

Proposal for 2022 Washington State Noxious Weed List

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Rough chervil (*Chaerophyllum temulum*), proposed for Class B Noxious Weed List

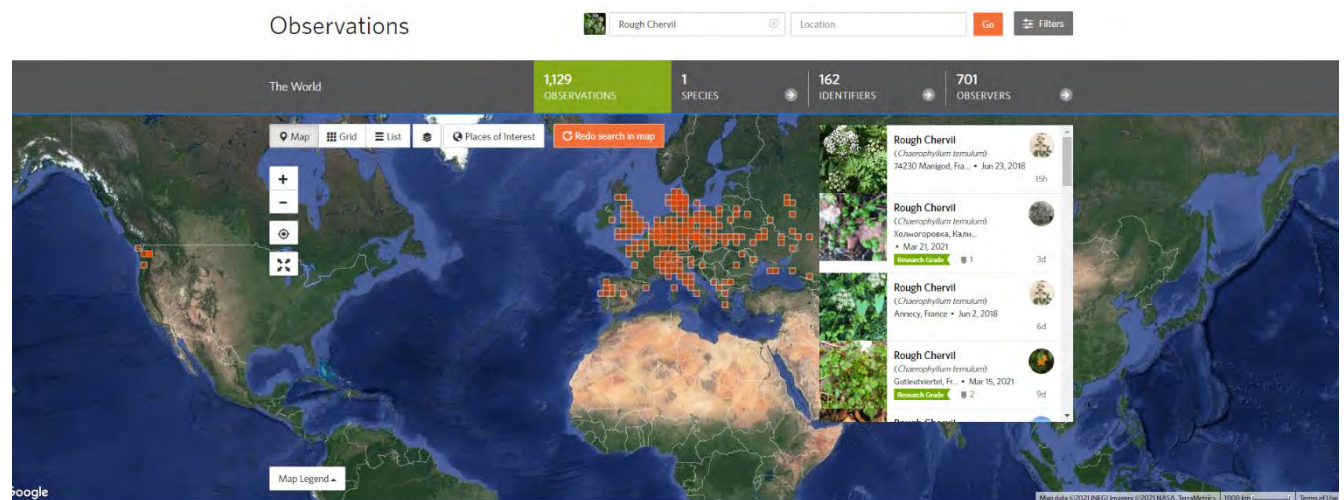
Common and Latin Names: Rough chervil (*Chaerophyllum temulum*)

Synonyms: Dark chervil (Finland); common hole cover, poisonous hollyhock, ordinary hole wrapper/ almindelig hulsvøb (Denmark); hair chervil/ hårkörvel (Sweden); svimekjeks (Norway); leaning, nodding, intoxicating, or bent chervil/ cerfeuil penché (Canada); gorthyfail garw “a rough demise” (Wales).

Family: Apiaceae

Native Range: *Chaerophyllum temulum* L. is a biennial or monocarpic perennial herb mainly growing in semi-shaded locations such as open forests, forest edges, hedgerows and river banks ([Hegi, 1975](#); [Grime et al., 1988](#)). It is distributed throughout Europe, the Caucasus and western North Africa ([Hegi, 1975](#)).

US/Canada Distribution: On iNaturalist, this author has been curating and reviewing rough chervil observations in the United States regularly since 2019, and its distribution has proven consistent with accurate herbaria records. All identifications in places not represented in herbaria records on iNaturalist in the United States were misidentifications. The current global distribution of *Chaerophyllum temulum* on [iNaturalist](#) is below:



According to the [USDA distribution map](#), rough chervil (**CHTE5**) is reported as “introduced” in Pennsylvania and New Jersey. It is also represented in the Pacific Northwest in Washington and Oregon in [herbaria](#), but is not known in [Idaho](#). Rough chervil was previously documented in Quebec, Canada on the USDA distribution map, but has since been labeled [misidentified](#) in that region, and has been [collected and confirmed in BC, Canada](#). Rough chervil is listed as [“invasive” in broadleaf, temperate forests in Sweden](#), and as “introduced” in Norway. It has been entered in herbaria incorrectly and confused with both [Torilis](#) (hedge parsleys) and [others](#)

