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BY E-MAIL ONLY (invasive.species@ontario.ca)

Biodiversity Coordinator
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300 Water Street,
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Attention: Mr. Jeremy Downe
Invasive Species Policy Advisor
Biodiversity Section

Re: Seeking information on invasive species and carriers under the Ontario Invasive Species Act, 2015 (ERO #019-1162)

Thank you for the opportunity to comment on the Ministry of Natural Resources and Forestry's (MNRF) Environmental Registry (ERO) posting, "Seeking information on invasive species and carriers under the Ontario Invasive Species Act, 2015."

The Toronto and Region Conservation Authority's (TRCA) is actively involved in invasive species management strategy and implementation within our jurisdiction, in order to conserve natural resources. TRCA conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in the *Made-In-Ontario Environment Plan*, CAs work in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. TRCA's municipal partners rely on TRCA's assistance for implementing the natural heritage policies of the Provincial Policy Statement by protecting and restoring natural heritage resources through our mandate under the *Conservation Authorities Act*. We understand that under the *Invasive Species Act, 2015*, decisions to recommend species for regulation are based on the risk that a species poses to Ontario's natural environment and socio-economic well-being. The Act directs that these risks be identified through species-specific ecological risk assessments, the experiences of other jurisdictions, and public consultation.

Government Proposal

We understand the government's proposal seeks information on the ecological, social and economic impacts and benefits of thirteen species and one carrier. The information collected will support the completion of ecological risk assessments and inform the possible future development of a regulatory proposal under the *Act*. These investigations are part of a government effort to review actions taken in nearby jurisdictions, to improve regulatory consistency among jurisdictions in the Great Lakes Basin. The species currently under review are:

- Marbled crayfish (*Procambarus virginalis*)
- Tench (*Tinca tinca*)
- New Zealand mud snail (*Potamopyrgus antipodarum*)
- European frogbit (*Hydrocharis morsus-ranae*)
- Yellow floating heart (*Nymphoides peltata*)
- Prussian carp (*Carassius gibelio*)
- Red swamp crayfish (*Procambarus clarkii*)
- Fanwort (*Cabomba caroliniana*)
- Bohemian knotweed (*Reynoutria x bohemica*)
- Giant knotweed (*Reynoutria sachalinensis*)
- Himalayan knotweed (*Koenigia polystachya*)
- Mountain pine beetle (*Dendroctonus ponderosae*)
- Wild pigs (*Sus scrofa*)

The government is also reviewing the potential benefits of regulating the movement of watercraft over land as a carrier, meaning something capable of facilitating the movement of an invasive species from one place to another, to determine if current education initiatives focused on Clean, Drain, Dry principles and practices should be made mandatory through regulation.

General Comments

TRCA staff have reviewed the proposal and generally supports the government's proposal to examine the thirteen species and one carrier for regulation under the *Invasive Species Act*.

In TRCA's jurisdiction, invasive species management is an important consideration for ecological and socio-economic reasons. Much of TRCA's jurisdiction contains highly altered landscapes and urban areas with a high prevalence of invasive flora and fauna. TRCA and its partner municipalities have repeatedly expressed a strong commitment to healthy terrestrial and aquatic ecosystems that provide numerous ecosystem functions and services, which are critical for human health and well-being.

TRCA's *The Living City Policies, 2014* (LCP) highlights TRCA's mission to work with our partners to ensure that The Living City is built on a natural foundation of healthy rivers and shorelines, greenspace and biodiversity, and sustainable communities. It acknowledges that the loss of native plants and animals and the proliferation of invasive species are increasingly a threat to local ecosystem function and that both land use and climate changes are expected to exacerbate these issues. Accordingly, the LCP, used to guide staff review of proposed works either under the *Planning Act*, *Environmental Assessment Act* or permits under TRCA's regulation under the *Conservation Authorities Act*, contains policies to recommend a natural approach to the landscaping adjacent to natural heritage systems with native, non-invasive and locally appropriate species.

Further, an action in TRCA's ten-year *Strategic Plan* (2013-2022) is to enhance our regional watershed monitoring network so that we can identify new threats like invasive species and regularly evaluate the effectiveness of our efforts to protect, manage, and restore greenspace. A priority of TRCA's five-year update to the *Strategic Plan* is to share TRCA's research, data and leading science to inform provincial initiatives such as this ERO posting.

