

Creative Sentencing Project Final Report

This report is intended to provide accountability and transparency to the Alberta general public on the value of penalty funds diverted to this project. As such, it will be posted on Alberta Environment and Park's external webpage.

Please provide a description of the final results of the creative sentencing project. What was accomplished and how was it accomplished? If there are photos illustrating the project, please attach them as an appendix. If there are technical reports resulting from the project, they should also be attached as an appendix.

Recipient name: Edmonton and Area Land Trust

Affiliated prosecution: Canadian National Railway Company

Project title: EALT Stewarding Project

Date of report: November 27, 2018

Project term: June 2017 – August 2018

Introduction:

The Creative Sentencing funds have enabled several thousand dollars of other grant funds to be leveraged, as well as being leveraged by 2,520 volunteer work days; in addition, the stewarding projects funded have been tremendously successful. Natural areas don't just take care of themselves, particularly those that are closer to larger metropolitan areas, almost all of which have had some degree of human disturbance. Because the Edmonton and Area Land Trust operates within a ~ 100 km radius of Edmonton, all our conservation lands have higher stewardship needs than other regions with lower levels of direct disturbances from humans, thus considerable hands-on stewarding work is needed by EALT. In addition, the EALT owns virtually all its lands, thus has all stewarding responsibilities, in direct contrast to those land trusts which have been donated Conservation Easements where the landowner, not the land trust, who has the management and stewarding responsibilities.

Because of EALT's high stewarding needs, and due to our increasing success in securing additional ecologically significant lands in the Edmonton region, the funds from Creative Sentencing have been vital to our stewardship work, providing EALT with an incredible boost for the critical stewarding needs of our natural areas.

Stewardship involves a great deal of time for planning and coordinating several types of field work activities, as well as the actual implementation of stewarding. EALT has a very small staff, so our volunteers are crucial to implementing stewardship. We are fortunate to have a strong Volunteer Team of hundreds, including the accomplishments described below, which directly related to the Creative Sentencing funds. On the projects below, specifically, we had around 300 different volunteers (several volunteered many times) with up to 146 volunteers active in

any one quarter, and the funds were leveraged by a total of 2,520 volunteer hours, which represents hundreds of volunteer work days!

The results of all this stewardship work are habitats that are: 1) Healthier and Safer, 2) Restored and Improved, and 3) Measured, Monitored and Managed.

1) Healthier and Safer Habitats: We do this by: controlling invasive plants, removing black knot fungus, and removing unnecessary barbed wire fences.

Removing Invasive Plants

Invasive plants are considered the second most critical reason for loss of biodiversity, after habitat loss. Species that were once brought to North America (many with the early settlers from Europe as medicinal or garden species) thrive in an environment that did not evolve alongside with them, sometimes allowing them to take over an area, under the right conditions. Many of our natural areas not only have these invasive species, but also have been managed (or not managed) in a way that didn't attempt to control these species, and in some cases, actually contributed to these invasive species' spread. Such negative behaviours could include the use of Off-Highway Vehicles (OHVs), or the unchecked cattle use of land, particularly in sensitive riparian areas.

Stewardship of our conservation lands includes an Integrated Pest Management approach to controlling invasive plants, including:

- Using as minimally intrusive of a control method as possible. This begins with manual control (e.g. pulling, mowing, cutting) of smaller patches of invasive plants. Larger infestations require a more significant effort, and are tackled with either a biological control insect (obtained through approved agencies), or as a last resort, chemical spraying (conducted by a licensed contractor).
- A multi-year plan (and perspective). Few invasive plant infestations can be completely eliminated, so planning to control and contain them is our best approach. We understand this can't be done in a single year, so stewardship management requires a long-term approach, where we revisit invasive plant patches to monitor them each year, and take action as needed.

Removing and controlling invasive plants results in healthier habitat for wildlife. The quality of habitat for wildlife is important for species, not just the size of it. Removing invasive plants makes room for native plant species to bounce back to what was once there before. This is particularly important in riparian areas, which are used for nesting by many bird species.

