



Research Project Quarterly Progress Report

INSTRUCTIONS

Consultant project managers/principal investigators should complete a quarterly progress report for each calendar quarter, or part thereof, during which project is active. All fields must be completed.

Date: 30 April 2015 (draft), 22 May 2015 (final)		Progress Report Number: Quarterly Report 2015-1									
Project Title: US 93 North Post-Construction Wildlife-Vehicle Collision and Wildlife Crossing Monitoring and Research on the Flathead Indian Reservation between Evaro and Polson, Montana		Report Period: <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;"><input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31)</td> <td style="text-align: right;"><u>Due Date</u> <i>April 30</i></td> </tr> <tr> <td><input type="checkbox"/> Quarter 2 (April 1 – June 30)</td> <td style="text-align: right;"><i>July 31</i></td> </tr> <tr> <td><input type="checkbox"/> Quarter 3 (July 1 – September 30)</td> <td style="text-align: right;"><i>October 31</i></td> </tr> <tr> <td><input type="checkbox"/> Quarter 4 (October 1 – December 31)</td> <td style="text-align: right;"><i>January 31</i></td> </tr> </table>		<input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31)	<u>Due Date</u> <i>April 30</i>	<input type="checkbox"/> Quarter 2 (April 1 – June 30)	<i>July 31</i>	<input type="checkbox"/> Quarter 3 (July 1 – September 30)	<i>October 31</i>	<input type="checkbox"/> Quarter 4 (October 1 – December 31)	<i>January 31</i>
<input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31)	<u>Due Date</u> <i>April 30</i>										
<input type="checkbox"/> Quarter 2 (April 1 – June 30)	<i>July 31</i>										
<input type="checkbox"/> Quarter 3 (July 1 – September 30)	<i>October 31</i>										
<input type="checkbox"/> Quarter 4 (October 1 – December 31)	<i>January 31</i>										
Consultant Name Marcel Huijser Authors quarterly report: Marcel Huijser, Whisper Camel-Means & Elizabeth Fairbank, Jeremiah Purdum		Consultant Project Manager(s): Marcel Huijser									
Consultant Phone Number(s): 406-543-2377	Consultant E-Mail(s): mhuijser@coe.montana.edu	Consultant Project Number: 4W2972									
MDT Project Manager Sue Sillick	MDT Project Number: #8208	Project Start Date: 1 January 2010									
Original Project End Date: 31 July 2015	Current Project End Date: 31 July 2016	Number of Extensions: 0 (extended as work scope changed)									

Project Schedule Status:

On schedule
 On approved revised schedule
 Ahead of schedule
 Behind schedule

Project Expenses Statistics:

Project Expenses This Quarter	Total Project Expenses to Date	Projected Cost to Date
\$65,455	\$422,482.45* ¹ <small>*¹Invoices from CSKT received And processed through February 2015, total of \$136,277.54</small>	\$592,448 (incl. \$50K added in 2012)

Percent Over/Under	Total Project Budget	Remaining Total Budget
28.7% under budget (but some invoices from CSKT have not been received yet).	\$703,893.90 (incl. \$50K added in 2012) (incl. \$153,893.53 added in 2014)	\$281,411

Project Schedule Status (list all tasks with percentage complete, original and revised estimated and actual begin date; original and revised estimated and actual completion date, any outstanding issues, including such items as: schedule, resources, etc.):

Task	Planned Percentage complete*1	Actual Percentage complete*1
1. Deer and black bear vehicle collisions	75%	75% ^{*2}
2. Wildlife use of underpasses	85%	83% ^{*3}
3. Cost-benefit analyses	70%	70% ^{*4}

*1 Reflects end date field work 31 Dec 2015

Dates:

This is a long term project with many tasks that reoccur annually.

The starting date for the tasks was 1 January 2010 and the end date for the project is 31 July 2016.

Notes:

*2 Crash and carcass data have been collected and analyzed through 2013 (see latest annual report).