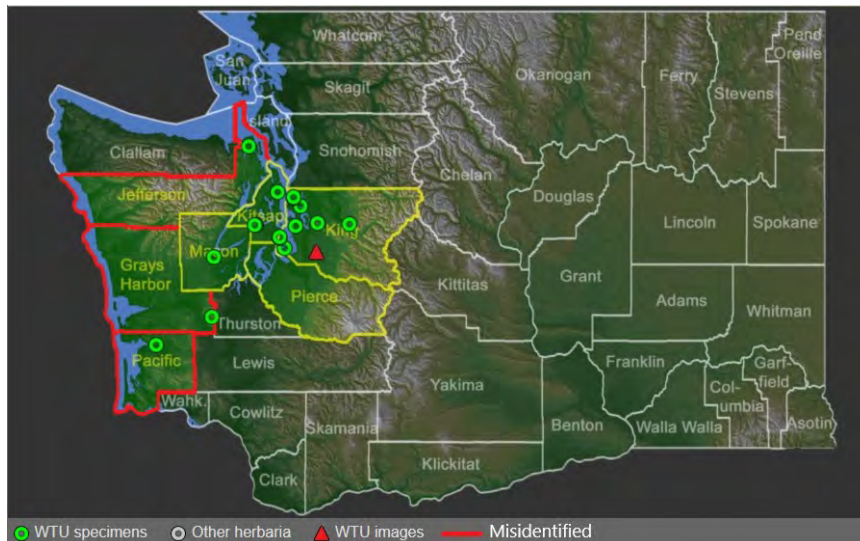
locally, [Conium](#) in Arkansas, and [other species](#) along the East Coast of the US, including [sources](#) on how to identify it. The first accurate collection made of *C. temulum* in the United States was likely in [Philadelphia, PA, introduced via ballast in 1878](#). There are no EDDMapS records of *Chaerophyllum temulum*.



Washington State Distribution: Rough chervil (*C. temulum*) was first positively identified in King County in 2011 on Vashon Island by botanist David Giblin with the University of Washington Herbarium. However, it is highly likely that the species had been present in King County for at least fifteen to twenty years prior at that point. According to Sasha Shaw, King County Noxious Weed Control Program (KCNWCP) Communication Specialist, it had been “seen on some roadsides in the Newcastle/Renton area in the late 1990’s when we were trying to locate a different species but had apparently [been] misidentified back then as a native *Ligustrum* species” (Shaw, personal communication, 4/8/2021).

According to the [UW Burke Herbarium distribution map](#), rough chervil currently occurs in several counties in western Washington. There is some disagreement about which counties have locations because of differences of opinion about identification. There is consensus that locations of rough chervil have been confirmed in King, Pierce, Kitsap, and Mason counties. However, this author believes rough chervil has been misidentified in local herbaria in [Jefferson](#) and [Pacific](#) counties, and most likely Grays Harbor County (observed by the same collector and nearly the same date as the previously mentioned misidentifications). It’s likely that these misidentified collections are in the genus [Chaerophyllum](#), but there is uncertainty whether they could be [C. bulbosum](#) (a rare escapee found in similar latitudes in Eurasia) or *C. prescottii*. A review of these collections is being conducted at the UW Herbarium and a revisit is planned for June or July of this year to dig up the diagnostic tubers. Both are cultivated for edible tubers, are available online in seed packets, and are known to escape cultivation, which makes them likely candidates for misapplication.

Rough chervil had been collected and keyed correctly in [British Columbia in 1988](#) and collected but misidentified as *Anthriscus sylvestris* in [Oregon in 2000](#). David Giblin, who is an editor of The Second Edition of the *Flora of the Pacific Northwest*, recalls “regarding Oregon, when I was preparing the *Chaerophyllum* treatment for the revised Flora I came across the first specimen (misidentified) from Oregon [on 7/29/2015] – it wasn’t reported from there then (David Giblin, personal communication, 4/13/2021).” These collections, archived in herbaria more than a decade prior to being identified in Washington, demonstrate how *C. temulum* has likely evaded representative collection in Washington due to identification difficulties. While the Second Edition of the *Flora of the Pacific Northwest* suggests that rough chervil is “more common in our area than current collections suggest,” this author believes it to be underrepresented in King County and overrepresented in surrounding counties. If herbaria records were updated to reflect what this author believes are misidentifications of rough chervil, the counties outlined in red on the map below would be removed from its considered distribution:



Locations and Control Efforts in King County:

1. SE Tiger Mountain Rd, King County, WA

Roadside infestations in King County have been the most visible, and this area on Tiger Mountain Rd in eastern King County prompted a group of homeowners to organize workgroups and push for listing this species in King County.

