Aquatic Restoration Initiative Phase II Aquatic and Riparian Invasive Species Management and Native Habitat Restoration Project – 2021 Update

PRESENTER:
Ryan Allison

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Project Background – RFP Tasks

- **RFP Requirements**
  - Task 1: Suppress Purple Loosestrife at all project locations
    - Assist TNC/PRISM staff with obtaining permits along with providing labor and equipment for beetle release
  - Task 2: Suppress Japanese Knotweed at Sandy Creek and South Sandy Creek
    - Control approximately 2.03 acres at Sandy Creek and South Sandy Creek via chemical and mechanical means
  - Task 3: Suppress Common Reed at South Sandy Creek
    - Control approximately 0.3 acres at South Sandy Creek with select herbicide treatments
  - Task 4: Habitat Restoration at Sandy Creek and South Sandy Creek
    - Re-vegetate all invasive species treatment areas
  - Task 5: Outreach: Interpretive Panel at South Sandy Creek
    - Design, print, and install one weather-proof exterior sign at South Sandy Creek
  - Task 6: Resilient and Connected Landscapes at all project locations
    - 10% budget set-aside for additional invasive species control and/or habitat restoration

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Task 1: Suppress Purple Loosestrife at all locations

> This item was listed on the NYSDEC Joint Application form submitted on June 22, 2021, however the loosestrife beetles were apparently unavailable for the project per subsequent conversations with SLELO-PRISM staff. Cardno staff assisted with contacting various state staff and agencies regarding access to beetles for release in 2021 to no avail.

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Task 2: Suppress Japanese Knotweed

> Treatment Approach
  - Herbicide Application(s)
    - Stem injections – Concentrated Rodeo herbicide
    - Foliar applications – 3% Rodeo solution
  - Biomass Reduction
    - Selective mowing on north side of South Sandy Creek
  - Treatments
    - Initial treatments conducted 7/8/21 and 7/9/21
    - Completion of initial stem-injection and foliar treatments conducted 7/26/21 through 7/30/21
    - Follow-up applications conducted 9/27/21 and 9/28/21, as well as Knotweed on north bank mowed/mulched
    - Overall mortality from initial applications estimated to be >80%
    - Herbicide treatments with biomass removal: 1.4 acres
    - Herbicide treatments with no biomass removal: 1.3 acres

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Invasive Species Treatment Areas Mapped vs Planned

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Knotweed Treatment Photos

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Task 3: Suppress Common Reed

- Treatment Approach
  - Herbicide Application(s)
    - Foliar applications – 2% Rodeo solution
    - Hand-wiping target plants within 10' of water's edge – 2% Rodeo solution
  - Treatments
    - Initial application conducted 7/26/21 through 7/30/21
    - Follow-up applications conducted 9/27/21 and 9/28/21
    - Overall mortality from initial applications estimated to be >80%

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Task 4: Habitat Restoration

- Treatment areas largely devoid or vegetation following series of applications
- Natural recruitment from adjacent areas will likely be the primary means/source for re-vegetation
- Native seed mix created using species known to be present on-site and/or appropriate for the conditions.
- Seed spread by hand throughout all treatment areas on 11/23/21

Stock Number	Scientific Name	Common Name	Quantity Ordered	Units	Quantity Shipped	Price	Line Total
WG-BOLFLU-SL	Bolboschoenus fluviatilis	river bulrush	12	ounce	0	$10.00	$120.00
WG-CALCAN-SP	Calamagrostis canadensis	blue joint grass	4	ounce	0	$80.00	$320.00
WG-CXVULP-SP	Carex vulpinoidea	brown fox sedge	12	ounce	0	$8.00	$96.00
WG-ELYVIR-SP	Elymus virginicus	Virginia wild rye	184	ounce	0	$1.25	$230.00
WF-EUTMAM-SP	Eutrochium maculatum	spotted joe pye weed	16	ounce	0	$40.00	$640.00
WG-GLYSTR-SP	Glyceria striata	fowl manna grass	4	ounce	0	$20.00	$80.00
WF-HELAUT-SP	Helenium autumnale	sneezeweed	4	ounce	0	$35.00	$140.00
WG-JUNEFF-SL	Juncus effusus	common rush	8	ounce	0	$15.00	$120.00
WF-POLPEN-SL	Persicaria pensylvanica	pinkweed	12	ounce	0	$6.00	$72.00
WF-RUDLAC-SP	Rudbeckia laciniata	wild golden glow	4	ounce	0	$45.00	$180.00
WG-SCIATR-SP	Scirpus atrovirens	dark green rush	8	ounce	0	$10.00	$80.00

