cooperatively by The Nature Conservancy and various state agencies maintain detailed databases on the locations of rare elements of biodiversity. Conservation of such elements is best accomplished through the fine-filter approach of the above organizations. It is not the role of Gap to duplicate or disseminate Natural Heritage Program or CDC Element Occurrence Records. Users interested in more specific information about the location, status, and ecology of populations of such species are directed to their state Natural Heritage Program or CDC.

**Data Access**



**Conservation Targets**

Areas of species richness receiving limited protection via existing reserves. Conservation priorities were based on land cover and breeding terrestrial vertebrate distributions.

**Threats to Target**

Human conversion and development of remaining habitat types is the primary threat identified in GAP analyses. No data are provided to explicitly map threat.

**Site Prioritization**

Vegetation types -- aggregates of specific vegetation, vegetation zone and ecoregion -- are evaluated for their level of current protection. Similarly, predicted species distribution data are used to evaluate the proportion of predicted habitats under protection. Priorities for future protection may be selected based on the results of this combined analysis.

**Monitoring**



**Conservation Strategies**

Name	Phone Number	Email Address
Robin Clark	206-382-7007	rclark@pugetsound.org

**Organization**  
 People For Puget Sound and Skagit County Marine Resources Committee

**Description of effort**  
 This tool incorporates best available information into a GIS-based spatial nearshore habitat analysis, and prioritizes specific on-the-ground actions and projects based on biological information, social, political, and economic constraints. The strength of the Skagit Bays Blueprint project lies in the partnerships developed in the feasibility study phase that can lead to on-the-ground projects.

**Completion date**  
 2004

**Jurisdictional Scale**  
 None - though contributes to the work of the Marine Resources Council

**Geo or Ecoregional Scale**  
 Local

**Geographic Scale**  
 Northern Bays of Skagit County--approximately 60 miles of shoreline from the northern Skagit county line, through Samish Bay, around Samish Island, through Padilla Bay, into Fidalgo Bay, and along the southern side of Guemes Channel.

**Goals or Vision**  
 Assist the Marine Resources Council in compiling existing datasets characterizing nearshore habitats, and  
 Identify high priority areas for specific on-the-ground habitat restoration or increased levels of conservation actions and projects.

**Habitat Classification**  
 5 models that describe the relationship between habitat features and indicators of habitat quality based on the best available science for the relationship between marine nearshore habitats and key ecosystem processes and nearshore-dependent species in Puget Sound. The five models characterized nearshore habitat for (1) Forage fish spawning (species group), (2) Juvenile salmonid use of nearshore (species group), (3) Aquatic vegetation (species group/ecosystem process), (4) Birds that depend on marine shoreline and features, and (5) Sediment Supply to the nearshore (ecosystem process).

**Methods and Peer Review**  
 Expert review involved regional scientists with varying disciplinary expertise in marine ecology and Puget Sound systems. Also included input from participants in the PSNERP Technical Workshop and the PSNERP Nearshore Science Team.

**Stakeholder Involvement**  
 A collaborative effort with members of the Skagit County Marine Resources Committee and public agencies such as Skagit County Public Works and the City of Anacortes.

**Current Conditions Described**

**Conditions Notes**

Current habitat characterizations focused on the physical, biological, and anthropogenic features of the nearshore that define or affect the condition or function of nearshore habitats. For example, physical features and some biological attributes, such as vegetation, of the nearshore environment define the habitat setting that determines which species occupy an area. Similarly, individual species distributions indicate areas currently meeting the habitat requirements of that species. Furthermore, nearshore modifications including bulkheads, docks, and piers directly affect nearshore processes and the ecology of nearshore species.