The following is commentary from Wren Hudgins, local resident, via email (6/8/2020) during flowering for the higher elevation of Tiger Mountain Road:

We are a group of 13 private homes on a .5 mile long private road (252nd SE, Issaquah, WA) just off of SE Tiger Mtn Rd, about 5 miles south of Issaquah on Issaquah Hobart Rd. You probably know this but coming from Issaquah south on Issaquah Hobart Rd, one turns left on SE Tiger Mtn Rd. I would say that there is nearly a 2 mile almost unbroken stretch of rough chervil on the road edge. If you go 1.1 miles uphill on that road, you arrive at a left turn onto 252nd (the private road into our neighborhood). The rough chervil is just starting to enter our neighborhood and we think we can uproot it

and at least stall its march. The amount of the plant along SE Tiger Mtn Rd is way beyond our capacity to manage.

Wren and the neighborhood group started management efforts in March 2020. They divided the area into plots to determine the most effective method - hand-pulling; pulling and mulching with woodchips at a depth of 5 inches; mowing the flowerheads; and a control plot where no management is employed. As of March 12, 2021, Wren reported the following:

We did one test spot of maybe 4' x 6' and put 5" of wood chips down there. I didn't see any chervil coming through that - small test, but maybe worth something.

Wren wrote an appeal to the King County Noxious Weed Control Board to list *C. temulum* (7/10/2020), which includes the following justifications:

Reasons

- 1. It is toxic if eaten and a skin irritant if touched.**
- 2. It is non native and invasive. Although it prefers disturbed ground along roadsides and paths, it will invade the forest.***
- 3. Difficult to control. It outcompetes native vegetation. Weed whacking did nothing. Hand weeding is unrealistic as a long term strategy.*

**Although not a scientific source, Wikipedia nonetheless offers useful information: "Chaerophyllum temulum contains (mainly in the upper parts and fruits) a volatile alkaloid chaerophylline, as well as other (probably glycosidally bound) toxins, the chemistry and pharmacology of which has, as yet, been but little studied.*

Externally, the sap of the plant can cause inflammation of the skin and persistent rashes. If consumed, the plant causes gastro-intestinal inflammation, drowsiness, vertigo and cardiac weakness. Human poisonings have seldom been observed, because the plant lacks aromatic essential oils that could lead to its being confused with edible umbellifers used to flavor food. It is, however, used occasionally in folk medicine. Animal poisonings by the plant are commoner than those of humans, pigs and cattle thus intoxicated exhibiting a staggering gait, unsteady stance, apathy and severe, exhausting colic, ending sometimes in death."

***In several places along SE Tiger Mtn Rd SE, the chervil has left the roadside and marched into the forest a distance of 25' (see picture to the right).*



2. Coal Creek, Bellevue, King County, WA.

This infestation was discovered in 2013 along a “damp shady path side” ([WTU 393956](#)) with *Urtica* (nettles), *Ranunculus repens* (creeping buttercup), *Oemleria* (osoberry), *Alnus rubra* (red alder), and *Acer macrophyllum* (big leaf maple). This infestation has yet to be adequately mapped but has persisted to 2021, and is likely being spread by movement of dogs off-leash and mowing equipment by maintenance staff as it has been [discovered trailside](#) within the same trail system some distance to the SW and also along a trail within a mowed area.



(Left: early April rough chervil rosette likely developed previous fall in Coal Creek Park near Bellevue. [Photo credit Matt Below 4/3/2017](#); Below: flush of new seedlings in same Coal Creek locality 4/3/2017 [also by Matt Below](#))



Above: *Chaerophyllum temulum*. [Coal Creek Natural Area March 2021](#).