Creative Sentencing Funds enabled EALT to remove and control invasive plants at our from our Pipestone Creek, Hicks, Golden Ranches, Glory Hills, Boisvert's GreenWoods, and Ministik Conservation Lands.

Black Knot Fungus

Black knot fungus primarily affects shrubs in the Prunus genus, which includes two common forest understorey species – Choke Cherry and Pin Cherry. Other species can also be negatively affected, such as Prickly Rose. Black knot fungus can stunt the growth of such shrubs, and eventually kill the plant. Removing the fungus when it is dormant (in Fall or Winter), resulted in healthier habitats for wildlife.

Creative Sentencing Funds enabled EALT to remove black knot fungus from our Pipestone Creek and Hicks Conservation Lands.

Fence repair and/or removal

Barbed wire fences are ubiquitous in rural landscapes, yet they pose a significant threat to wildlife, particularly to ungulates such as deer and moose. While most adult deer or moose have no difficulty crossing a barbed wire fence, very young or juvenile ungulates may have difficulty crawling under a fence that is too low, or jumping over one that is too high, and they may be injured, ripped, or die. In addition, low flying birds such as owls, raptors, and game birds can also fall victim to barbed wire fences, as fences can be difficult to see, especially in low light when some of these species are most active.

Removing select wires from barbed wire fences, or repairing fallen wires, results in safer habitats for wildlife.

Creative Sentencing Funds enabled EALT to repair and remove barbed wire fences at our Golden Ranches Conservation Lands.

2) Restored and Improved Habitats: EALT does this by planting trees, installing and maintaining nest boxes, installing bat roosting boxes, planting trees, and preventing damage from Off-Highway Vehicles.

Nest Box Installation and Maintenance

Several birds are cavity-nesting species, so they make their nests inside holes in old trees. Habitat loss and fragmentation result in fewer opportunities for these species, which include: Black-capped Chickadee, House Wren, Northern Saw-whet Owl, American Kestrel, Tree Swallow, Mountain Bluebird, Bufflehead, and Common Goldeneye.

Installing nest boxes for these species (and maintaining them annually), results in restored and improved habitats for wildlife.

Creative Sentencing Funds enabled EALT to install and/or maintain bird nest boxes at our Coates, Pipestone Creek, Golden Ranches, Glory Hills, Boisvert's GreenWoods, and Ministik Conservation Lands.

Bat Box Installation

Bats are an unappreciated, but vitally important group of animals, yet they face threats primarily due to habitat loss and white-nose syndrome – a fungus that irritates bats during their winter hibernation, causing them to die from starvation and dehydration. Little Brown Bats are still relatively common in Alberta, but were listed as Endangered in Canada's Species at Risk Act several years ago.

To help create spaces for bats to roost, EALT installed several bat boxes on our conservation lands, which results in restored and improved habitat for wildlife.

Creative Sentencing Funds (leveraged by additional funding from TD Friends of the Environment Foundation), enabled EALT to install bat roosting boxes at our Pipestone Creek, Golden Ranches, Glory Hills, Boisvert's GreenWoods, and Hicks Conservation Lands.

Tree Planting

Habitat loss and fragmentation are the number one cause of loss of biodiversity. Simply protecting our conservation lands is just one step to help maintain biodiversity.

Tree planting results in restored and improved habitat for wildlife. Creative Sentencing funds enabled EALT to plant 800 trees on our Pipestone Creek conservation lands, and to infill tree planting efforts that occurred 5 years ago in an area that was previously stripped of trees for gravel mining.