TRCA has actively managed invasive species in its jurisdiction for many years to protect and enhance ecological features and functions, to protect human health, and to engage and educate the public. Included in these initiatives are: monitoring, controlling, and treating invasive species, restoring invasive species-dominated habitat on TRCA owned properties, and promoting general public awareness. Some examples of this work include:

- community-based garlic mustard and burdock management projects,
- Asian long-horned beetle surveillance work,
- buckthorn, dog-strangling vine and *Phragmites* management at select sites,
- emerald ash borer hazard tree management, and
- participating in the development of the Ontario Invasive Plant Council's "Grow Me Instead" booklets.

Responses to Questions for Public Consultation

With TRCA's roles and experience in mind, we offer the following responses to the ERO posting's Questions for Public Consultation.

1. *Do you agree/disagree that we should review the identified species and carrier for regulation under the Invasive Species Act, 2015?*

TRCA is supportive of the completion of ecological risk assessments and potential regulation of the thirteen identified species and one invasive species carrier. Further, it is TRCA's experience that proactive assessment and management of invasive species is required to avoid ecological, economic and societal impacts of these species, particularly in the face of a changing climate. Aggressive action to monitor and control invasive species in the near term can mitigate long-term impacts.

During this review process, strong consideration should be given to the geographical distribution of species and carriers that will be selected for assessment. Invasive species of concern may be different in terms of their impact and current pervasiveness depending on geography and dominant land use. For example, most dominantly urban regions have specific invasive species (e.g., Norway maple (*Acer platanoides*), garlic mustard (*Alliaria petiolate*), common buckthorn (*Rhamnus cathartica*)) and pathways/carriers that are much more problematic in these regions as compared to the other parts of the province. Despite their relatively limited established ranges, these species may have significant implications on provincial goals and objectives, and it is therefore critical that additional species be reviewed for potential regulation. Partnering with local and regional municipalities along with conservation authorities will provide this information and guidance.

TRCA staff are active in the field across our nearly 3,500 km² jurisdiction. Staff observations and experience have informed the identification of multiple non-native plants as existing or emerging threats in our jurisdiction. For example, a few years ago *Miscanthus* sp. was typically observed growing in ditches near residential areas where it had been planted as a garden plant and was rarely documented in non-landscaped areas. Now, staff more commonly observe this non-native invasive plant located relatively far from residential areas. This development justifies assessment of the risk *Miscanthus* sp. poses to the natural environment and economy.

Another example is Norway maple (*Acer platanoides*). TRCA works with our municipal partners on invasive species management. Based on TRCA data, Norway maple is the second most dominant sub-canopy forest layer in Toronto ravines after Manitoba maple (*Acer negundo*), and is targeted for

strategic removal from ravines by the City of Toronto and TRCA. Meanwhile, Norway maple sales by private industry to municipalities continue, so that public dollars are used for acquiring and for removing the species at the same time. As Norway maple was heavily planted and promoted by the Province in the 1970s and those trees are now seed producers whose progeny is clearly successfully in Toronto's ravines, a risk assessment should be a straight-forward exercise.

TRCA would therefore support prohibition under the *Invasive Species Act* of additional species beyond those currently proposed by MNR but recognizes that under the Act, ecological risk assessments to determine the appropriate approach for managing each of the species must first take place. The recommended species for regulation are listed below.

- i. Amur silver grass (*Miscanthus sacchariflorus*)
- ii. Chinese silver grass (*Miscanthus sinensis*)
- iii. Common buckthorn (*Rhamnus cathartica*)
- iv. Curly-leaved pondweed (*Potamogeton crispus*)
- v. English ivy (*Hedera helix*)
- vi. Flowering rush (*Butomus umbellatus*)
- vii. Garlic mustard (*Alliaria petiolate*)
- viii. Giant hogweed (*Heracleum mantegazzianum*)
- ix. Goutweed (*Aegopodium podagraria*)
- x. Himalayan balsam (*Impatiens glandulifera*)
- xi. Japanese barberry (*Berberis thunbergii*)
- xii. Japanese chaff flower (*Achyranthes japonica*)
- xiii. Japanese stiltgrass (*Microstegium vamineu*)
- xiv. Kudzu (*Pueraria montana*)
- xv. Lesser periwinkle (*Vinca minor*)
- xvi. Norway maple (*Acer platanoides*), with appropriate notification to the horticultural industry
- xvii. Oriental/Asiatic bittersweet (*Celastrus orbiculatus*)
- xviii. Periwinkle (*Vinca minor*)
- xix. Purple loosestrife (*Lythrum salicaria*)
- xx. Rough manna grass (*Glyceria maxima*)
- xxi. Sea buckthorn (*Hippophae rhamnoides*)
- xxii. Tree of heaven (*Ailanthus altissima*), as it is the preferred host for the spotted lanternfly (*Lycorma delicatula*) which is currently a regulated species under the federal *Plant Protection Act*
- xxiii. Water lettuce (*Pistia stratiotes*)
- xxiv. White mulberry (*Morus alba*)
- xxv. Wild chervil (*Anthriscus sylvestris*)
- xxvi. Wild parsnip (*Pastinaca sativa*)
- xxvii. Winged burning bush (*Euonymus alatus*)
- xxviii. Winged euonymus (*Euonymus alatus*)
- xxix. Winter creeper euonymous (*Euonymus fortune*)
- xxx. Yellow archangel (*Lamium galeobdolon*)