3. Tacoma Water property, Soos Creek, Auburn, WA

This population of *C. temulum* was first noticed by Erin Haley, KCNWCP Green River Riparian Noxious Weed Specialist, in 2017 and has apparently outcompeted both ephemeral forbs and low, shrubby vegetation. Most likely introduced with fill on a pipeline right-of-way that bisects the parcel, this population was left unchecked and has demonstrated invasiveness within an otherwise undisturbed riparian forest. It has colonized under a dense deciduous overstory



Chaerophyllum temulum in riparian forest. [Photo by Erin Haley](#) May 30th, 2017.

comprised of aging red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*) and cottonwood (*Populus trichocarpa*); a shrub layer of salmonberry (*Rubus spectabilis*), snowberry (*Symphoricarpos albus*), and low Oregon grape (*Berberis nervosa*); and apparently inhibited waterleaf (*Hydrophyllum tenuipes*), bleeding heart (*Dicentra formosa*), and annuals (*Nemophila parviflora*, etc.) within the forb/herbaceous layer. In February 2021, this infestation was measured at near 20,000 square feet, but is probably more widespread due to phenology limitations in early spring. While there was a visible flush of seedlings, these were probably holdovers from fall 2020, and the new flush due in April 2021 will likely expand that footprint. Seeds are likely moving via animals (e.g. ungulates, bear, domestic cats, raccoons, the use of equestrian trails, humans, etc.) and disturbance regime cycles associated with riparian forest, floodplains, and steep, bare slopes (erosion, run-off, floods, etc.).



Chaerophyllum temulum's fall seedlings overwintering on riparian forest slope. [Photo by Tom Erler Feb 5th, 2021.](#)

4. King County Roadsides, King County, WA

Elsewhere in King County, the increasing roadside presence during recent years has been noticed by KCNWCP staff. Roy Brunskill, King County Roads and Parks Coordinator noted “There is tons of it along road row [right of way] ... All along Issaquah Hobart Rd, Kent Kangley, 276th Ave SE, SE 208th St, SE 216th, SE 224th St and Tiger Mountain Rd to name a few. Really, it’s everywhere” (personal comm. 6/7/2019) and Tricia MacLaren, State and Federal Lands Coordinator noted that rough chervil was “Also observed along roadsides on Cedar Grove Road SE and Auburn-Black Diamond Road. Mapped two points on a KC Parks trail near Enumclaw last week. Agree with Roy, it’s widespread.” (personal comm. 6/14/2019). This author has made 29 observations of rough chervil along roadsides, riparian forest, and understory trails, and also considers it to be widespread within King County:

https://www.inaturalist.org/lifelists/tomerler?details_view=observations&taxon_id=55733&place_id=1282

Locations and Control Efforts outside of King County:

Ross Island Natural Area, Portland, OR

[Collected by Dominic Maze May 5th, 2014 with following description::](#)

Perched dredge soils above high water. Associated with Geranium lucidum, Oemleria, Acer macrophyllum, Populus trichocarpa. 1000's of plants, to 2.5 meters high. Rapidly spreading, dense.

Willamette Riverkeeper, a 501(c)(3) non-profit, secured funding via a “Nature in Neighborhoods” grant from Oregon Metro to respond to several impactful, noxious weeds, including rough chervil. Language from the grant application is below (emphasis added):

Willamette Riverkeeper is a non-profit organization whose sole mission is to protect and restore the Willamette River ecosystem. With grant funding from Metro’s Nature in Neighborhood Program, Willamette Riverkeeper will build upon a strong partnership with the City of Portland BES and PP&R to improve the quality of critical wildlife habitat in the Willamette River corridor. The main focus of this project is to restore the ecological function of the forested communities on Ross Island to support a diversity of wildlife. Poor soils, deer browse, and the widespread infestation of invasive species in the forested understory are primary threats to habitat within the 45-acre island project area. Local contractors will perform seasonal treatments to eradicate priority weed species through targeted spray applications during key times of the year. Target weed species include: garlic mustard (*Alliaria petiolata*) and false brome (*Brachypodium sylvaticum*). Shiny leaf geranium (*Geranium lucidum*) is currently occupying approximately 15-20% of the understory cover and is rapidly becoming a growing concern at this site. **Rough chervil (*Chaerophyllum temulum*) was discovered on the island in 2014 and control efforts are now underway.** Weed treatments will include herbicide applications, as well as hand pulling efforts. WR is looking to partner with local contractors who provide job training and career development opportunities for underserved, low-income populations and communities of color.

