

Invasive Weed & Disturbance-caused Herbaceous Species List

For Use in Riparian Health Assessment and Inventory in Alberta



The Cows and Fish program works with producers and their communities to provide awareness about riparian areas as well as riparian management options. In order to assist communities determine "Where do we want to go?" and "How can we get there?" in terms of riparian health, you have to first answer "Where are we at?". Riparian health assessment, part of the Cows and Fish program, assist producers and communities determine the "health" or function of their riparian areas through riparian health assessments and inventories. Not only can a riparian health assessment provide a state of the environment report to answer "Where are we at?", it can be very useful to assist in making informed management decisions, and monitor changes in the future to address "Did we get there?".

The Cows and Fish process involves awareness, team building, tool building, and community-based action. Landowner involvement is key to successfully providing information to communities. Riparian health information provides communities with detailed inventories and assessments of riparian areas, which can then be used in management decisions. The weed and disturbance-caused undesirable herbaceous species on the attached list are used by the Cows and Fish riparian health assessment and inventory staff to complete riparian health assessments. In addition to providing Cows and Fish with a comprehensive list of weed and disturbance-caused species to consider in riparian health assessments, this ***list is a tool that landowners, resource managers, and communities can use in understanding riparian health assessments and in examining their own riparian areas.***



Using a standard plant list ensures consistent comparisons for the future. It also helps accurately interpret the riparian health assessment



Why have a detailed species list for weeds and disturbance-caused undesirable plants?

A comprehensive list of weeds and disturbance-induced species is necessary for riparian inventory and assessment. In order to accurately determine the health of a riparian area, those completing the assessments need to know which species in the native plant community would be present with natural disturbance and which would not. In other words, which ones are disturbance-caused species (native or introduced, they increase or become more prevalent due to higher than natural levels of disturbance or activities occur that are not normally present) and which ones are weeds (non-natives, see *What is a Weed* below). In addition to the potential economic losses to land managers from weeds, weeds may be vigorous competitors that prevent a healthy, native riparian community from providing important riparian functions like sediment trapping, bank stabilization, and filtration.

The Link: Riparian Health Assessment and Inventory

What is a Weed?

The Weed Control Act of Alberta designates weeds into three categories: restricted, noxious and nuisance. By law, restricted weeds must be eradicated because of their highly competitive nature. Restricted weeds pose a serious threat to agriculture and the environment because they spread rapidly and are difficult to control. Noxious weeds have potential for rapid spread and can cause severe crop losses resulting in economic hardship. By law, weeds in the noxious category must be controlled to prevent their spread. Nuisance weeds (part of the list of disturbance-caused undesirables used in riparian health assessment) are the most common weeds and are usually widespread across the province. Nuisance weeds can cause economic losses, but are so biologically suited to their environment that they cannot be effectively eradicated. Disturbance-caused undesirable herbaceous species is a term used in riparian health assessment and inventory to include most nuisance weeds (Alberta Weed Designation Regulations) as well as many other plant species that respond to site disturbance. Disturbance-caused undesirable species include native and non-native species that tend to increase with site disturbance, and are regarded as undesirable because they do not perform optimal riparian functions (eg. provide deep-binding root mass for bank protection). Such site disturbance is often linked to a downward trend for plant communities from the potential natural community, and reduced riparian function or "health".

The Impact of Weeds

It is important to control the spread of noxious and restricted weeds; left uncontrolled, these weeds may eventually create an unnatural monoculture. Because a monoculture consists of only one species, it provides minimal structural and habitat diversity, which may reduce or limit the ability of that area to provide wildlife habitat or perform natural ecological functions. Invasive non-native plants severely impact wildlife by replacing the vegetation they utilize for shelter or food.

