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Memorandum

TO: Planning Commission
FROM: Cliff Strong, Senior Planner
THROUGH: Mark Personius, Asst. Director
DATE: 5 April 2016
SUBJECT: Critical Areas Ordinance Review for 14 April 2016

At its next meeting the Planning Commission will continue its review of the Critical Areas Ordinance. Due to key participants not being able to attend this meeting, as well as the County Geologist needing more time to work on the lahar issue, we have had to switch scheduled topics. This workshop will now include:

- Article 4, Frequently Flooded Areas
- Article 7, Habitat Conservation Areas

To prepare for this meeting, please review Articles 4 and 7 and read the Best Available Science/Staff report regarding those two sections (in your previous meeting packet materials), in which I point out the more substantive recommended amendments.

Commission Questions/Comments from a Previous Meeting

1. *The Commission had asked for more information on wildlife corridors.*

Attached is some basic information on wildlife corridors, including a general description (yes, from Wikipedia, but they did a good job of synopsisizing much of what I read in the scientific articles). It also includes what state laws I could find on corridors. And don't forget, there are also four articles provided by someone on the TAC, which are identified in the BAS/Staff report under item 9.3.2, and copies of which are found on the CAO Update → Planning Commission Review webpage (<http://www.whatcomcounty.us/2305/Planning-Commission-Review>) as BAS Documents 26, 27, 28, and 29.

Open Space and Wildlife Corridors

Wildlife Corridor (from Wikipedia)

A wildlife corridor, habitat corridor, or green corridor is an area of habitat connecting wildlife populations separated by human activities or structures (such as roads, development, or logging). This allows an exchange of individuals between populations, which may help prevent the negative effects of inbreeding and reduced genetic diversity (via genetic drift) that often occur within isolated populations. Corridors may also help facilitate the re-establishment of populations that have been reduced or eliminated due to random events (such as fires or disease).

This may potentially moderate some of the worst effects of habitat fragmentation, wherein urbanization can split up habitat areas, causing animals to lose both their natural habitat and the ability to move between regions to use all of the resources they need to survive. Habitat fragmentation due to human development is an ever-increasing threat to biodiversity, and habitat corridors are a possible mitigation.

Users – Species can be categorized in one of two groups; passage users and corridor dwellers.

Passage users occupy corridors for brief periods of time. These animals use corridors for such events as seasonal migration, dispersal of a juvenile, or moving between parts of a large home range. Usually large herbivores, medium to large carnivores, and migratory species are passage users (Beier & Loe 1992). One common misconception is that the corridor only needs to be wide enough for the passage users to get through. However, the corridor still must be wide enough to be safe and also encourage the animals to use it, even though they do not live out their entire lives in it.

Corridor dwellers can occupy the passage anywhere from several days to several years. Species such as plants, reptiles, amphibians, birds, insects, and small mammals can spend their entire lives in linear habitats. In this case, the corridor must include everything that a species needs to live and breed, such as soil for germination, burrowing areas, and multiple other breeding adults (Beier & Loe 1992).

Types – Habitat corridors can be categorized according to their width. Typically the wider the corridor, the more use it will get from species. However, the width-length ratio, as well as design and quality play just as important of a role in creating the perfect corridor (Fleury 1997). The strip of land will suffer less from edge effects such as weeds, predators, and chemicals if it is constructed properly. The following are three divisions in corridor widths:

- Regional – (>500m wide); connect major ecological gradients such as migratory pathways.
- Sub-regional – (>300m wide); connect larger vegetated landscape features such as ridgelines and valley floors.

- Local – (some <50m); connect remnant patches of gullies, wetlands, ridgelines, etc.

Habitat corridors can also be divided according to their continuity. Continuous corridors are strips that are not broken up, while “stepping stone” corridors are small patches of suitable habitat. When stepping stones are arranged in a line, they form a strip of land connecting two areas, just like a continuous corridor would. Both kinds provide linkages between protected core areas and stimulate or allow species to migrate.

Finally, corridors can come in the form of underpasses or overpasses, which can be very safe for both animals and humans. Many busy highways cross through natural habitats that native species occupy, as well. Large animals such as deer become a hazard when they cross in front of traffic and get hit. An overpass or an underpass serves as a bridge to facilitate the movement of animals across a busy road. Observations have shown that underpasses are actually more successful than overpasses because many times animals are too timid to cross over a bridge in front of traffic and would prefer to be more hidden (Dole et al. 2003).

Costs – Corridors can be expensive to plan out and put into action. For example, Daniel Simberloff et al. states that “a bridge that would maintain a riparian corridor costs about 13 times as much per lane-mile as would a road that would sever the corridor.” He also states that maintenance of a corridor would be much more costly than refuges for endangered species. It would simply be easier to move animals between refuges than to buy land, install a corridor, and maintain it. However, where the goal is not just to preserve a few large animal species but to protect biodiversity among all plants and animals, then habitat corridors may be the only option. Corridors are going to be expensive to implement no matter what, but it does depend on the type, location, and size, which can all vary to a great degree. With the lack of field data on the effectiveness, many agencies are not willing to consider putting in corridors.