A letter of support for the grant proposal written by the City of Portland’s Environmental Services’ Watershed Revegetation Program, Dean Marriott, Director, dated 7/2/2015, includes this commentary regarding the project’s invasive weed management (emphasis added):

Many of the initial goals for this project have been met, but it is critical to continue and protect the effort that has been invested in reducing and controlling the noxious weed species on the island. The ongoing effort to control false brome is extremely important. The false brome population was discovered early and has been marked and treated but this treatment process is at a critical stage and continued work is needed. **Rough Chervil a new noxious species has been recently identified and was manually pulled from the island this past spring, we spent a total of two days and 112 hours of contracted manual labor to address this new threat to this special natural asset.**

Marci Krass, author of the grant application and former Restoration Program Manager for Willamette Riverkeeper believes the opportunity still exists to consider rough chervil an EDRR species (Marci Krass, personal communication, 3/23/2021, emphasis added):

Thanks for your good work to better understand the growth habits of rough chervil. This weed presented on Ross Island years ago. When it was first discovered we did some hand pulling (which was hard and not very effective) followed by some spot spray I think with a glyphosate mix. The plants had persisted from what I have noticed. Laura with the City of Portland would be better able to talk about other more recent control efforts for this plant. **It has remained somewhat under the radar when compared to the threats of false brome, garlic mustard, and shiny leaf geranium which are other invasive species common on Ross Island. The rough chervil does persist and is spreading in**

the forested understory setting. I do think it might be best to control as an EDRR species to prevent widespread establishment if discovered.

Laura Guderyahn, Ecologist at Portland Parks and Recreation confirms rough chervil is still present at the site in 2021 despite previous control efforts. While the protocols during the Coronavirus outbreak in 2020 prevented rough chervil control work from being done on the island during the 2020 field season, she plans to have crews return to spray it in 2021 (Laura Guderyahn, personal communication, 3/23/2021).

Dominic Maze, Biologist & Environmental Regulatory Coordinator for the City of Portland, who collected the initial specimens on Ross Island and elsewhere around Portland also believes it justifies listing (Dominic Maze, personal communication. 3/24/2021). He submits:

Chaerophyllum (rough chervil) has been known from the Portland area (one population) since 2000 (in Washington County). In about 2014, I spotted a tall, very impressive carrot-family species on the north end of Ross Island in: cover was about 90% or greater over a few acres of mostly cottonwood understory. I have also collected it roadside in east Portland and our partner at City of Gresham has as well. Note: I usually forego Weedmapper and use herbaria data. [Look here at this link](#). The “invasion front” of *Chaerophyllum* at Ross Island was one of the most impressive I’ve seen: a clear line of 5’ tall plants marching down the island. Can it do this everywhere it grows and in all situations? Probably not to that degree, but it certainly warrants attention, which is one of the main purposes of a noxious weed list.



Chaerophyllum temulum invading riparian understory. Photo by Dominic Maze, 5/20/2015.



Chaerophyllum temulum invading riparian understory. Photo by Dominic Maze, 5/20/2015.



Chaerophyllum temulum invading riparian understory. Photo by Dominic Maze, 5/20/2015.



Chaerophyllum temulum invading riparian understory. Photo by Dominic Maze, 5/20/2015.

Clackamas River Floodplain, Carver, OR

This is a useful example and reference site for rough chervil's invasiveness and competitive ability within similar habitat and conditions as those present in King County (and elsewhere in Western Washington).

Collected by [Jeffrey Lesh October 28th, 2016](#) and noted as "abundant." Collected again by [Jeffrey Lesh on May 10th, 2017](#) and noted as "invasive in riparian forest understory." Jeff's comments and 2017 photographs are below:

I found some photos from a site visit just prior to my May collection on the Clackamas River in 2017 near Carver. <https://photos.app.goo.gl/D5mEpCpGMMtc5EVa6>

