Department of Commerce
Innovation is in our nature.

GMA Update - State Agency Resources for Local Governments Updating Critical Areas Ordinances

These resources are organized by state agency, based on their expertise on these critical areas issues. Resources for addressing fish and wildlife habitat conservation areas are located under both the state Departments of Fish and Wildlife and Natural Resources.

Department of Ecology

Critical Area - Wetlands

Information on protecting and managing wetlands is available from Ecology's website at: http://www.ecy.wa.gov/programs/sea/wetlands/index.html

Ecology is encouraging local governments to incorporate a **watershed-based approach** to wetland regulation and land use planning. Information and links to watershed characterization tools are available at:
http://www.ecy.wa.gov/mitigation/landscapeplan.html
Coming soon: State and federal agencies are working on guidance on how to use watershed-scale information in making regulatory decisions. For updates on this effort, please check http://www.ecy.wa.gov/mitigation/guidance.html

Summaries of Best Available Science on Wetlands: Wetlands in Washington State - Volume 1: A Synthesis of the Science (March 2005). The state departments of Ecology and Fish and Wildlife developed this comprehensive synthesis of the science regarding freshwater wetlands to assist local governments.
Coming soon: Ecology is working on a summary of scientific articles published since 2004 regarding wetland functions and what is needed to protect them. Please check the following web page for updates on this effort.
http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html

Guidance on Protecting Wetland Functions:
Wetlands in Washington State – Volume 2: Guidance for Protecting and Managing Wetlands (April 2005). This volume translates the science synthesized in Volume 1 into guidance on protecting and managing wetlands for local governments.
Coming soon: Ecology is working on guidance for small cities on how to protect wetland functions when updating their critical areas ordinances. Please check our web page for the final document, available December 2009.
http://www.ecy.wa.gov/programs/sea/wetlands/gma/index.html

The guidance is based wetland ratings systems for both sides of the state in the Washington State Wetland Rating System for Western Washington (August 2004) and Washington State Wetland Rating System for Eastern Washington (August 2004). These rating systems are designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. Wetlands are grouped into four categories that are used to determine

regulatory criteria for avoidance, width of buffers, and mitigation ratios. The rating systems have been deemed Best Available Science by Growth Management Hearings Boards.

Mitigation that Works:
Information on improving wetland mitigation, one of Ecology's top priorities, is available at http://www.ecy.wa.gov/mitigation/index.html . Resources include:
Guidance on Wetland Mitigation in Washington—Parts 1 and 2 (March 2006). These interagency documents compile existing information on wetland mitigation, including current agency policies on mitigation and technical information for developing wetland mitigation plans and proposals.
Coming soon: Ecology, the Corps, and EPA are working on guidance for selecting mitigation sites using a watershed approach and on advance mitigation. Please check our web page for the final documents, available in late 2009.
http://www.ecy.wa.gov/mitigation/options.html

Critical Area - Aquifer Recharge Areas

Critical Aquifer Recharge Area website

Critical Aquifer Recharge Areas Guidance Document
See this document for many other helpful links and information.

The purpose of a **Critical Aquifer Recharge Area** (CARA) ordinance is to provide local governments with a mechanism to classify, designate, and regulate those areas deemed necessary to provide adequate recharge and protection to aquifers used as sources of potable (drinking) water.

Critical Area - Frequently Flooded Areas

Department of Ecology Flood website

FEMA Flood related information with links to the Federal Emergency Management Agency flood management information

In 2008 FEMA received a Biological Opinion from the National Marine Fisheries Service (NMFS) on their National Flood Insurance Program (NFIP). This biological opinion found the implementation of the NFIP causes jeopardy to listed species through adverse habitat modifications. The opinion includes a list of Reasonable and Prudent Alternatives (RPA) that are required of local governments in the Puget Sound area that participate in the FEMA National Flood Insurance Program. The RPA begin on page 181 of the document. FEMA is preparing materials and recommendations for affected local governments to address the RPA.
The link below is to the Biological Opinion at NOAAs NMFS website.

https://pcts.nmfs.noaa.gov/pls/pcts-pub/biop_results_detail?reg_inclause_in=('NWR')&idin=29082

Stormwater Management Resources

While stormwater is not a critical area, managing stormwater is important to avoid impacts to critical areas. Many jurisdictions must manage stormwater according to general permits issued by the Department of Ecology Water Quality Program under the NPDES Phase 1 and Phase 2 standards. Comprehensive Plan land use elements should address drainage, flooding, and stormwater run-off according to RCW 36.70A.070 (1). The Ecology stormwater management manuals are considered as Best Available Science guidance for all the critical areas affected by altered hydrology and water quality impacts of new development and redevelopment.