Weeds compete for nutrients, water, and sunlight normally available to native plant species. Some weeds have the ability to alter soil chemistry with subtle but harmful effects on native plant species, and subsequently, the animals that rely upon them. Weed invasions may result in more runoff and erosion since weeds generally do not provide adequate ground cover and lack deep, soil-binding root systems. Agricultural production, stream flow during dry periods, and wildlife habitat may be reduced or even eliminated. If you consider all of these negative effects, you can well imagine the thousands of dollars lost to the Alberta economy each year if these weeds are left uncontrolled.



*Example of lakeshore with
Canada Thistle*



*Hounds-tongue, a
common riparian
weed.*

How to Use this Species List

Please note that the list of designated weeds (restricted, noxious, and nuisance) is based on the Weed Designation Regulations of the Weed Control Act of Alberta, most current at the time this list was created. The list of disturbance-caused species includes all of the disturbance-caused species Cows and Fish has encountered-there may be others in your area. In addition, you may find that some species respond differently to disturbance, depending upon the region you are working in. Individual counties and municipal districts occasionally have by-laws that rate the regulated species (restricted, noxious, and nuisance) more stringently. Contact a local agricultural representative to confirm weed designations in your area. Contact the Queen's Printer Bookstore (780-427-4952 Edmonton or 403-297-6251 Calgary) for up-to-date copies of acts or regulations. This weed and disturbance-induced species list was developed in conjunction with information from the Alberta Weed Designation Regulations (Weed Control Act), Cows and Fish team members, and Public Lands Division (Sustainable Resource Development).

Details of the Species List Table

ID Code (in the species table) refers to the 7 letter code used to record the Latin (scientific) name of a species during riparian health assessments and inventories. The 1st four letters are usually composed of the beginning of the genus, while the last 3 letters of the code are the start of the species name. If the genus is only 3 letters, then 4 letters are taken from the species portion. These codes are used for consistency and speed of data collection. If you are unfamiliar with the codes or scientific name, ensure that whatever common name you use is verified with a scientific name at a later date, since common names tend to be more variable (and less common) than you might think.

Regulated (in the species table) refers to *the designation given weeds (restricted, noxious, or nuisance) under the Weed Designation Regulations.*

Based on the Weed Designation Regulation (Weed Control Act) in Alberta:

- ◆ **restricted** weed species are listed as '1' under 'Regulated'. Because of the serious management implications these species pose, they are indicated by **bold**;
- ◆ **noxious** weeds are indicated by '2' under 'Regulated';
- ◆ **nuisance** weeds are listed as '3' under 'Regulated';
- ◆ *disturbance-caused undesirable herbaceous species* are not regulated and are therefore listed as '0' under 'Regulated'.

Suggested (in the species table) refers to *the suggested categorization of these plants for riparian health assessment / inventory purposes.* 2 categories of plants are important in riparian health assessments / inventories: invasive (I) and disturbance-caused undesirable herbaceous (D). In the table, 'I' refers to **invasive species** (all restricted, most noxious species, and a few nuisance species); 'D' refers to **disturbance-caused undesirable herbaceous species** (which includes a few noxious weeds, most nuisance weeds and those non-regulated species that are disturbance-caused species).

Based on Cows and Fish program and Public Lands Division experience:

- ◆ **restricted** weed species are listed as 'I' (*invasive species*);
- ◆ **noxious** weed species are chiefly listed as 'I' (*invasive species*), with a few listed as 'D' (*disturbance-caused undesirable herbaceous species*);
- ◆ **nuisance** weeds are chiefly listed as 'D' (*disturbance-caused undesirable herbaceous species*). In rare cases, a nuisance species is categorized as *invasive* ('I') if it tends to be particularly aggressive in riparian areas;
- ◆ *disturbance-caused undesirable herbaceous species* are listed as 'D'.