*3 Crossing structures: Data have been analyzed through 2013 (see recent annual report).

Data through 2014 have been entered for Evaro structures and 3 isolated structures, data entry through 2014 for other isolated structures is almost completed.

Jump-out data entry through 2014 completed.

Data entry wildlife guards and human access point is ongoing.

Calibration data tracking beds (inside and outside structures and cameras): data entry and analyses is ongoing.

Deer pellet surveys Evaro: completed for 2014.

*4 Basic data on the costs of the mitigation measures have been obtained in 2011 and 2012. Some analyses are possible (with crash and carcass data through 2012) now but have not been conducted yet. Since the analyses will be based on the crash and carcass data through 2015, we propose to not conduct these analyses until all the data have been collected. The funds for this project are problematic because of UTC shortfall (\$100,591) and underfunding for 5th year Ravalli Curves and Ravalli Hill (\$6,658.32). Therefore we suggest conducting these analyses only once towards the end of the project.

Progress and Accomplishments this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

1. Cameras are managed continuously (change batteries, memory cards, download data).
2. Ongoing vegetation maintenance in front of cameras was not required during winter, just snow removal.
3. Monitoring tracking beds jump-outs Evaro for season 2014 ended 16 October 2014, will start 1 May 2015.
4. Data entry images at the structures for 2014 is ongoing (scheduled data entry in April or May, reporting at end June 2015).

Circumstances Affecting Project, Scope, or Budget (please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set in the agreement, along with recommended solutions to those problems):

As discussed previously there are substantial financial shortfalls for the project.

Substantial savings have been made through CSKT (had access to supplementary funding) and through involving students. It is uncertain though if these savings are sufficient to allow for the completion of the current work scope.

A new MSc student has started work on the US93N project: Adam Andis, University of Montana. In addition there are several volunteers helping out on the project.

Results/Risk/Anything Learned:

1. See annual report with data through 2013.
2. Fence problems in Evaro were reported by WTI/CSKT in the past. In response MDT fixed the fence issues, but the researchers suggest implementing a problem detection and problem fixing program for the wildlife fence (see later).
3. Livestock fence on sides of overpass appears to hinder wildlife movements, especially by elk. If the fence is not really needed for livestock (perhaps west/north side of overpass) then consider removing livestock fence on west/north side or both sides). However, the barrier effect of the livestock fence needs to be evaluated in the context of the overpass also having a very steep slope (limited sight distance for the animals), no visual screens on sides of overpass, and no shrubs/small trees (only grass-herb vegetation with row of branches on both sides for small species including invertebrates, amphibians, reptiles, and small mammals).
4. The wildlife jump-outs are somewhat used by mule deer but almost not at all by white-tailed deer. It appears that white-tailed deer are less willing to use the jump-outs than mule deer, and the researchers recommend lowering the jump-outs in areas with primarily white-tailed deer and to accompany this with research as there are substantial human safety risks involved with simply lowering the jump-outs. Clarification: if the jump-outs are lowered, white-tailed deer may be more willing to jump-down (desired behavior), but it is also more likely that large mammals (e.g. deer, elk, moose) will jump up the jump-out (undesirable behavior). Once large mammals have entered the fenced road corridor they are a human safety concern because of the potential for wildlife-vehicle collisions.
5. Relatively short road lengths with wildlife fencing and wildlife crossing structures appear less effective in reducing collisions with large wild mammals than longer road sections with wildlife fencing and wildlife crossing structures. This suggests installing wildlife fencing in combination with wildlife crossing structures over relatively long road sections (at least multiple kilometers). Note that wildlife fencing should almost always be installed on both sides of the road, and that the fence ends should not be staggered. However, in some cases wildlife fencing is only implemented on one side of the highway and fence ends are off-set which results in less effective wildlife

fencing. To avoid confusion, the researchers use the term “road length fenced” to indicate the length of a road section that has wildlife fencing on both sides of the highway, also because wildlife fencing may not always follow a straight line parallel to the highway. Note that it is considered “bad practice” to increase the barrier effect of a highway for wildlife (e.g. through installing wildlife fencing) without also providing for safe and effective crossing opportunities for wildlife. Note that wildlife crossing structures with no wildlife fencing or only a short road section with wildlife fencing can still have substantial use by wildlife.