**Data Description**

GIS datasets: Coastal Zone Atlas of Washington between 1978 and 1980 Slope Stability, The Washington Department of Ecology and Western Washington University Drift-Cells, 1992 Puget Sound Environmental Atlas, StreamNet, and WDNR's ShoreZone Inventory. Photo inventory using 2000 DOE Oblique Shoreline Photographs

**Resolution of Spatial Data**

A variety of scales; minimum 1000 feet shoreline segments loosely defined by the WA DOE oblique shoreline photos

**Data Sources (1)**

WDNR's ShoreZone

**Data Sources (2)**

2000 DOE Oblique Shoreline photo

**Data Sources (3)**

WA DOE Drift-Cells

**Data Sources (4)**

StreamNet

**Data Sources (5)**

PSAMP

**Data Sources (6)**

WA DOE Slope Stability

**Metadata**

**Data Gaps**

Habitat conditions for target species and key habitat forming processes were defined from expert opinion, best available science, and from data that existed to model distributions and known habitats.

**Data Access**

**Conservation Targets**

Forage fish spawning (species group)  
 Juvenile salmonid use of nearshore (species group)  
 Aquatic vegetation (species group/ecosystem process)  
 Sediment Supply to the nearshore (ecosystem process)  
 Birds that depend on Marine Shorelines and Features (species group)

**Threats to Target**

Human landuse practices like agriculture, impermeable surface, shoreline structures like bulkheads, jetties, groins, dikes, and levees.

**Site Prioritization**

High ranking ( $\geq$  top 20%) sites for conservation and restoration based on important habitat characteristics were selected. Once selected, the ease of completing restoration or conservation projects were defined by combining the attributes of landscape ecology with social, economic, cultural, and political principles. In areas where cost is minimal, permission is attainable, and projects easily sustained and monitored, we assign high values; however, this model does not replace the very important local-level contact and on-the-ground verification steps. Feasibility criteria worksheets were used to capture local knowledge and site visits information. Three types of projects were identified: conservation, restoration, and restoration through education.

**Monitoring**

**Conservation Strategies**

A tool to be used as a guide to develop and request funds for restoration, education and conservation projects; a strategy and coordination tool that builds partnerships with agencies and the public for conserving and restoring key areas of Skagit County.

Name	Phone Number	Email Address
Elizabeth Gray	206-343-4345	egray@tnc.org

**Organization**  
 The Nature Conservancy, The Nature Conservancy of Canada, WDFW

**Description of effort**  
 The EA is an approximation of the important places for conserving native species and ecosystems in the most highly developed region of the Pacific Northwest: the lowlands of Oregon’s Willamette Valley, Washington’s Puget Trough, and British Columbia’s Georgia Basin.

**Completion date**  
 2003

**Jurisdictional Scale**  
 None

**Geo or Ecoregional Scale**  
 Regional

**Geographic Scale**  
 Puget - Willamette - Georgia Ecoregion

**Goals or Vision**  
 This assessment is intended to help conservation agencies, planners and organizations direct their resources to the most important places for supporting the ecoregion’s biodiversity. It describes a portfolio of priorities. It is a guide for prioritizing work on the conservation of habitats that support the ecoregion’s extraordinary biological diversity, conservation areas that are of exceptional biological value and are the most likely places for conservation to succeed based on their current condition, land use and other factors

**Habitat Classification**  
 Plant community data used to establish targets derived from the synthesis of numerous habitat models and data sets including imagery classification and specific heritage and PHS data sets obtained from state agencies and university research efforts.

**Methods and Peer Review**  
 The Oregon State Natural Heritage Information Center, the Natural Heritage and Nearshore Habitat programs of the Washington Department of Natural Resources, and the British Columbia Conservation Data Centre are major contributors of technical expertise and data. EA is done using numerous expert workshops to refine use and interpretation of data. Three review teams contributed to the terrestrial section; one to the marine section and one to the freshwater section. Method utilizes SITES model to implement coarse filter assessment of numerous target habitats and species to identify a portfolio of locations which, if protected, would appear to ensure protection for biodiversity at large.

**Stakeholder Involvement**  
 Multiple expert workshops

**Current Conditions Described**

**Conditions Notes**

Conditions data synthesized from a wide range of physical habitat data with widely varying dates of origin.