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Broadcast Seeding In-progress

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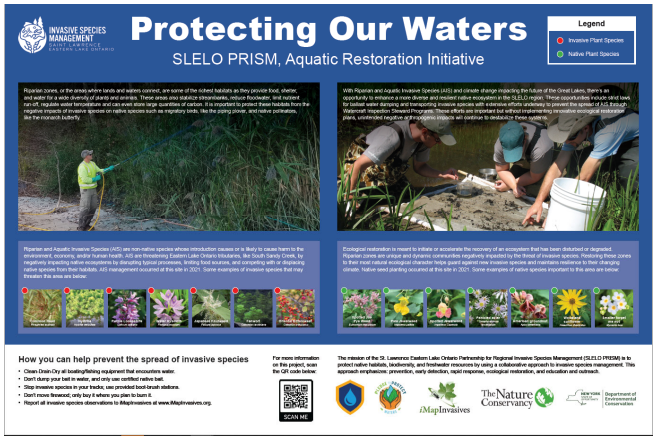
Task 5: Interpretive Sign Panel

- Input gathered from SLELO PRISM & NYSDEC
- Focus on photographs and species from the site
- Printed by RIOT Creative Imaging/ARC



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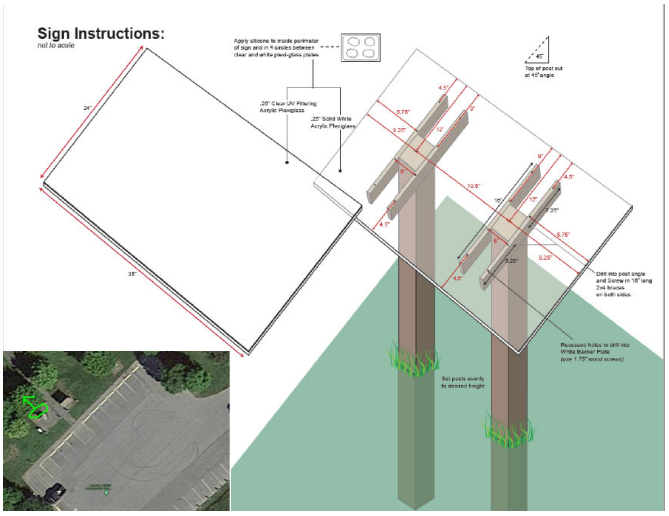
Sign Construction and Location Details



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Task 6: Resilient and Connected Landscapes

- Objective: Utilize 10% of the project budget for invasive species treatments and/or habitat restoration activities in areas adjacent to those indicated in the RFP
- Cardno Approach
  - Initial survey of invasive species treatment areas indicated that populations extended inland/away from South Sandy Creek
  - Decision made to invest this additional 10% towards controlling primarily Japanese Knotweed in adjacent/inland areas in order to limit the chances for re-infestation along the stream corridor
  - RFP requirements
    - Japanese Knotweed treatments: 2.03 acres
    - Common Reed treatments: 0.3 acres
    - Total treatment area: 2.33 acres
  - Actual area treated
    - Japanese Knotweed: 2.7 acres
    - Common Reed: 0.34 acres
    - Actual treatment area: 3.04 acres or 130% of planned treatment area

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Conclusions and Next Steps

- Evaluation of the 2021 invasive treatments with vegetation monitoring
  - General effectivity of treatments – overall reduction after 1 year
    - May need to look at seedlings vs. re-sprouts
    - Look for a "halo" of surviving stems around the perimeter of the treatment areas
  - Compare areas with biomass removal vs. those without
  - Compare areas with stem injections or wiping vs. areas treated via foliar application
  - Perform botanical inventory of treated areas and nearby untreated reference areas
    - Compare newly established vegetation to that present outside treatment areas
    - Identify seed species that are germinating/growing vigorously vs. those that aren't
  - Continue invasive treatments upstream as this is likely a primary source for seeds and plant fragments that could cause re-infestation
  - Continue invasive treatments further into the uplands, there are populations of Japanese Knotweed to the south of the treatment area that were not treated as part of this contract

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Thank you

Questions?

For more information

Ryan Allison
Senior Project Ecologist, Practice Lead
Office: 574-586-3400
Email: ryan.allison@cardno.com

www.cardno.com

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