ID Code	Latin Name	Common Name	Regulated ⁺	Suggested ^x
BROMTEC	<i>Bromus tectorum</i>	downy chess/brome	3	I
CARDCHA	<i>Cardaria chalepensis</i>	hoary cress	2	I
CARDPUB	<i>Cardaria pubescens</i>	globe-podded hoary cress	2	I
CARDNUT	<i>Carduus nutans</i>	nodding thistle	1	I
CENTDIF	<i>Centaurea diffusa</i>	diffuse knapweed	1	I
CENTMAC	<i>Centaurea maculosa</i>	spotted knapweed	1	I
CENTREP	<i>Centaurea repens</i>	Russian knapweed	2	I
CENTSOL	<i>Centaurea solstitialis</i>	yellow star thistle	1	I
CHRYLEU	<i>Chrysanthemum leucanthemum</i>	ox-eye daisy	2	I
CIRSARV	<i>Cirsium arvense</i>	Canada thistle	2	I
CONVARV	<i>Convolvulus arvensis</i>	field bindweed	2	I
CUSCGRO	<i>Cuscuta gronovii</i>	common dodder	1	I
CYNOOFF	<i>Cynoglossum officinale</i>	hound's tongue	2	I
ECHIVUL	<i>Echium vulgare</i>	viper's-bugloss; blueweed	2	I
ELAEANG	<i>Elaeagnus angustifolia</i>	Russian olive	0	I
ERODCIC	<i>Erodium cicutarium</i>	stork's bill	2	I
EUPHCYP	<i>Euphorbia cyparissias</i>	cypress spurge	2	I
EUPHESU	<i>Euphorbia esula</i>	leafy spurge	2	I
GALIAPA	<i>Galium aparine</i>	cleavers	2	I
GALISPU	<i>Galium spurium</i>	false cleavers	2	I
KNAUARV	<i>Knautia arvensis</i>	blue buttons, field scabious	2	I
LINADAL	<i>Linaria dalmatica</i>	broad-leaved/Dalmatian toadflax	3	I
LINAVUL	<i>Linaria vulgaris</i>	butter-and-eggs/ toadflax	2	I
LOLIPER	<i>Lolium persicum</i>	Persian darnel	2	I
LYCHALB	<i>Lychnis alba</i>	white cockle	2	I
LYTHSAL	<i>Lythrum salicaria</i>	purple loosestrife	2	I
MATRPER	<i>Matricaria perforata</i>	scentless chamomile	2	I
MYRISPI	<i>Myriophyllum spicatum</i>	Eurasian water milfoil	1	I
ODONSER	<i>Odontites serotina</i>	late-flowering eyebright/ red bartsia	1	I
RANUACR	<i>Ranunculus acris</i>	tall buttercup	2	I
SILECUC	<i>Silene cucubalus</i>	bladder campion	2	I
SONCARV	<i>Sonchus arvensis</i>	perennial sow thistle	2	I
TANAVUL	<i>Tanacetum vulgare</i>	common tansy	2	I
POTEREC	<i>Potentilla recta</i>	sulfur cinquefoil	0	D*
SONCOLE	<i>Sonchus oleraceus</i>	annual sow thistle	3	D
AGROREP	<i>Agropyron repens</i>	quack grass	3	D
AMARRET	<i>Amaranthus retroflexus</i>	red-root pigweed	3	D
ANTESPP	<i>Antennaria spp</i>	pussy-toes and everlasting	0	D
APOCAND	<i>Apocynum androsaemifolium</i>	spreading dogbane	2	D*
ARCTMIN	<i>Arctium minus</i>	common burdock	0	D
AVENFAT	<i>Avena fatua</i>	wild oat	3	D
BRASKAB	<i>Sinapis arvensis (Brassica kaber)</i>	wild mustard	3	D
BROMINE	<i>Bromus inermis</i>	smooth brome	0	D

+ Regulated refers to these categories: 0-not regulated; 1-restricted; 2-noxious; 3-nuisance

x Suggested indicates suggested categorisation of the species in riparian health assessments: I-invasive plant species; D-disturbance-caused undesirable herbaceous species

* The categorization of this species may change

NOTE: Other non-native or agronomic species may be 'D' too, but are not listed here. If you find a species that is not listed here but should be considered in riparian health assessment or inventory, record it and note that it was included.

