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***Invasive Species Centre Comments on Environmental Registry of Ontario #019-1163, Developing Prevention and Response Plans for European water chestnut and water soldier under the Invasive Species Act, 2015***

The Invasive Species Centre (ISC) is a not-for-profit organization established by the Ontario and Canadian Governments to coordinate projects and connect stakeholders, knowledge and technology to prevent and reduce the spread of invasive species that harm Canada's environment, economy and society. We are pleased to have the opportunity to provide feedback on ERO #019-1163. A general recommendation for invasive species management is "early detection and rapid, sustained response." In Ontario, there are strong monitoring and detection programs in place, but a lack of tools, information, and resources available for rapid response. These plans lay a strong foundation for response on two priority species. The Ministry of Natural Resources and Forestry should consider developing similar response plans for all species regulated under the *Invasive Species Act*. With just under 10 years of experience working with the Province of Ontario on key invasive species issues the ISC is pleased to see these proposed actions. We would also like to offer any assistance that we could provide with these actions.

**Section 1: Comments regarding the prevention and response plan for water soldier**

The Invasive Species Centre supports the development of a prevention and response plan for water soldier. The populations occurring in Ontario are the only established populations known in North America and it is critical that Ontario does its part in preventing any further spread of this invasive aquatic plant to protect both provincial waters and the waters in neighbouring jurisdictions. Regulating water soldier under the *Invasive Species Act* was a strong first step in reducing accessibility and spread, especially through the elimination of the public sale of this plant which was likely the source of introduction. Subsequent monitoring and removal of water soldier by the MNRF and partner organizations has been effective at containing and reducing existing populations. By developing a Provincial prevention and response plan, efforts to actively manage water soldier will only be enhanced.

***(A) Scope of the plan, Authorized Persons, Authorized Activities, and Conditions***

The inclusion of shoreline residents of those who are authorized to carry out measures of control and eradication is welcome component of the prevention and response plan. These residents will be especially motivated to take action controlling water soldier, as its presence will impact their property values and limit recreational activities and water accessibility. The help of community volunteers, with guidance from governing bodies, will provide necessary support to government and non-for-profit agencies working on invasive species control. To ensure removals are effective and do not contribute to additional spread, the ISC recommends ensuring that individuals that are engaging in response and control are provided with adequate detailed information at hand. Community members will need to be able to specifically identify water soldier (to prevent removal of native plants), know how to *safely* remove the plant as it's serrated parts can be a serious hazard, know how to properly remove and dispose of the plant and plant parts as to not facilitate further spread. This can all be done by engaging members of groups that are involved in water soldier management – supplying training sessions or webinars to organizations and having them available in an online format for individuals could be an excellent option for this. Authorizing possession for the intent of proper disposal is also a necessary addition to the response plan, as possession of the plant is illegal under section 7 of the *Invasive Species Act, 2015*. In the conditions listed in the proposed response plan, following “Clean, Drain, Dry” protocols are mentioned for equipment and/or watercraft. The Invasive Species Centre recommends clarifying that individuals involved in water soldier management ensure that not only their boats and boat equipment are free of any plant parts, but also any tools that they may be using for mechanical removal including rakes and cutters. In addition, tips for what the “reasonable precautions” that should be taken to prevent dislodging or downstream release of the plant should also be included either in this response plan or in supplementary procedural documents.

***(B) Water Soldier Best Management Practices, Other Considerations, and Removals on Crown Land***

The brief descriptions included for mechanical removal, disposal, and aquatic herbicide use are helpful, however more details may be required for individuals who are going to be taking action. The Invasive Species Centre recommends that supplementary materials are available to those who are going to be actively involved in water soldier management. This could mean videos or webinars showing either graphically or by showing examples of how to properly conduct mechanical removals and subsequently how to dispose of plants that you remove. Insight on procedures required to obtain and use aquatic herbicides (i.e. permits, etc.) would also be helpful for individuals to be aware of. This could be done simply by moving the “Herbicides” section found below the best management practices to the section discussing aquatic herbicide practices.

**Section 2: Comments regarding the proposed prevention and response plan for European water chestnut**

***(A) Scope of the plan, Authorized Persons, Authorized Activities, and Conditions***

The Invasive Species Centre recommends the same comments for authorized persons, activities, and conditions as mentioned above in section 1(A) of this document. These comments include ensuring that those persons involved in European water chestnut management are trained and knowledgeable on identification and proper removal and disposal practices.

***(B) European Chestnut Best Management Practices, Other Considerations, and Removals on Crown Land***

Descriptions given for hand pulling and mechanical control are detailed enough that an individual will be able to effectively remove European water chestnut from their areas. The use of graphics that depict manual removal could be an option to add further clarity. Further detail on safety precautions to take during removals is welcomed. The sharp seeds of European water chestnut can cause injury if stepped on. Similar to the water soldier management practices, more information on who is able to use aquatic herbicides and the associated procedures would be a welcome addition to this section. As mentioned above, this could be done by moving the “Herbicides” section to the section discussing aquatic herbicide practices.

**Section 3: Summary**

In summary, the Invasive Species Centre welcomes the MNR’s proposal to develop prevention and response plans for both water soldier and European water chestnut. With both of these species being regulated under the *Invasive Species Act*, aiding in the prevention of further spread of these invasive species, the next step in spread prevention is to manage established populations in Ontario. These prevention and response plans will provide resources, knowledge, and the opportunity for groups to aid in the management of water soldier and European water chestnut in Ontario. The Invasive Species Centre does recommend that the response plans clarify roles and responsibilities, the leadership that the province is taking on the management of these species, and how landowners can work with the province. The Invasive Species Centre looks forward to continued work with the province of Ontario on Invasive Species management and the development of best management practices and response plans such as these.

Sincerely,

Sarah Rang

The Invasive Species Centre

[www.invasivespeciescentre.ca](http://www.invasivespeciescentre.ca)