State Regulations Regarding Corridors

RCW 36.70A.160 Identification of open space corridors—Purchase authorized.

Each county and city that is required or chooses to prepare a comprehensive land use plan under RCW [36.70A.040](#) shall identify open space corridors within and between urban growth areas. *They shall include lands useful for recreation, wildlife habitat, trails, and connection of critical areas as defined in RCW [36.70A.030](#).* [emphasis added] Identification of a corridor under this section by a county or city shall not restrict the use or management of lands within the corridor for agricultural or forest purposes. Restrictions on the use or management of such lands for agricultural or forest purposes imposed after identification solely to maintain or enhance the value of such lands as a corridor may occur only if the county or city acquires sufficient interest to prevent development of the lands or to control the resource development of the lands. The requirement for acquisition of sufficient interest does not include those corridors regulated by the interstate commerce commission, under provisions of 16 U.S.C. Sec. 1247(d), 16 U.S.C. Sec. 1248, or 43 U.S.C. Sec. 912. Nothing in this section shall be interpreted to alter the authority of the state, or a county or city, to regulate land use activities.

The city or county may acquire by donation or purchase the fee simple or lesser interests in these open space corridors using funds authorized by RCW [84.34.230](#) or other sources.

WAC 365-196-335 Identification of open space corridors.

(1) Requirements.

- (a) Each county or city planning under the act must identify open space corridors within and between urban growth areas. They must include lands useful for recreation, wildlife habitat, trails, and connection of critical areas as defined in RCW 36.70A.030.
- (b) The county or city may seek to acquire by purchase the fee simple or lesser interests in open space corridors using funds authorized by RCW 84.34.230 or other sources.

(2) Recommendations for meeting requirements.

- (a) Counties and cities should consider identifying open space corridors when reviewing and updating urban growth areas, critical areas designations, and the land use element of comprehensive plans.
- (b) Counties and cities should consider the various purposes and uses of identified corridors, and should state the preferred uses anticipated for each identified corridor, if known. In some cases, uses preferred for an identified corridor may preclude other incompatible uses.
- (c) Counties and cities should consider how identified corridors exist in relationship to designated critical areas and natural resource lands, the extent and trends of public demands for recreational lands and access to public lands for recreation, and specific existing and planned recreational uses that may make use of identified corridors for specific uses, including nonmotorized transportation.
- (d) When identifying open space corridors, counties and cities should plan an integrated system that uses identified corridors to link established large

areas of parks and recreational lands, resource lands, greenbelts, streams, and wildlife corridors to help protect fish and wildlife habitat conservation areas.

- (e) Counties and cities should also consider the potential to use vegetated green spaces as part of an integrated system to absorb and treat storm water.

WAC 365-190-130 Fish and wildlife habitat conservation areas.

- (1) "Fish and wildlife habitat conservation" means land management for maintaining populations of species in suitable habitats within their natural geographic distribution so that the habitat available is sufficient to support viable populations over the long term and isolated subpopulations are not created. This does not mean maintaining all individuals of all species at all times, but it does mean not degrading or reducing populations or habitats so that they are no longer viable over the long term. Counties and cities should engage in cooperative planning and coordination to help assure long term population viability.

Fish and wildlife habitat conservation areas contribute to the state's biodiversity and occur on both publicly and privately owned lands. Designating these areas is an important part of land use planning for appropriate development densities, urban growth area boundaries, open space corridors, and incentive-based land conservation and stewardship programs.

- (2) Fish and wildlife habitat conservation areas that must be considered for classification and designation include:
 - (a) Areas where endangered, threatened, and sensitive species have a primary association;
 - (b) Habitats and species of local importance, as determined locally;
 - (c) Commercial and recreational shellfish areas;
 - (d) Kelp and eelgrass beds; herring, smelt, and other forage fish spawning areas;
 - (e) Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;
 - (f) Waters of the state;
 - (g) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; and
 - (h) State natural area preserves, natural resource conservation areas, and state wildlife areas.
- (3) When classifying and designating these areas, counties and cities must include the best available science, as described in chapter [365-195](#) WAC.
 - (a) Counties and cities should consider the following:
 - (i) Creating a system of fish and wildlife habitat with connections between larger habitat blocks and open spaces, integrating with open space corridor planning where appropriate;
 - (ii) Level of human activity in such areas including presence of roads and level of recreation type (passive or active recreation may be appropriate for certain areas and habitats);