This was from mid-April 2017 and shows mostly pre-flowering and what I took to be a different cohort of *C. temulum* plants (seedlings) below more mature plants. **You will also note some other species that may be useful in understanding competitiveness and habitat including *Alliaria petiolata* and *Impatiens capensis*.** The site is gallery Cottonwood floodplain forest. A former colleague likely still goes to that site and may be able to provide updates on any control. I don't recall for sure if we made it a control target there or not. (Lindsey Karr - <https://conservationdistrict.org/staff-members/lindsey-karr>)... *Alliaria* was/is common along the Clackamas, though Clackamas SWCD is working to change that. **I know of one other large patch of *C. temulum* downstream from this site, also in the Clackamas River floodplain under deeper shade and also with *Alliaria*.**

Note: these pictures were taken prior to any control efforts or treatments in the area (Jeff Lesh, personal communication. 3/25/2021), and thus can demonstrate *C. temulum*'s ability to colonize and compete alongside garlic mustard in conditions it is known to favor in King County (Cedar River & Soos Creek floodplain garlic mustard infestations).



Chaerophyllum temulum competitive with *Alliaria petiolata* and *Impatiens capensis*. Photo by Jeffrey Lesh, 2017.



Chaerophyllum temulum competitive with *Alliaria petiolata* and *Impatiens capensis*. Photo by Jeffrey Lesh, 2017.



Chaerophyllum temulum flowering individuals with both seedlings and cotyledons. Photo by Jeffrey Lesh, 2017.

Reason for Proposed Listing: Rough chervil (*Chaerophyllum temulum*) is recommended for listing as a Class B Noxious Weed because it is still relatively limited in distribution statewide; it is difficult to control; it is known to invade and impact natural areas; it is a public health issue; and it is misrepresented or misidentified in herbaria all around the world. The primary mode of seed dispersal locally appears to be in areas with frequent soil or vegetative disturbances. Rough chervil has become widely established on roadsides and, based on the author's observations, is beginning to spread to mesic mixed conifer/deciduous understory, riparian forest, and floodplains locally. The Second Edition of the *Flora of the Pacific Northwest* also notes this species as "occurring in disturbed forest understory and edge, often where seasonally moist." Historically, seaports on the East Coast of the US and in Northern Europe reported introductions via ballast. Habitat restoration projects and trail/road development may continue to move *C. temulum* seeds with fill as probable vectors in the future without intervention.

Dense stands of *C. temulum* are possibly increasing the amount of chaerophylline - a less-common, naturally-occurring anti-fungal alkaloid - into our native soils with yet undetermined local impacts. Studies from elsewhere indicate 100% spore germination inhibition at higher concentrations of chaerophylline (Leepika Tuli, 2001). The King County Noxious Weed Control Program has prioritized control of noxious weeds such as [garlic mustard](#) and policeman's helmet, in-part because they cause mycorrhizal disruption to adjacent plant communities that rely on them (Stinson et al, 2006) . These weeds are then able to compound their competitive advantage by reducing available habitat for competing native plants below the ground, which in turn decreases aboveground vegetative cover and greater germination potential for the same introduced weeds. The amount of available data online with a cursory search of the co-occurrence of *C. temulum* and *A. petiolata* in their native and now invasive range, to this author,

indicates a similar non-mycorrhizal relationship with soil communities shared by the two plants. The two species form a [distinct, associative community in Europe](#) and were recognized by Kreh in 1935 as an independent sociological unit called The [Alliaria officinalis \[petiolata\] - Chaerophyllum temulum Association](#) (Lohmeyer, 1949). Mary Lou Harlander, who discovered rough chervil spreading in her forested lot on Vashon Island “around 2003” commented “The forested area is dense with nettles, but I might be noticing that this mystery plant is replacing areas of nettles while it dukes out the territory with Herb Robert” (Shaw, personal communication, 2021.). Based on this author’s own observations of clumpy and sparse pacific waterleaf (rhizomatous habit), bleeding heart (rhizomatous habit), and other native ephemerals surrounded by a dense colony of *C. temulum* on the Soos Creek site and competition noted on the Clackamas and Ross Island sites, established rough chervil appear to have an inhibitory effect to surrounding vegetation.