Stormwater Management Manual for Western Washington (2005)
Stormwater Management Manual for Eastern Washington (2004)
Link to Ecology stormwater information and resources

The Ecology Publications Office may be contacted at (360) 407-7472.

Department of Fish and Wildlife

The Washington Department of Fish and Wildlife (WDFW) provides science-based management recommendations and technical assistance useful for local GMA update work. General information on WDFW technical assistance and useful resources: http://wdfw.wa.gov/habitat/gma_sma/. A list of key resources helpful to CAO updates and maintained on WDFW web sites follows.

Fish and Wildlife Habitat Conservation Areas

The **Priority Habitats and Species Program** (PHS) program includes a list of species and habitats that WDFW considers vulnerable to development activities, management recommendations to help planners with protecting these species and habitats, and maps and data for information on known species and habitat locations. See: http://wdfw.wa.gov/hab/phspage.htm. PHS information can be used to help identify listed and locally-important species, designate habitat conservation areas, and develop protective standards for species and habitat protection through both regulatory and non-regulatory local programs. The web site provides links to online requests for species and habitat location data, online management recommendations and the PHS List, and other fish and wildlife data tools.

Aquatic Habitat Guidelines (AHG) are peer-reviewed guidelines developed by a multi-agency group of technical experts on topics related to marine and freshwater aquatic habitat protection. The web site, http://www.wdfw.wa.gov/hab/ahg/ provides links to scientific white papers as well as guidance documents covering topics ranging from

shoreline stabilization project design to nearshore habitat protection. Key AHG guidance documents for CAO work and related GMA updates available at this web site include: *Protecting Nearshore Habitat and Functions in Puget Sound, An Interim Guide* (2007), http://wdfw.wa.gov/hab/nearshore_guidelines, and *Marine Riparian* guidelines (currently in development).

Puget Sound Nearshore Partnership, http://www.pugetsoundnearshore.org/ is a source of data and information related to nearshore management in Puget Sound and how the shoreline has changed over time.

WDFW **Forage Fish Management Recommendations** include a management plan of forage fish resources and fisheries in Washington. Available at: http://wdfw.wa.gov/fish/forage/manage/foragman.pdf.

Watershed Processes and Aquatic Resources: A Literature Review (2009) by Christopher May summarizes findings from the scientific literature on landscape and aquatic processes and how development impacts these processes, resulting in changes to habitat and processes themselves. Available online at http://www.wdfw.wa.gov/hab/watershed_aquaticreview.htm.

Special Consideration for Anadromous Fish

WDFW's guidance document "**Land Use Planning for Salmon, Steelhead, and Trout: A land use planner's guide to salmonid habitat protection and recovery**" is available online at http://www.wdfw.wa.gov/hab/ahg/ . This document includes information on state salmonid recovery efforts, sources of scientific guidance and model policies and development regulations for implementing salmonid recovery in local planning programs. The document includes an extensive list and links to science documents, guidance materials from a variety of agencies and organizations, local examples, and salmon recovery group contacts. A few key resources highlighted in this document, and maintained by WDFW are also listed here:

The **Salmonid Stock Inventory** (SaSI) is a compilation of data on all wild stocks and a scientific determination of each stock's status as: healthy, depressed, critical, unknown, or extinct. More information available at: http://wdfw.wa.gov/fish/sasi/.

Salmonscape is another mapping program maintained by WDFW. This mapping application for the Salmon and Steelhead Habitat Inventory and Assessment Program (SSHIAP) characterizes salmonid habitat conditions and distribution of salmonid stocks in Washington. Data is co-managed by WDFW and the Northwest Indian Fisheries Commission. More information available at: http://wdfw.wa.gov/mapping/salmonscape/index.htm.

WDFW, in partnership with the US Fish and Wildlife Service, and local watershed groups, provides a mapping tool for identifying the location of salmon restoration projects. The **Habitat Work Schedule** is a web-based salmon habitat project database that can be accessed at http://hws.ekosystem.us/.

Regional Fisheries Enhancement Groups are partially funded by a portion of WDFW commercial and recreational fishing license fees. These local groups can help inform local priorities for anadromous fish habitat protection and restoration. Information can be found at http://wdfw.wa.gov/volunter/index.htm.

Landscape Planning and Biodiversity

WDFW's "Landscape Planning for Washington's Wildlife" provides science on how wildlife responds to the developing landscape, introduces new tools for incorporating terrestrial wildlife needs into land use planning, and provides examples from communities that have given special attention to habitat in planning activities. Recommendations are geared toward the local land use planner. The document is available online at: http://wdfw.wa.gov/hab/phsrecs.htm.