ID Code	Latin Name	Common Name	Regulated ⁺	Suggested ^x
BROMJAP	<i>Bromus japonicus</i>	Japanese brome	0	D
CAMPRAP	<i>Campanula rapunculoides</i>	creeping bellflower/garden bluebell	0	D
CAPSBUR	<i>Capsella bursa-pastoris</i>	shepherd's purse	3	D
CERSALB	<i>Cerastium album</i>	lamb's quarters	0	D
CERSARV	<i>Cerastium arvense</i>	field mouse-ear chickweed	3	D
CERSNUT	<i>Cerastium nutans</i>	long-stalked chickweed	0	D
CERSVUL	<i>Cerastium vulgatum</i>	common mouse-ear(ed) chickweed	3	D
CONVSEP	<i>Convolvulus sepium</i>	hedge bindweed/wild morning-glory	3	D
CREPTEC	<i>Crepis tectorum</i>	narrow-leaved/annual hawk's beard	3	D
DESCPIN	<i>Descurainia pinnata</i>	green tansy mustard	3	D
DESCSOP	<i>Descurainia sophia</i>	flixweed	3	D
ERUCGAL	<i>Erucastrum gallicum</i>	dog mustard	3	D
ERYSCHE	<i>Erysimum cheiranthoides</i>	wormseed mustard	3	D
FAGOTAR	<i>Fagopyrum tartaricum</i>	tartary buckwheat	3	D
FRAGSPP	<i>Fragaria spp</i>	strawberries	0	D
GALETET	<i>Galeopsis tetrahit</i>	hemp-nettle	3	D
HORDJUB	<i>Hordeum jubatum</i>	foxtail barley	0	D
LAMIAMP	<i>Lamium amplexicaule</i>	henbit	3	D
LAPPECH	<i>Lappula echinata</i>	bluebur	3	D
MALVROT	<i>Malva rotundifolia</i>	round-leaved mallow	3	D
MELISPP	<i>Melilotus officinalis and alba</i>	sweet clovers	0	D
NESLPAN	<i>Neslia paniculata</i>	ball mustard	3	D
PHLEPRA	<i>Phleum pratense</i>	timothy	0	D
PLANSPP	<i>Plantago spp</i>	plantains	0	D
POACOMP	<i>Poa compressa</i>	Canada bluegrass	0	D
POAPRAT	<i>Poa pratensis</i>	Kentucky bluegrass	0	D
POLYCON	<i>Polygonum convolvulus</i>	wild buckwheat	3	D
POLYPER	<i>Polygonum persicaria</i>	lady's thumb	3	D
POTENOR	<i>Potentilla norvegica</i>	rough cinquefoil	3	D
RAPHRAP	<i>Raphanus raphanistrum</i>	wild radish	3	D
SALSKAL	<i>Salsola kali</i>	Russian thistle	3	D
SCLEANN	<i>Scleranthus annuus</i>	knawel	2	D*
SETAVIR	<i>Setaria viridis</i>	green foxtail	3	D
SILECSE	<i>Silene cserei</i>	smooth catchfly/biennial campion	3	D
SILENOC	<i>Silene noctiflora</i>	night-flowering catchfly	3	D
SINAARV	<i>Sinapis arvensis</i>	wild mustard	3	D
SPERARV	<i>Spergula arvensis</i>	corn spurry	3	D
STELMED	<i>Stellaria media</i>	common chickweed	3	D
TARAOFF	<i>Taraxacum officinale</i>	common dandelion	3	D
THLAARV	<i>Thlaspi arvense</i>	stinkweed	3	D
TRIFSP	<i>Trifolium spp</i>	clovers	0	D
VACCPYR	<i>Vaccaria pyramidata</i>	cow cockle	3	D

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