Preventing Off-Highway Vehicle Trespassing

EALT does not allow off-highway vehicles (OHVs) on our conservation lands, yet some OHV users still illegally ride and abuse our natural areas. In past years, this has been particularly problematic at our Glory Hills and Pipestone Creek conservation lands, but with much planning, as well as strategically placed fences and signs, accompanied by targeted community outreach, OHV trespassing at those sites has stopped. Our newer Coates Conservation Lands had faced this issue very severely, and users drove for decades from the tablelands through an access point on EALT land, past our No OHV signs, down a steep and increasingly eroded slope, then rode in the sensitive riparian areas of Willow Creek, creating multiple tracks, compacting soil, polluting the creek, and causing siltation as well as erosion. In addition, they slowly and deliberately drove over a steel post and wire fence, bending it over a few years till it was flattened, and they then rolled up the wire and threw it into the forest. We worked through a large multi-faceted project throughout the project term, to block the key access point with boulders, restore and revegetate the eroded OHV trail, and install a pedestrian-only trail, and block the secondary trails, which access the riparian area. We also (leveraging TDFEF funds and with the collaboration of Leduc County & NSWA) created Trailhead and interpretive signage explaining the conservation values of the land and the negative impacts of OHVs in riparian areas). Now completed, this is resulting in restored and improved habitat for wildlife, plus a much improved visitor experience. A visual guide to this project is attached. The map shows the current foot trail access, not the highly eroded trail which went south from the access point to Willow Creek, then the OHV trails braided, diverged, and multiplied across and parallel to the creek in the riparian area, with more trails being created as some became too muddy or inaccessible. By the end of the project term alone, an amazing improvement to the vegetation and riparian area could be seen.

3) Monitored and Managed Habitats: we do this in several ways, including using motion sensor wildlife cameras, water quality testing, winter wildlife tracking, and general monitoring and management of information.

Motion Sensor Cameras

We can't always be at our conservation lands to watch what is happening, so cameras help us monitor when no one is there. Cameras allow us to monitor wildlife, and also OHV activity. Cameras have detected species that we wouldn't have noticed otherwise, including Fisher, a member of the weasel family, plus we are able to see OHV locations and behaviour, and to develop strategies to best deter or eliminate OHVs.

Water Quality Testing

OHV use at our Coates Conservation Lands has resulted in bank erosion, compacted riparian areas, and water contamination. As part of our larger project to prevent OHV use at this site, we

began testing the water of Willow Creek for several factors, including dissolved oxygen, turbidity, pH, and temperature. As we have progressed with OHV deterrence and begun to see reduced OHV use, we hope to see measures of improved common water quality parameters over the longer term.

Winter Wildlife Tracking

Sometimes the best time of year to look for species is in the winter. While many birds have migrated, and some species are sleeping in burrows and dens, winter is a good time to observe mammals on our conservation lands, because their tracks are visible in the snow. Winter wildlife tracking allows us to record species we wouldn't have noticed otherwise, such as Long-tailed Weasel. We have done this over the project term.

General Monitoring and Management

Each visit to one of our conservation lands as described above, has monitoring as part of its purpose. While we might specifically be working on removing invasive plants or installing a bat box, we always additionally:

- record wildlife observations
- look for any issues such as trespassing or vandalism
- note changes to the landscape, whether positive or negative

All this information has been recorded and managed in stewardship databases, documents, reports, and maps.

Creative Sentencing Funds enabled EALT to measure, monitor and manage all aspects of our stewardship work, at all of our conservation lands, since we can only properly manage that which we also measure and monitor.

Please provide a high level summary of how the funds were spent. The following subtotals can be pulled from your more detailed financial report.

Penalty amount diverted to project: \$110,000

Labour: \$63,398

Materials: \$58,004.29

Overhead/administrative: \$18,850.16

Other: -

Total spent: \$140,251.95

Please explain any significant changes that may have occurred during the course of the project. Why did they happen? Similarly, if results were not as expected, please explain why.

Upon calculating stewarding expenditures, it was determined that almost \$30,000 more than the funds diverted to the project were expended during the total project period on stewarding. This difference was entirely covered by EALT.