

### Environmental Guidelines for Urban and Rural Land Development in British Columbia



*Linear developments—such as roads, hydro rights of way, and pipeline corridors—can have significant impacts on the natural environment. This fact sheet provides information on ways to lessen these impacts.*

There are many guidelines that you can follow to protect environmental values during the design, construction and maintenance of roads and rights of way. These are described in more detail in *Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia*.

#### DESIGN ROADS AND RAIL LINES TO MINIMIZE HABITAT LOSS AND ROADKILL

- ☑ Create vegetated swales along roadways, to help filter pollutants from the stormwater runoff and reduce erosion by slowing the return of water to local streams.
- ☑ Build roads to be as narrow as possible. This minimizes the amount of clearing, reduces stormwater runoff by creating less impervious surface, and slows traffic for greater safety.



Prune lower branches of trees if necessary to improve sightlines

- ☑ Minimize the number of stream crossings to reduce disturbance to aquatic and riparian habitats. Where crossings are necessary, use clear-span bridges in preference to culverts as they have less impact on fish passage and spawning habitats.
- ☑ Where there are trees close to the road, prune the lower branches from trees to improve sightlines instead of removing the entire trees.

#### PROTECT AND ENHANCE WILDLIFE HABITAT AND MOVEMENT CORRIDORS

- ☑ Vary corridor widths and create wavy clearing edges. This creates alcoves which provide refuges for wildlife to hide from their predators.
- ☑ Incorporate utility crossings into road crossings, or use directional drilling.
- ☑ Provide safe routes for wildlife crossings. For example, toad tunnels under roads (properly designed and located) allow amphibians and other small creatures to continue to move between their habitats.

☑ Avoid excessive clearing that might impact riparian vegetation at stream crossings, and consider habitat enhancements where rights-of-way cross streams and wetlands. Retain and use large woody debris to enhance habitats along corridors, but avoid creation of long linear stacks of woody debris (windrows) that might prevent animal movements.

☑ Consider road barriers with openings, especially near lakes and wetlands, to allow safe movement of waterfowl and their chicks.

## PROTECT THE NATURAL ENVIRONMENT DURING CONSTRUCTION

☑ Prepare detailed plans for sediment and erosion control prior to any work.

☑ Protect water quality by directing surface runoff into swales or constructed wetlands.

☑ Obtain *Water Act* authorizations from the Ministry of Forests, Lands and Natural Resource Operations and permission from Fisheries and Oceans Canada.

☑ Follow prescribed timing windows ([www.env.gov.bc.ca/main/prgs/regions.htm](http://www.env.gov.bc.ca/main/prgs/regions.htm)) for more information on ways to minimize the impacts on fish and wildlife. See also [Table 4.1](#) in *Develop with Care*.



Manage invasives along rail lines

### For more information see:

*Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia* and other **Guideline documents** <http://www.env.gov.bc.ca/wld/BMP/bmpintro.html>

**Riparian Areas Regulation:** [http://www.env.gov.bc.ca/habitat/fish\\_protection\\_act/riparian/riparian\\_areas.html](http://www.env.gov.bc.ca/habitat/fish_protection_act/riparian/riparian_areas.html)



☑ Top hazard trees at 3–5 m or higher, rather than completely removing them. These rotting snags provide a food source for many species such as woodpeckers and potential nesting sites for owls and other wildlife.

## MANAGE INVASIVE SPECIES

☑ Be alert for new invasive plants growing along rights of way and remove them promptly before they become established and spread.

☑ Avoid excessive soil disturbance when removing invasive species, as this will encourage new invasions.

☑ Re-vegetate all cleared areas promptly with high quality native seed and low-growing plants to reduce weed establishment. This also minimizes encroachment by trees and shrubs which might block sightlines.

☑ Minimize use of pesticides by implementing integrated pest management (IPM) approaches. In many cases, once-annual mowing of roadsides can help to prevent invasive species such as broom from becoming established and setting seed. However, be aware that mowing plants such as Japanese Knotweed and English Ivy will encourage these species to spread, since they regenerate from small stem and root fragments.

☑ Pressure-wash machinery between work sites to reduce the risk of spreading seeds of invasive species from one place to another.