



Annotated Bibliography of Wetland Mitigation Options: Instructions on Using the Bibliography

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The annotated bibliography is constructed with free Zotero® bibliographic software. The bibliography is public. Our goal is to curate it and keep it up to date.

The library is available at:

https://www.zotero.org/groups/5814951/wetland_mitigation_options_bibliography/library

This brings up the bibliography in Zotero® online. It is functional, but some features of the bibliography may not be optimal in the online version. For best performance, use the Zotero® desktop app:

1. Sign up for a Zotero account [here](#).
2. Sign in to Zotero. Select 'Groups' on the top menu, then select 'Search for Groups'. Enter 'Wetland Mitigation' to find this group and select 'Join'.
3. Download the [Zotero 7 desktop app](#) and install it.
4. Open the Zotero Desktop app. Go to 'Edit' > 'Preferences' > 'Sync'. Under 'Data Syncing', enter your Zotero login information. This Group on 'Wetland Mitigation Options Bibliography' will appear in the Zotero desktop app.

For each document, web links are included, abstracts are given when available, and a short annotation of the document is given under the 'Notes' field. We also created subject categories for the annotated bibliography, which we include in the 'Tags' field. Each general subject category has hierarchical levels of subcategories (Table 1).

The tags of subject categories are listed in the lower left of the Zotero® screen. They can be considered as filters. Documents can be searched by selecting one or several tags. Selecting multiple tags allows for intersecting searches. For instance, selecting 'peatland' and 'drawdown' and 'on-site restoration' will list the documents pertaining to the restoration of peatlands that have suffered a water table drawdown. Consulting the subject categories and subcategories will help suggest suitable searches.

The search window in the upper right corner of the screen can also be used to search by author, title, tag, or any word. The advanced search option allows for affirmative or negative searches (i.e. title "contains" versus "does not contain" a word).

Table 1. Subject categories listed as Zotero® tags. Updated December 2025.

HEADING	2° FILTER	3° FILTER	4° FILTER
Geographic Region	North America	Canada	Atlantic Maritime Pacific Maritime Boreal Cordillera Boreal Plains Boreal Shield Hudson Plains Taiga Shield Taiga Plains Taiga Cordillera Montane Cordillera Mixedwood Plains Prairies Southern Arctic Northern Arctic Ontario
	Europe Asia South America Australasia Africa		
Ecosystem Type	peatland	bog blanket peatland fen string fen	
	other wetland	marsh swamp saltmarsh shallow water wetland pools/ponds	
	coastal ecosystem		
	upland		
	ecotone		
	watercourses		
	water body		
Abiotic/Biotic Component	ecoregions		
	physiography	landform microtopography	
	climate	precipitation microclimate soil temperature cold climate energy balance	
	hydrology	evapotranspiration soil moisture groundwater spring thaw snowpack surface water/runoff water table	
	substrate	peat sediment permafrost	
	biogeochemistry	nutrients water quality pH electrical conductivity salinity sulphur compounds	

HEADING	2° FILTER	3° FILTER	4° FILTER
Abiotic/Biotic Component continued	carbon cycle	biochar carbon sequestration carbon storage greenhouse gases	carbon dioxide methane nitrous oxide
		decomposition dissolved organic carbon primary productivity	
	food chain		
	microbial activity		
	vegetation	functional group	
		vascular plants	woody plants graminoids black ash
		bryophytes	sphagnum brown mosses
		seedbanks	
lichens			
fauna	arthropods		gypsy cuckoo bumble bee yellow-banded bumble bee Suckley's cuckoo bumble bee
		macroinvertebrates	
		fish	lake sturgeon
		amphibians	
		reptiles	
		birds	migratory birds shorebird/wader snow geese Hudsonian godwit lesser yellowlegs red knot red-necked phalarope short-eared owl common nighthawk olive-sided flycatcher bank swallow barn swallow Canada warbler evening grosbeak rusty blackbird
		mammals	bats beaver moose coyote timber wolf eastern red bat hoary bat silver-haired bat little brown myotis northern myotis tri-colored bat caribou caribou boreal population caribou, eastern migratory population wolverine polar bear
human society		social license	
		indigenous perspective	traditional use
			wild foods

HEADING	2° FILTER	3° FILTER	4° FILTER
Origin of Impacts	climate change aggregate extraction agriculture cities/towns/villages cumulative effects peat/moss extraction ditching fire forest harvest industrial equipment infrastructure linear disturbance mineral exploration mining motor vehicles pollution power generation	roads winter roads seismic lines pipelines transmission lines mine footprint aggregate pads drill pads tailings mine wastes air pollution acid rock drainage explosives landfill spills wastewater water pollution	

HEADING	2° FILTER	3° FILTER	4° FILTER
Stressor	<p>hydrological alteration</p> <p>landscape conversion and fragmentation</p> <p>fertility change / contamination</p>	<p>drawdown</p> <p>drought</p> <p>flooding</p> <p>ecosystem conversion</p> <p>linear feature</p> <p>fugitive dust</p> <p>herbicide</p> <p>hydrocarbons</p> <p>metal/metalloid</p>	<p>antimony</p> <p>arsenic</p> <p>chromium</p> <p>cobalt</p> <p>copper</p> <p>lead</p> <p>mercury</p> <p>nickel</p> <p>selenium</p> <p>thallium</p> <p>zinc</p>
		<p>nutrient enrichment</p> <p>suspended solids</p>	
	substrate disturbance	<p>subsidence</p> <p>compaction</p> <p>geotechnical properties</p> <p>soil warming</p> <p>permafrost thaw</p> <p>smouldering</p> <p>erosion</p>	<p>water erosion</p> <p>wind erosion</p>
	vegetation disturbance	herbivory	
	predation		
	invasive species		
	other stressor	<p>noise</p> <p>wildlife collisions</p>	
Mitigation Hierarchy	<p>impact avoidance</p> <p>impact minimization</p> <p>on-site restoration</p> <p>offsetting</p> <p>compensation</p>		
Mitigation Detail	<p>mine planning</p> <p>remediation</p> <p>hydrologic management</p> <p>substrate rehabilitation</p> <p>revegetation</p> <p>best management practice</p>	<p>tailings management</p> <p>sedimentation pond</p> <p>mine reclamation</p> <p>bio/phytoremediation</p> <p>nutrient removal</p> <p>treatment wetland</p> <p>peat dams</p> <p>rewetting</p> <p>culverts</p> <p>passive restoration</p> <p>active restoration</p> <p>donor site</p> <p>aggregate burial</p>	

HEADING	2° FILTER	3° FILTER	4° FILTER
Monitoring	remote sensing	unmanned aerial vehicle LiDAR satellite imagery synthetic aperture radar camera traps autonomic acoustical survey	
	peat/sediment cores		
	vegetation sampling		
	reference conditions		
	biomonitoring		
	dendrochronology		
Policy/Statute	Canadian policy/statute	migratory birds policy species-at-risk	status report recovery strategy management plan conservation agreement
		wetland policy	
	Ontario policy/statute	migratory bird policy species-at-risk	status report recovery strategy conservation agreement
		wetland policy	
		mapping	
		policy discussion paper	