Once established along roadsides and urban areas, rough chervil poses a potential threat to adjacent gardens, p-patches, off-leash dog parks, and recreation areas. It has been noted to invade and easily spread by seed through mowing and maintenance activities and is likely to pose similar public health impacts as poison hemlock (*Conium maculatum*) (Burrows & Tyrl, 2013). Due to its phenology and its “boney” structure when in flower, it is very difficult to control rough chervil chemically without considerable off-target damage to nearby native plants, thereby reducing competition while increasing areas of disturbance and favorable conditions for rough chervil (personal observation). Most mechanical and manual control occurs when the plant is visible and identifiable in flower and results in upturned soil and large areas of disturbed soil-ideal conditions for rough chervil.

Listing this plant as a Class B Noxious Weed will allow local agencies the opportunity to increase the priority for control along public rights-of-way, recreation areas, and natural areas while there is still a chance to curb its spread, particularly in rural counties along the I-5 corridor, and in areas of large-scale agricultural and landscape disturbances such as clearing, logging, mining, reclamation projects, and commercial and residential development. Listing rough chervil now will increase outreach and education efforts relating to associated public health issues before it becomes more widespread in areas with an unassuming or unaware public. Distribution is thus far observed to be limited on private property (personal and shared observations and from collections), which may limit the time commitment required in coordinating control of these populations.

Listing rough chervil as a noxious weed in Washington would also aid both the state of Oregon (where it is present and [noted as “invasive” in multiple collections in riparian forest](#), but does not have a floristic treatment in [Flora of Oregon](#)) and British Columbia for identification clarity as well as for determining priority and best practices for control strategies there.



Chaerophyllum temulum flowering and moving down a slope Photo by Tom Erler, 2020.



Chaerophyllum temulum flowering on understory fringe with dense carpet of seedlings. Photo by Tom Erler, 2020.

Overview of Rough Chervil Characteristics

The following information adapted from [King County Noxious Weed Control Program Weed Identification and Control page for rough chervil, *Chaerophyllum temulum*](#), 2018, Sasha Shaw, KCNWCP, and from this author's personal observations.

Growth Habits, Reproduction, and Spread:

Rough chervil is an opportunistic plant and pioneer species that will grow in a variety of contexts - from damp places (e.g. stream edges) to open woodland and woodland edges; along roads and trails, and by walls, fences, and buildings; and in both lowland and mid-elevation areas.

Rough chervil typically grows as a biennial that takes two years to mature to flower, although some plants may flower in both the first and second years. In western Washington, rosettes that develop in the later summer overwinter and begin rapid growth in April, while a separate cohort begins to appear as a dense carpet of new seedlings and forms first true leaves by early April (personal observation and personal communication with Jeff Lesh). Mowing before plants go to seed may prolong the lifespan of the plant. Rough chervil is pollinated by solitary bees in its native range and reproduces by seed. Rough chervil typically appears in early spring and flowers from late April to June and again later in the summer/autumn.



Chaerophyllum temulum along edge of Lewis Creek in Issaquah. [User thatbee on iNaturalist, 2020.](#)

Hardiness Zones: Rough chervil appears classified as “invasive” in hardiness zones 6-8 and based on distribution, appears specially equipped to exploit Pacific Northwest mesic understory and riparian areas.

Positive Economic Impact: Apparently examples of use in folk medicine exist, however there are also reports of severe injury when applied attached to those few available examples.

Negative Economic and Public Health Impact: In The Second Edition of *Toxic Plants of North America* (2013), it is noted that *Chaerophyllum temulum* “contains falcarinone and a glycoalkaloid, chaerophylline, possibly similar in effect to coniine,” poison hemlock’s toxic alkaloid. The chemistry and pharmacology of chaerophylline has, as of yet, not been extensively studied with a modern lens, but there are repeated references to its toxicity from old common names (a rough demise, stumbling calf’s goiter, tumbling calf’s crop, intoxicating chervil, mad chervil, etc.). In *A Flora of Leicestershire: Comprising The Flowering Plants, and the Ferns Indigenous to the County* written by Mary Kirby in 1850, she states “*Chaerophyllum temulentum*

[syn.], intoxicating chervil, grows only in rich ground... they are equally poisonous [to poison hemlock].”