2. Do you have information, including personal experiences, that would help us as this review proceeds?

Within its jurisdiction, TRCA uses and coordinates a wealth of natural environment information collected by on-the-ground personnel who are experts in the field, including aquatic and terrestrial biologists, field naturalists, ecological restoration experts, foresters, and plant propagation experts.

Our staff have extensive local knowledge of the local environment, the biological conditions associated with Lake Ontario waters within our jurisdiction, and the issues created by the existing and emerging invasive species in the region. Given our years of experience managing invasive species, substantial landholdings and ongoing experience in a natural heritage advisory role to municipalities in our jurisdiction, TRCA is available to assist in incorporating our strategic invasive species management planning and implementation expertise into the Province's review of the thirteen species and one carrier.

3. *Would the regulation of one or more of the proposed species or carrier have a positive or negative economic impact on you or your business?*

While TRCA undertakes strategic invasive species management, it does not propagate or typically transport these species. In this regard, the regulation(s) would not have a direct effect on TRCA's work. As a major landowner, regulation of these species and carrier would lower the risk to our lands due to reduced propagation and transportation of these by others within our jurisdiction, as the impacts of invasive species on our properties include, but are not limited to, loss of biodiversity, increased erosion risk on marginal lands and impacts to infrastructure. Reduced need for invasive species management on our properties would be an economic benefit to TRCA.

4. *What rules do you recommend be applied to some or all the identified species or carrier? See sections 6, 7, or 8 of the Invasive Species Act, 2015 for more information.*

TRCA recommends that all prohibitions, restrictions and conditions apply to all species, however, for regulated plant species, an appropriate length of time should be provided to the horticultural industry to allow them to make adjustments to the species they propagate and sell.

5. *Should we consider exceptions to the prohibitions during the development of the regulatory proposal (e.g. allowing the import of the species provided individuals are dead)?*

Based on exceptions for currently regulated species, TRCA believes this approach is reasonable and consistent. That being said, reproductive elements such as fish eggs can remain viable after death for several days. Therefore, the suitability of granting such exceptions should account for the risk of potential exotic pathogen introduction carried by dead specimens of each species, and should not rely on generalized rules. Further, the ease of monitoring and regulating such exceptions should be considered.

6. *Are there any additional questions you would like to discuss or concerns you would like to address?*

Defining roles and responsibilities

The current *Invasive Species Act* (the Act) and associated O. Reg. 354/16 (the regulation) do not define roles and responsibilities of public and private land managers regarding prevention of invasive species spread, early detection and management of invasive species, or invasive species eradication. TRCA would recommend that public entities should be responsible for surveillance, prevention measures, and management of invasive species on public lands, and private landowners responsible for the same on private lands. Governments at all levels should consider granting public agencies and authorities involved in invasive species management blanket access permissions and liability protection for conducting work to monitor and manage invasive species on both public and private lands. Enhancing the accountability of these groups (including Provincial agencies,

municipalities, conservation authorities, and private landowners including industry, institutions and other stakeholders) through policy can help improve outcomes for limiting the economic, social and ecological impacts of invasive species in Ontario.

A coordinated approach across jurisdictions and individual private properties, in tandem with appropriate enforcement of the Act and associated regulation, is required to minimize the economic and ecological impacts of invasive species in Ontario.

Due diligence for avoiding incidental spread

TRCA has identified incidental spread of invasive species as a major obstacle to effective invasive species eradication in the province. O. Reg. 354/16 specifically addresses incidental possession and transportation of only two aquatic invasive plant species. Prevention and Response Plans that provide guidance and direction on avoiding incidental invasive species transportation, as well as outreach and education campaigns to relevant industries, stakeholders, land users and land managers are needed as part of a provincially coordinated approach to invasive species management. Specific guidance on what constitutes “due diligence” is required for different activities that commonly cause incidental transport of invasive species. For example, direction should be provided on specific watercraft inspection methods to detect aquatic invasive plants prior to moving watercraft over land and appropriate biosecurity measures to ensure proper handling and disposal of invasive specimens. Another example is defining specific measures to adequately inspect and clean boots, mechanical equipment and other tools when landscaping in areas that contain terrestrial invasive species in order to avoid incidental transport of invasive species to other areas or subsequent work sites. Enforcement of due diligence measures is critical to ensuring these measures are effective.