**Data Description**

Appendix includes thorough list of primary raw and processed data sets. TM imagery in British Columbia contributed to land cover; NLCD in Oregon and Washington 1999. Oregon vegetation data from University of Oregon. PHS and Heritage data in Washington.

**Resolution of Spatial Data**

Analysis identified both "coarse filter" and "fine filter" conservation targets. Fine filter summarized at 750 hectare hexagons.

**Data Sources (1)**

**Data Sources (2)**

**Data Sources (3)**

**Data Sources (4)**

**Data Sources (5)**

**Data Sources (6)**

**Metadata**

**Data Gaps**

While conservation of these priority areas is vitally important for the biodiversity of this ecoregion, the portfolio is not sufficient to sustain all the native species that survive in the ecoregion today. First, it does not include full treatment of freshwater species and ecosystems, and its marine analysis does not include deepwater environments. Second, over half the targets selected for this assessment have been reduced to such small remnants that their long term survival in this ecoregion may be in question. In some cases, this reflects an incomplete survey of the ecoregion, but for the vast majority, it reflects the widespread loss of historic habitat and the highly altered nature of that which remains.

**Data Access**

**Conservation Targets**

Hundreds of targets are established derived from species and habitats measured in available data at the regional scale. Goals which provide quantitative objectives for protection to each of these habitats are established following the SITES analysis and expert input. The results provide geographically explicit target areas. This EA includes 372 priority conservation areas with a combined area of 1,264,000 hectares (ha) (3,122,080 acres [ac]), representing 23 percent of the ecoregion's total area. Thirty-

nine shoreline segments totaling 89 kilometers (km) (55 miles [mi]) are also included. The portfolio includes the last places where many of the ecoregion's most imperiled species occur and the last, large expanses of relatively intact natural habitat. The sites included here are those regarded as having the highest likelihood of successful conservation according to the suitability factors utilized in the assessment.

**Threats to Target**

NA

**Site Prioritization**

Portfolio provides spatially explicit locations in ecoregion that best ensure protection of the broad representation of biodiversity represented in the targets/goals.

**Monitoring**

**Conservation Strategies**

NA

Name	Phone Number	Email Address
Ian Sinks	360-696-0131	isinks@colimbialandtrust.org
<b>Organization</b>		
Columbia Land Trust		
<b>Description of effort</b>		
Coarse scale prioritization of areas where Trust should focus efforts in order to best ensure protection of biodiversity, salmon habitat and signature landscapes known and recognized by residents of the Columbia Gorge.		
<b>Completion date</b>		
2005		
<b>Jurisdictional Scale</b>		
None		
<b>Geo or Ecoregional Scale</b>		
Regional		
<b>Geographic Scale</b>		
Lower Columbia Estuary to the arid sage steppe habitats of eastern Washington and Oregon. Covers parts of three distinct ecoregions.		
<b>Goals or Vision</b>		
To synthesize available data and to identify conservation goals that support the Trust as it seeks to use best available science in its work; to ensure Trust is making strategic decisions to steer limited resources and acquisition work in places where it will make the strongest impact.		
<b>Habitat Classification</b>		
Utilized several existing land cover data sets, including NOAA C-CAP program and University of Oregon vegetation mapping. Species distribution models and habitat types used by PHS program and Washington GAP.		
<b>Methods and Peer Review</b>		
Analytical methods utilized MARXAN analysis to ensure broad representation of targeted ecosystems in prioritized watershed units.		
<b>Stakeholder Involvement</b>		
Limited. Utilized two expert workshops to gain support from agencies and local scientific bodies. Land Trust may seek public input of early results in coming months.		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Current prioritization summaries based on known conditions from up to 10 years of habitat sampling surveying. Protection status derived from Protected lands database that summarizes land protection status at the parcel level as of approximately 2000.		
<b>Data Description</b>		
Drew upon bird data and species distribution from PHS and GAP in Washington and Oregon.		

