Why does the moose cross the road?

Sterling Highway MP 58-79 Rehabilitation
Jim’s Landing to Sterling

John Morton
Kenai National Wildlife Refuge
Movements of caribou (n = 11), brown bear (n = 55) and moose (n = 54). Wildlife avoid the Sterling development corridor.
Glenn Highway divides Anchorage moose into 2 genetically distinct subpopulations - based on microsatellite allelic frequency
Sterling Highway MP 58 – 79
2000 to 2007 (n = 168)
22.4 WVC/year

Source: Alaska State Troopers

WILDLIFE-VEHICLE COLLISIONS

Moose 81%
Black Bear 14%
Brown Bear 2%
Caribou 3%

Source: Alaska DOT
Vehicle collisions kill as many moose as harvested by hunters (~250 per year)
## Wildlife-Vehicle Collision Reduction Study: Report To Congress, FHWA 2008

> $7.75 million per year on Kenai Peninsula!

<table>
<thead>
<tr>
<th></th>
<th>Deer</th>
<th>Elk</th>
<th>Moose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable repair costs per collision</td>
<td>$1,840</td>
<td>$3,000</td>
<td>$4,000</td>
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<tr>
<td>Human injuries per collision</td>
<td>$2,702</td>
<td>$5,403</td>
<td>$10,807</td>
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<tr>
<td>Human fatalities per collision</td>
<td>$1,671</td>
<td>$6,683</td>
<td>$13,366</td>
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<tr>
<td>Towing, accident attendance and investigation</td>
<td>$125</td>
<td>$375</td>
<td>$500</td>
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<tr>
<td>Monetary value animal per collision</td>
<td>$2,000</td>
<td>$3,000</td>
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<tr>
<td>Carcass removal and disposal per collision</td>
<td>$50</td>
<td>$100</td>
<td>$100</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$8,388</strong></td>
<td><strong>$18,561</strong></td>
<td><strong>$30,773</strong></td>
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</table>
Project Components

- Repave the existing highway
- Construct passing lanes
- Widen highway shoulders
- Improve drainage
- Maintain 55 mph posted speed
- Wildlife enhancement features
Typical Section
Wildlife
Undercrossings
Map 3. Hot spots (sum of WV Collisions, Wildlife Hotline, and GPS Crossings) along the Sterling Highway.
MP 75.3 8’x8’ underpass
MP73.4 20’x16’ underpasses (2), EFMR 104’x18’ bridge
East Fork Moose River

- 104’ X 18’ clearance
- ≥35’ bank for wildlife
Moose Fence

- 2.3-mile (x2) fence 9’ tall with 1’ gap at bottom
- 22 jump outs alternating every 1/8 miles
MP 64.8 14’x14’ underpass
**Mystery Creek Road/Gravel Pit**

- Extract 5.5 acres gravel from existing MP 63.4 material pit
- Realign road through gravel pit to improve safety/provide parking area
- Existing road access closed and partially reclaimed
- Spruce saplings translocated by YCC for reclamation
MP 61.9, 58.2 14’x14’ underpasses
Additional Components

• Mystery Creek realignment/gravel pit restoration
• Skyline Trail pedestrian underpass/kiosk
• New paved pullouts at Lily Lake and MP 73.4
• Paving pullout at MP 62.7
• Turn lanes at Skilak Lake Road intersections
• Improved access road to Jean Lake
• Fish habitat in revetment along Kenai River braid at MP 57.8
• Improved hydrologic connectivity
## $10.5 million wildlife mitigation

<table>
<thead>
<tr>
<th>Milepost</th>
<th>Structure (net clearance)</th>
<th>Cost</th>
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<tbody>
<tr>
<td>75.3</td>
<td>structural plate pipe-arch 8’ X 8’</td>
<td>$550,410</td>
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<tr>
<td>73.4</td>
<td>structural plate horizontal ellipse 20’ X 16’</td>
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<td>structural plate horizontal ellipse 20 X 16’</td>
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<td>additional fill for 6a and 6B (~ 20,000 yd$^3$)</td>
<td>$508,405</td>
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<td>71.4</td>
<td>East Fork Moose River bridge (104’ X 18’)</td>
<td>$2,473,104</td>
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<td>64.8</td>
<td>structural plate underpass 14’ X 14’</td>
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<td>61.9</td>
<td>structural plate underpass 14’ X 14’</td>
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<td>58.2</td>
<td>structural plate underpass 14’ X 14’</td>
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<td>retaining walls for wildlife undercrossings</td>
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<td>cast-in-place retaining wall (Jean Lake)</td>
<td>$1,752,622</td>
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<td>71.3-73.6</td>
<td>moose fence, 9’ high, 22 jump-outs</td>
<td>$487,041</td>
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<td>$398,323</td>
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MP 58–79 project total cost
$71 million (bid amount)

- 93.4% Federal funds
- $10.5 million wildlife mitigation
  - $1.5 million NWRS-WO funds
  - $1.3 million gravel
- $0.6 million Skyline Trail underpass
  - $1 million FLAP grant
Only 3 landscape-scaled corridors remain for north-south wildlife movement (<20% of area historically available)
Partnership and Collaboration!

THANK YOU