Evaluating potential impacts to high value assets

High value assets, for which invasive species introduction or establishment might have higher risks and implications based on ecological, social, and economic impacts, should be considered while implementing regulatory rules. Experts suggest that a single invasive species may have a different magnitude of impact depending on ecological, social, and economic characteristics of the area under invasion. These circumstances may require additional guidance following the Act.

Enforcing the Clean, Drain, Dry principles and practices

TRCA supports the Ministry in creating regulations to enforce the Clean, Drain, Dry principles and practices that are currently communicated to the public through an education campaign. Aggressive action against invasive species carried by watercraft overland can be achieved through the regulation and enforcement of Clean, Drain, Dry principles and practices, helping to limit the spread of invasive species.

Aquarium releases of aquatic invasive species

TRCA notes that many aquatic invasive species present in Ontario originated from intentional or accidental aquarium releases. We recommend pursuing stronger regulations applicable to hobby fishkeeping (aquariums) and similar markets. This regulatory approach could be paired with public education programs targeting pet/aquarium stores, aquaria enthusiasts and anglers in order to inform these communities of risks posed to our natural environment by invasive species that can be found in aquariums and the regulations in place prohibiting or restricting their existence in Ontario.

Public education campaigns

Additionally, TRCA recommends a public education campaign targeting residential properties and all types of gardeners/garden clubs to ensure awareness and halt the trading of restricted plants (including those proposed for assessment by the province and those proposed by TRCA in this

letter). For example, TRCA has in its environmental education community outreach programs, materials to assist residents interested in landscaping with native plants (available from <https://trca.ca/get-involved/home-garden/>). Education campaigns related to wild pigs should also be targeted to the agricultural industry and hunters to ensure awareness and to stop the distribution and release of wild pigs.

TRCA Recommendations

In order to ensure the conservation of natural resources, TRCA recommends that:

- 1) The Ministry moves forward with its proposal to investigate the 13 species and one carrier for regulation under the *Invasive Species Act*.
- 2) The Ministry undertake ecological risk assessments to determine the appropriate approach for managing the 30 species listed in response to discussion question #1, which pose immediate threats to the environmental, social, and economic resilience of Ontario.
- 3) The Ministry amend the Act and/or associated regulation to assign the responsibilities of invasive species prevention, avoidance of spread, and/or management and eradication to public and private landowners and land managers to enhance accountability and improve outcomes for invasive species management. This includes potentially including blanket access permissions and liability protection for organizations such as TRCA that carry out monitoring and invasive species management work. Clarifying these responsibilities may also better facilitate existing enforcement provisions in the Act.
- 4) The Ministry develop and disseminate guidance on proper due diligence methods to reduce the frequency of incidental transport of invasive species and enable greater enforcement of the Act. This may take the form of Prevention and Response Plans coupled with outreach campaigns to relevant stakeholders.
- 5) That the Ministry collaborate with municipalities and CAs to identify invasive species with high potential impacts and determine the magnitude of ecological, social and economic issues associated with those species' invasions, and to generally obtain information about the species under review.
- 6) That all prohibitions, restrictions and conditions in Sections 6, 7 and 8 of the Act apply to all species and the carrier (as applicable) proposed for regulation.
- 7) That regulations be created to regulate the movement of watercraft over land as a carrier under the *Invasive Species Act*.
- 8) That, in addition to regulation of the thirteen species and one carrier, public awareness and education campaigns be introduced targeting hobby fish keepers (aquariums), hobby horticulturalists/gardeners, and the commercial businesses that support them to ensure these communities are aware of both the risks posed by these invasive species and the new regulations.

- 9) That, in addition to regulation of the thirteen species and one carrier, communication and awareness campaigns be introduced targeting large public landowners, land managers and end users, such as municipalities, conservation authorities, institutions and public utilities to ensure they are aware of the new regulations and can achieve timely compliance.

Thank you once again for the opportunity to provide feedback regarding assessment and regulation of these thirteen species and one invasive species carrier under the *Invasive Species Act, 2015*. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,



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Chief Executive Officer

BY E-MAIL

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