

TERRESTRIAL INVASIVE SPECIES

TRANSBOUNDARY CONSERVATION INITIATIVE

Background

Invasive species are second only to human footprint in terms of long-term negative impacts on biodiversity. Invasive non-native plants represent one of the most serious threats to the ecological integrity of the Crown of the Continent Ecosystem (CCE). Already about 10% of the Crown is in non-native cover.

What is being done?

All jurisdictions have legislation pertaining to terrestrial invasive plants. Jurisdiction is exercised by federal, state, provincial, Tribal and First Nation agencies on agricultural and forested landscapes as well as urban municipalities and rural local authorities. Weeds are a major challenge for landholders.

There are a number of active participants, such as the East Kootenay Invasive Species Council, the Rocky Mountain Front Weed Round Table and the SW Alberta Cooperative Weed Management Area. Many more, notably producer, conservation, grassland, watershed and community-based groups are active in addressing the impact of terrestrial invasive plants.

There is current and relevant research on the ecology of invasive species, the individual and cumulative impact of other stressors such as climate change and human land use/footprint, and management control strategies underway notably at universities in MT, AB and BC as well as the Rocky Mountain Research Station.

How did you go about deciding what to do?

In March 2015 the Crown Managers Forum held its Annual Forum in Lethbridge, AB on the theme, '[People, Climate and Terrestrial Invasive Species: Taking Collective Action in the Crown of the Continent](#)'. In advance of the Forum a survey was sent to agencies and weed partnerships to solicit feedback on the highest priority species, early invaders, treatment strategies and jurisdictional mandates. A [copy of the survey](#) was provided to Forum registrants.

The Forum brought together scientists, consultants, rural and urban municipalities, Tribes and First Nations and agencies as a first step in initiating cooperation toward creating a structured regional approach. A key contribution to the workshop was an overview of the current and potential distribution of the top 10 species identified in the pre-Forum survey, under differing climate change scenarios. This [analysis](#) was undertaken for the CMP by Bray Beltrán, a spatial ecologist with the Heart of the Rockies Initiative.

The workshop intentionally linked:

- The ecology of non-native species and the efficacy of various management approaches;
- The potential implications of climate change;
- A review of potential strategies and tactics with case examples of successful interventions; and
- Break-out groups and plenary discussion on potential coarse and fine scale CCE strategies and to brainstorm an initial priority projects list.

In follow-up to the workshop, contact lists of Forum participants and key weed contacts were developed.

What outcome do you want to achieve?

Effective and coordinated measures are being deployed to control terrestrial invasive plants throughout the Crown and new invaders are prevented from becoming established.

What are your strategies for getting there?

The workshop identified four measurements of success:

- Crown-wide inventory, monitoring and reporting;
- Maintain weed-free areas;
- Effective early detection capacity with rapid response protocols in place; and
- Management without boundaries.

Six priority action themes to advance the measures of success:

- Survey and monitoring;
- Prioritize (identify hot spots for action);
- Develop external communication and increase awareness;
- Internal communication;
- Develop common management approaches; and
- Manage vectors and corridors.

What has been done?

Work is underway to identify Crown of the Continent Terrestrial Invasive Plants Leadership and Working Group teams to advance the identified actions. “Trinity Chairs” have been identified from each jurisdiction: AB – Megan Evans and Kelley Cooley, BC – Todd Larsen and MT – Steve Shelly

In August 2016, a *Transboundary Water, Weeds and Stewardship Tour* was hosted by the County of Warner, Cardston County, Milk River Watershed Council Canada, Association of Alberta Agricultural Fieldmen, Montana Weed Control Association and Glacier National Park. The purpose of the tour was to show how communities, government agencies, and watershed groups can collectively address transboundary challenges and capitalize on transboundary opportunities relating to water infrastructure, invasive species prevention and management, biocontrol programs, beneficial management practices, drought and flood mitigation. Over 150 people attended from MT and AB including representatives from rural and urban municipalities, provincial and federal governments and local landowners. The three day tour included ranchland, farmland, and protected area site visits in the upper portions of the Milk and St. Mary watersheds in both AB and MT.

To update the survey conducted prior to the 2015 Forum during the winter 2015, a supplemental survey was sent in December 2016 to weed practitioners and Forum attendees to:

- 1) Re-assess the status and management of terrestrial invasive plants;
- 2) Rank the six priority action themes (and/or provide additional priority actions); and
- 3) Identify interest and capacity to be involved in a Crown of the Continent Terrestrial Invasive Plants Working Group and/or its action theme subcommittees.

What's next?

Next steps are to:

- 1) Complete further climate change analysis (Bray Beltran with the Five Valleys Land Trust is under contract to develop revised distribution and occupancy climate change models using updated distribution and abundance data); and
- 2) Schedule a mini workshop involving the Trinity leads, CMP/CAP representatives and other key players to review the success measures/action themes, Leadership and Working group volunteers and to start crafting an executable Crown-wide delivery.

Collaboration (who is involved)?

Federal, provincial and state agencies, invasive species and other partnerships, consultants, Tribes and First Nations, universities and key researchers, forest companies and NGOs including The Wilderness Society, the Crown Conservation Initiative and the Wildlife Conservation Society.

Links to a few key websites:Research:

Rocky Mountain Research Station: <https://www.fs.fed.us/rmrs/>

Montana State University: <http://weedco.msu.montana.edu/>

Montana State University, Invasive Plant Prioritization Framework: <http://ippf.msu.montana.edu/>

Dedicated invasive species partnerships:

East Kootenay Invasive Species Council: <http://ekisc.com/>

Rocky Mountain Front Weed Round Table: <http://www.rmfwweedroundtable.org/>

SW Alberta Cooperative Weed Management Area: <http://www.watertonbiosphere.com/projects/sw-alberta-cooperative-weed-management-area/>

Other partnerships:

Foothills Restoration Forum: <http://www.foothillsrestorationforum.ca/>

Milk River Watershed Council of Canada: <http://www.mrwcc.ca/>

Sun River Watershed: <http://www.sunriverwatershed.org/programs/noxious-weeds>

Publications:

Pearson, Dean E., Yvette K. Ortega and John L. Maron. The tortoise and the hare: reducing resource availability shifts competitive balance from exotic to native dominance. *In press*.

Pearson, Dean E., Yvette K. Ortega, Ozkan Eren, and Josie L. Hierro. 2016. Quantifying “apparent” impact and distinguishing impact from invasives in multispecies plant invasions. *Ecological Society of America*, vol. 26, Issue 1; pp. 162–173.

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