



Water hyacinth, Louisiana Sea Grant

# Climate Change and New Invasive Plants

## RESEARCH ON LOCAL HABITAT SUITABILITY

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Climate Action Committee | September 9, 2022  
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**metro**vancouver

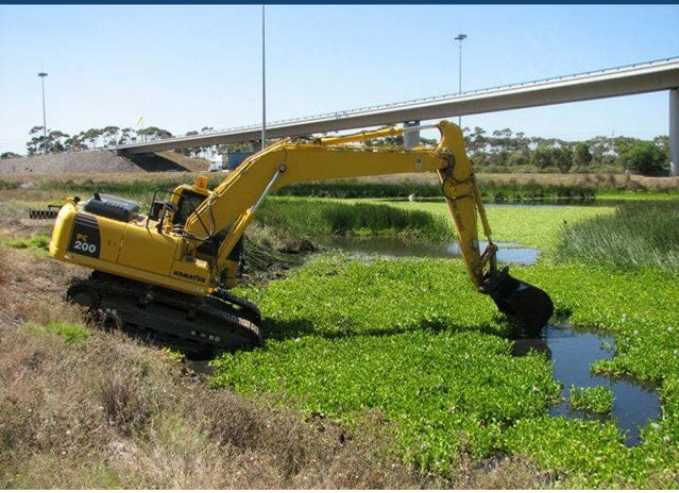
# OUTLINE

1. Why is this research important?
2. Background
3. Invasive Species of Focus
4. Modelling Methodology
5. Results
6. Next Steps



Bureau of Land Management California





## WHY IS THIS RESEARCH IMPORTANT?

- Aligns with *Ecological Health Framework*
- Provides a model to test several invasive plant species
- Assists members to prioritize control efforts
- Supports local expertise development

# BACKGROUND

- Proposed by Trinity Western University and UBC
- Metro Vancouver provided seed funding
- Researchers formed Advisory Committee
- Project received NSERC Alliance grant



TWU grad and environmentalist Emma Nikkel will be part of a research project looking at invasive species to the region and how to potentially end them. (Special to Black Press Media)

## TWU-driven team researches threat of invasive species to Metro Vancouver

A Langley environmentalist will help lead a two-year study into cause, effect, and prevention

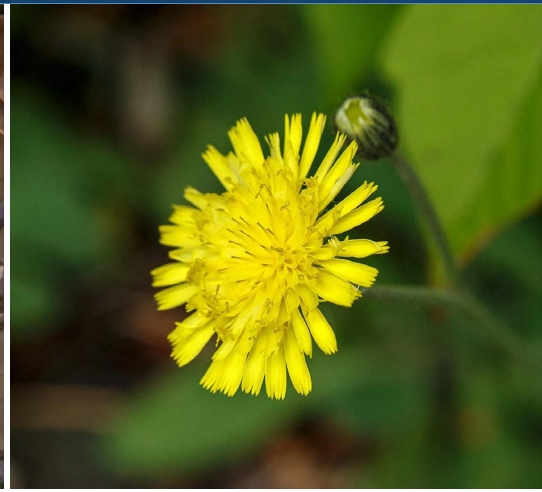
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**LANGLEY ADVANCE TIMES**

# SPECIES OF FOCUS

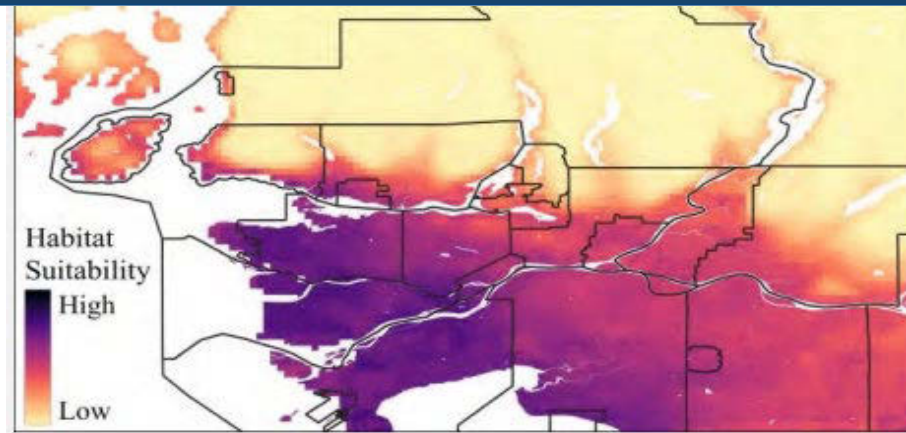
- Shiny geranium
- Mouse ear hawkweed
- Flowering rush
- Water hyacinth



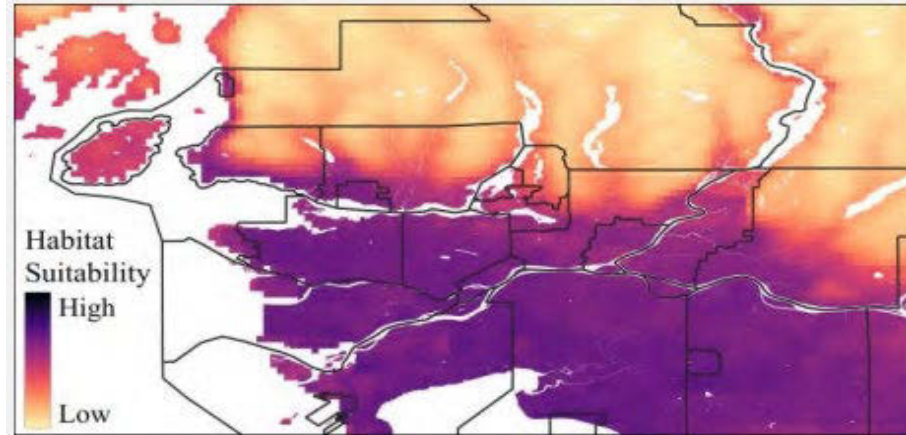


# MODELLING METHOD

- Species records and environmental variables
- Average of 6 algorithms
- Current habitat suitability
- Projected to 2050 and 2080 under 3 IPCC future climate scenarios - RCP 4.5, 7.0, and 8.5







Current suitable habitat



Climate scenario RCP 8.5 2050

# MODELLING RESULTS

Species	Current	Future (2050)	Recommendations
Shiny geranium	Moderate - High		<ul style="list-style-type: none"> <li>• Contain 11 sites</li> <li>• Prevention</li> </ul>
Mouse-ear hawkweed	High		<ul style="list-style-type: none"> <li>• Eradicate 16 sites</li> <li>• Prevention</li> </ul>
Flowering rush	High (eastern)	 and 	<ul style="list-style-type: none"> <li>• Monitor</li> <li>• Prevention</li> </ul>
Water hyacinth	Moderate - High (coastal)	No change	<ul style="list-style-type: none"> <li>• Eradicate 1 site</li> <li>• Monitor</li> <li>• Prevention</li> </ul>

## NEXT STEPS

- Model additional species
- Share results with member jurisdictions and provincial staff
- Journal publication



Native to Asia, **kudzu** is considered invasive in North America





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Thank you

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