WDFW has conducted **Local Habitat Assessments** (LHAs) for some counties in Washington. An LHA is typically conducted in partnership with local government planning staff or a local planning group. The LHA provides a GIS map and report that highlights high quality habitat areas at a broad scale (countywide) or at finer scales (watershed or sub-area). LHAs can be used to identify areas of local importance to fish and wildlife resources, and can also be used to inform land use designations, UGA expansions, and other long-range planning work. See the tool and examples at: http://www.wdfw.wa.gov/habitat/lha/.

Biodiversity Conservation Opportunity Framework maps are part of the Washington's Biodiversity Conservation Strategy. These maps, developed in partnership with WDFW, look at ecoregional assessment data to determine important areas for biodiversity conservation across the landscape. They can be viewed at http://www.biodiversity.wa.gov/. This web site also includes tools and information related to biodiversity stewardship and incentive-programs.

Other WDFW resources for CAO updates

The WDFW Habitat Program's Science Division offers expertise and conducts research to support habitat protection and enhancement efforts. Through research studies, program biologists monitor the condition of fish and wildlife habitat, identify habitat protection needs and assess whether protection and enhancement efforts are producing the desired results. Numerous links and citations of the latest research are provided at http://wdfw.wa.gov/hab/science/index.htm.

WDFW **Living with Wildlife** website, http://www.wdfw.wa.gov/wlm/living/index.htm, provides information on how to manage wildlife conflicts, and basic information on the life histories and habitat needs of numerous Washington species.

Geology and Aquatic Lands Divisions, Department of Natural Resources

Geologically Hazardous Areas

Department of Natural Resources geological hazards webpage:

http://www.dnr.wa.gov/ResearchScience/Topics/GeologicHazardsMapping/Pages/geologic_hazards.aspx

Volcanoes , Earthquakes , Landslides , Tsunamis , Cole Mine Subsidence

Tim Walsh, Chief Hazards Geologist
360-902-1432
tim.walsh@dnr.wa.gov

Fish and Wildlife Habitat Conservation Areas

Department of Natural Resources Aquatic and Marine Sciences webpage:
http://www.dnr.wa.gov/ResearchScience/AquaticMarineSciences/Pages/Home.aspx

Stream Typing is a commonly used system to classify streams based on their use by fish, which is authorized and used by the Department of Natural Resources under the Forest Practices Rules at WAC 222-16-030 and -031 (interim.) Many local governments use the stream typing system in their local critical areas ordinances to help protect riparian habitat. Local governments should be aware that the final rules have not yet been adopted by the Forest Practices Board, and scientific studies and modeling of the new stream typing system continue. The modeling system used to assign stream types was designed to address higher elevation forested areas, and not low lying and urbanizing areas, so there may be errors in some current maps.
Maps of stream types in many areas in the state are available at:
http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx
These maps are subject to change and should be considered advisory only. All stream typing determinations for development activity should be based on a site visit to confirm the appropriate stream type is designated.

Emergency Management Division, Military Department

Natural Hazard Mitigation

Emergency Management Division websites:
http://www.emd.wa.gov/
http://emd.wa.gov/hazards/haz_natural.shtml

Planning to reduce or mitigate the impacts of natural hazards like floods earthquakes, and volcanic eruptions is a fundamental part of planning for critical areas under the GMA.

Jurisdictions are encouraged to expand on this planning to also address other natural hazard areas, such as wildfire/urban interface areas vulnerable to wildfire damages, or areas subject to extremely high winds. This work includes preventing regionally important public facilities (hospitals, schools, landfills, etc.) from locating in known hazardous areas, as well as providing redundancy in transportation routes for emergency responders, planning for stocking and replenishing emergency supplies, and other work usually done by local emergency coordinators.

Resources include:

- Optional Comprehensive Plan Element for Natural Hazard Reduction, Washington State Department of Community, Trade and Economic Development, 1999

Growth Management Services, Local Government Division, Commerce Department

Growth Management Services webpage
Use the link on the left side of the page for **Critical Areas and Best Available Science** to locate the following documents:

Critical Areas Assistance Handbook: Protecting Critical Areas within the Framework of the Growth Management Act, November 2003

From page above, use the link for **Best Available Science** on the left side of the page for Citations of Recommended Sources of Best Available Science, March 2002

From page above, use the link for **Examples for Small Cities** on left side of page for Small Cities Critical Areas Ordinance Implementation Guidebook, June 2007. This page also has examples of city codes to designate and protect critical areas.

Puget Sound Partnership

Puget Sound Partnership website

The Puget Sound Partnership developed an Action Agenda to clean-up Puget Sound. This was based in part on a series of Topic Forums, which generated Topic Forum Papers for discussion. These papers are available on their website. The Topics included:

Habitat and Land Use
Species, Foodweb and Biodiversity
Water Quantity
Water Quality
Human Health and Well Being

The website also offers a good selection of resources on managing stormwater through Low Impact Development (LID) at Stormwater and LID.