Anticipated Work Next Quarter:

Field:

Crossing structures

The research team continues monitoring wildlife use of the crossing structures in Evaro area and of the isolated structures. This is a year round activity.

Wildlife guards (4) and people access point (1)

The research team continues monitoring wildlife use of the 4 wildlife guards and the people access point. This is a year round activity. Data entry is ongoing now.

Jump-outs Evaro

The monitoring tracking beds jump-outs Evaro is on hold during the winter months (consistent with work plan; when sand bed is frozen tracks are no longer recorded). Monitoring on the jump-outs in Evaro area will begin again 1 May 2015.

Desk:

Economic analyses:

Wait until all crash and carcass data have been collected (through 2015)

Crossing structures: Enter data from 2014, data analyses 2015

Annual report through 2014.

Potential Implementation, including the party(ies) responsible for implementation, any identified barriers to implementation and a discussion of how these barriers can be eliminated or at least reduced, and the products required for implementation:

White-tailed deer appear to not or barely use the jump-outs. The researchers suggested experimenting with lower jump-out heights in the study area or in future projects. Because of the human safety risks (see earlier this report), the researchers suggest accompanying lower jump-out heights with research.

Data suggest that road sections with relatively short sections of fencing (shorter than several km) are not as effective in reducing wildlife-vehicle collisions than longer road sections with wildlife fencing (at least several km). This means that the researchers encourage transportation agencies to consider lengthening the fences in certain places along US Hwy 93 N and elsewhere and to adopt a policy to implement wildlife fencing along at least several km of road, at least as long as reducing wildlife-vehicle collisions with large mammals is among the main objectives. Note that it is considered “bad practice” to increase the barrier effect of a highway for wildlife (e.g. through installing wildlife fencing) without also providing for safe and effective crossing opportunities for wildlife. Note that wildlife crossing structures with no wildlife fencing or only a short road section with wildlife fencing can still have substantial use by wildlife.

Fence maintenance is a concern. Researchers have been reporting problems, but the researchers have to communicate repeatedly, sometimes over a very long time period (e.g. up to about 1 year in at least one instance), before the problems

are addressed by MDT. Once the research project ends this means it may leave many fence problems undetected and unaddressed. This will likely affect human safety as well as the biological conservation of the target species. The researchers suggest MDT improves procedures for detecting fencing problems and repairing wildlife fences. For example, daily standard road inspections can include looking for tracks of vehicles that have left the roadway or fallen trees that may have damaged the wildlife fence. In addition, more detailed inspections of the fence for gaps and other fence problems is suggested (perhaps on a monthly basis).

Consistent search and reporting effort for carcasses is essential when evaluating the effectiveness of mitigation measures in reducing wildlife-vehicle collisions. There is evidence that the search and reporting effort for carcasses was relatively low in 2008 and 2009. The researchers suggest standardizing search and reporting effort for carcasses. Note that consistent search and reporting effort does not assume that every carcass is found and reported. Consistent search and reporting effort merely means that a carcass always has a certain constant likelihood of being found and reported. This allows for analyses that focus on hot spot identification and prioritization, as well as detecting potential changes in the number of carcasses over time and in place. Apart from being able to detect trends, consistent search and reporting effort allows for evaluating the effectiveness of mitigation measures.

People's Way Partnership:

The outreach program (separate from MDT project) aims to make the lessons learned accessible to the transportation and natural resource management community. It is up to agencies to evaluate or update their own policy with regard to highway wildlife mitigation though.

Funding activities this quarter:

1. Awarded: Y2Y announced on 3/24 that we will receive \$4,000
2. Submitted: 20k (10k/year) to Cinnabar in March