An account of the use of rough chervil in early modern medicine was published in a pamphlet by a Dutch doctor, Philip Looft in 1773, titled *Donum Chemicum*. An online publication “The Recipes Project” is a collaborative international research blog, edited by a team of historians from a consortium of universities and institutes. The author of an article called “The dose makes the poison: dangerous plants,” written by [Marieke Hendriksen](#), a Dutch researcher at the Humanities Cluster of the Royal Netherlands Academy of Arts and Sciences, discusses Looft’s observations on rough chervil use in medicine from *Donum Chemicum*. According to Hendriksen, Looft discusses the use of rough chervil by a respected physician predecessor- 17th and 18th Century professor of medicine, chemistry, and botany, Herman Boerhaave. She states that like Boerhaave did before him, Looft first warns that any use of poisonous substances can be extremely dangerous before describing his own experience using rough chervil in medicine. In *Donum Chemicum*, Looft describes successfully “curing a woman suffering from leprosy by treating her with a very weak solution of rough chervil and sarsaparilla- a handful of rough chervil and an ounce and a half of sarsaparilla boiled in 28 or 30 ounces of water for three hours. The patient is said to have been temporarily blinded each time she took a two-ounce dose of the brew, and after seven weeks of two daily doses, she was cured of her leprosy.”

Rough chervil can cause contact dermatitis and possesses a skin irritant (Falcarinol) in relatively large amounts within the root system at all stages (Stamenković et al, 2015). The most abundant component of essential oil produced from the stem was Germacrene D and between 32.5-38.4% depending on stage of growth (Stamenković et al, 2015). A 2016 study exploring *Eupatorium cannabinum* essential oils found oils containing predominant amounts of germacrene D to be notably toxic using brine shrimp (*Artemia sp.*) assay (Judzentiene et al, 2016).

Rough chervil’s main documented impact in Sweden, where it is considered “invasive” is noted as “[Human health](#)” on NOBANIS (European Network on Invasive Alien Species).

Because of its toxicity, rough chervil most likely can cause harm to livestock grazing where it occurs and to people who encounter it while gardening or hiking.

Ecological Impacts: Rough chervil can become abundant and dense in disturbed or open areas and spreads quickly by seed. It has the potential to impact native wildflowers that grow in similar habitats. Rough chervil appears to be a disturbance-dependent plant, with invasions in non-native range relying heavily on human activities. Chronically disturbed areas such as roadsides, railroads, gravel pits, trails, slopes, and riparian corridors are most vulnerable to colonization (personal authority) and then plants spread out from there to adjacent areas. Where established, rough chervil can outcompete native plants via its vegetative density, height, and high germination rates, creating a mat of plant material that smothers native seedbanks (personal authority). There is evidence of strong inhibitory effects on soil microbial communities and the potential to disrupt belowground mutualisms as is the case with *Alliaria petiolata* in its invasive range. (Stinson, et al 2006).

Control: To prevent the spread of rough chervil, minimize soil disturbance in infested areas from vehicles and machinery and watch roadsides and fence rows for new populations. Disturbed areas should be mulched or re-planted to prevent its spread. Rough chervil may cause skin rashes

so wear gloves and long sleeves to avoid contact. For individual plants or small patches, hand pull or dig up the roots when the soil is moist, making sure to remove all the roots. Both glyphosate (nonselective) and triclopyr (broadleaf selective) have been used by KCNWCP on both flowering and vegetative individuals during different years and have both been proven effective for that year's control (personal experience). However, repeated years of control are needed for long term control. Experience controlling via chemical means has exceeded 6 years in the case of Portland's Ross Island example. Rough chervil seedlings are slow to develop in the spring, and prior-year, late-season holdovers can give a manager a false impression of the previous year's control efforts. Leaves of spring germinating plants may not fully form until mid-April. Flowers may not be fully developed until [May](#) and then again for another generation later in [early-August](#) (personal authority). There are no biological control agents approved for rough chervil.

Sources:

Burrows, George E, Tyrl, Ronald J. *Toxic Plants of North America*. 2nd ed. John Wiley and Sons; 2013.

Giblin, D.E. & B.S. Legler (eds.). 2011+. *Chaerophyllum temulum*. In: WTU Image Collection Web Site: Vascular Plants, MacroFungi, & Lichenized Fungi of Washington State. University of Washington Herbarium. Accessed 22 Feb 2021. <http://biology.burke.washington.edu/herbarium/imagecollection.php>.

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