**Resolution of Spatial Data**

Analyses are aggregated at the level of USGS 7th order HUCs or watersheds. Comparisons and rankings are confined to HUCs within the same ecoregion, given the geographic diversity of the Land Trust's service area.

**Data Sources (1)**

WA GAP

**Data Sources (2)**

WA PHS

**Data Sources (3)**

WA & Oregon Natural Heritage

**Data Sources (4)**

Lower Columbia Estuary Plan

**Data Sources (5)**

NOAA Coastal Change Analysis

**Data Sources (6)****Metadata****Data Gaps**

NA

**Data Access****Conservation Targets**

Prioritized HUCs by ecoregion. Existing protected lands are inventoried by priority HUC to direct Land Trust to areas of high value and low current levels of protection. Future refinement will allow local data sets capturing resource value below the scale of this analysis to be added and to support parcel level querying of areas to meet targets for protection and acquisition.

**Threats to Target**

NA

**Site Prioritization**

HUC level prioritization. Geographically explicit measures of areas with low current protection within prioritized HUCs.

**Monitoring****Conservation Strategies**

Conservation plan being integrated into Land Trust's strategic plan which includes a wide range of conservation strategies and and protection mechanisms.

Name	Phone Number	Email Address
John Daly	206-587-2447	john.daly@tpl.org
<b>Organization</b>		
Trust for Public Land		
<b>Description of effort</b>		
An effort to design an open space and resource lands acquisition strategy for King County Natural Resources and Parks Department. Designed to ensure county acquisition funds are aimed at highest potential use and to support the reconciliation of competing demands for acquisition funds.		
<b>Completion date</b>		
2005		
<b>Jurisdictional Scale</b>		
King County unincorporated lands		
<b>Geo or Ecoregional Scale</b>		
Local		
<b>Geographic Scale</b>		
King County		
<b>Goals or Vision</b>		
To help build a cross department acquisition strategy that would help steer protection efforts throughout county agencies to opportunities that would meet the criteria of multiple agencies. Part of the larger Greenprinting effort of TPL: Defining a regionally shared conservation vision; securing conservation funds; acquiring parks.		
<b>Habitat Classification</b>		
NA - Analysis treats lands from a number of perspectives. Ranks value for forestry, agriculture, riparian value, shoreline, trails and expanded open space.		
<b>Methods and Peer Review</b>		
Dynamic analytical model that weights site characteristics according to the preferences and priorities of agency staff was custom built using GIS software applications. Model runs on spatial data describing features in the conservation value categories. Model runs on more than 60 spatial datasets and 50 sub-models designed to optimize assessment of landscape on varying criteria.		
<b>Stakeholder Involvement</b>		
Involved numerous interviews and outreach efforts to local municipalities and residents.		
<b>Current Conditions Described</b>		
<input checked="" type="checkbox"/>		
<b>Conditions Notes</b>		
Model lends itself to updating as underlying data change. Heavily reliant on existing protected lands information in King County.		
<b>Data Description</b>		
NA		

**Resolution of Spatial Data**

Most data were scored at 30 meter pixels. Shoreline portion utilized shoreline segments as defined in DNR shoreline coverage. Raster data summarized at parcel units for the purpose of acquisition strategy development.

**Data Sources (1)**

Endangered Species Habitat

**Data Sources (2)**

Jurisdictional Wetlands

**Data Sources (3)**

Demographic and Socio-Economic Data

**Data Sources (4)**

Floodplain and Hydro Data

**Data Sources (5)**

Landscape Integrity

**Data Sources (6)**

Proposed Trail Linkages

**Metadata****Data Gaps**

NA

**Data Access****Conservation Targets**

Established programmatically. Users query the model for the resource value of particular lands to their agency goals and identify potential resource contributions of land acquisitions to other programs.

**Threats to Target**

Further degradation of existing habitat; fragmentation and loss of potential connectivity.

**Site Prioritization**

None explicitly. The report provides model results that County staff may use to rank and evaluate acquisition opportunities from multiple perspectives.

**Monitoring****Conservation Strategies**

Linked to resources and programs within particular agencies.