- (iii) Protecting riparian ecosystems including salmonid habitat, which also includes marine nearshore areas;
 - (iv) Evaluating land uses surrounding ponds and fish and wildlife habitat conservation areas that may negatively impact these areas, or conversely, that may contribute positively to their function;
 - (v) Establishing buffer zones around these areas to separate incompatible uses from habitat areas;
- (b) Counties and cities may also consider the following:
- (i) Potential for restoring lost and impaired salmonid habitat;
 - (ii) Potential for designating areas important for local and ecoregional biodiversity; and
 - (iii) Establishing or enhancing non-regulatory approaches in addition to regulatory methods to protect fish and wildlife habitat conservation areas.
- (4) Sources and methods.
- (a) Endangered, threatened and sensitive species. Counties and cities should identify and classify seasonal ranges and habitat elements where federal and state listed endangered, threatened and sensitive species have a primary association and which, if altered, may reduce the likelihood that the species will persist over the long term. Counties and cities should consult current information on priority habitats and species identified by the Washington state department of fish and wildlife. Recovery plans and management recommendations for many of these species are available from the United States Fish and Wildlife Service, the National Marine Fisheries Service and the Washington state department of fish and wildlife. Additional information is also available from the Washington state department of natural resources, natural heritage program, and aquatic resources program.
 - (b) Habitats and species areas of local importance. Counties and cities should identify, classify and designate locally important habitats and species. Counties and cities should consult current information on priority habitats and species identified by the Washington state department of fish and wildlife. Priority habitat and species information includes endangered, threatened and sensitive species, but also includes candidate species and other vulnerable and unique species and habitats. While these priorities are those of the Washington state department of fish and wildlife, they should be considered by counties and cities as they include the best available science. The Washington state department of fish and wildlife can also provide assistance with identifying and mapping important habitat areas at various landscape scales. Similarly, the Washington state department of natural resources' natural heritage program can provide a list of high quality ecological communities and systems and rare plants.
 - (c) Shellfish areas. All public and private tidelands or bedlands suitable for shellfish harvest shall be classified as critical areas. Counties and cities should consider both commercial and recreational shellfish areas. Counties and cities should consider the Washington state department of health classification of commercial and recreational shellfish growing

areas to determine the existing condition of these areas. Further consideration should be given to the vulnerability of these areas to contamination. Shellfish protection districts established pursuant to chapter [90.72](#) RCW shall be included in the classification of critical shellfish areas.

- (d) Kelp and eelgrass beds; herring, smelt and other forage fish spawning areas. Counties and cities must classify kelp and eelgrass beds, identified by the Washington state department of natural resources and the department of ecology. Though not an inclusive inventory, locations of kelp and eelgrass beds are compiled in the Washington coastal atlas published by the department of ecology. Herring, smelt and other forage fish spawning times and locations are outlined in WAC [220-110-240](#) through [220-110-271](#).
- (e) Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat. Naturally occurring ponds do not include ponds deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farmponds, temporary construction ponds (of less than three years duration) and landscape amenities. However, naturally occurring ponds may include those artificial ponds intentionally created from dry areas in order to mitigate conversion of ponds, if permitted by a regulatory authority.
- (f) Waters of the state.
 - (i) Waters of the state are defined in RCW [90.48.020](#) and include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses in Washington. Stream types are classified in Title 222 WAC, the forest practices regulations. Counties and cities may use the classification system established in WAC [222-16-030](#) to classify waters of the state. Counties and cities using the water types defined in WAC [222-16-030](#) or [222-16-031](#) (interim) should not rely solely on Washington state department of natural resources maps of these stream types for purposes of regulating land uses or establishing stream buffers.
 - (ii) Counties and cities that use the stream typing system developed by the department of natural resources should develop a process to verify actual stream conditions, identify flow alterations, and locate fish passage barriers by conducting a field visit. Field verification of all intermittent or nonfish bearing streams should occur during the wet season months of October to March or as determined locally.
 - (iii) Counties and cities may consider the following factors when classifying waters of the state as fish and wildlife habitat conservation areas:
 - (A) Species present which are endangered, threatened or sensitive, and other species of concern;
 - (B) Species present which are sensitive to habitat manipulation (e.g., priority habitats and species program);
 - (C) Historic presence of species of local importance;

- (D) Existing surrounding land uses that are incompatible with salmonid habitat;
 - (E) Presence and size of riparian ecosystems;
 - (F) Existing water rights; and
 - (G) The intermittent nature of some waters of the state.
- (g) Lakes, ponds, streams, and rivers planted with game fish. This includes game fish planted in these water bodies under the auspices of a federal, state, local, or tribal program or which supports priority fish species as identified by the Washington state department of fish and wildlife.
 - (h) State natural area preserves, natural resource conservation areas, and state wildlife areas. Natural area preserves and natural resource conservation areas are defined, established, and managed by the department of natural resources. State wildlife areas are defined, established, and managed by the Washington state department of fish and wildlife, which provides information about state wildlife areas for each county.
 - (i) Salmonid habitat. Counties and cities should consider recommendations found in salmon recovery plans (see the governor's salmon recovery office). Counties and cities may use information prepared by the United States Department of the Interior Fish and Wildlife Service, National Marine Fisheries Service, the Washington state department of fish and wildlife, the state recreation and conservation office, and the Puget Sound partnership to designate, protect and restore salmonid habitat.