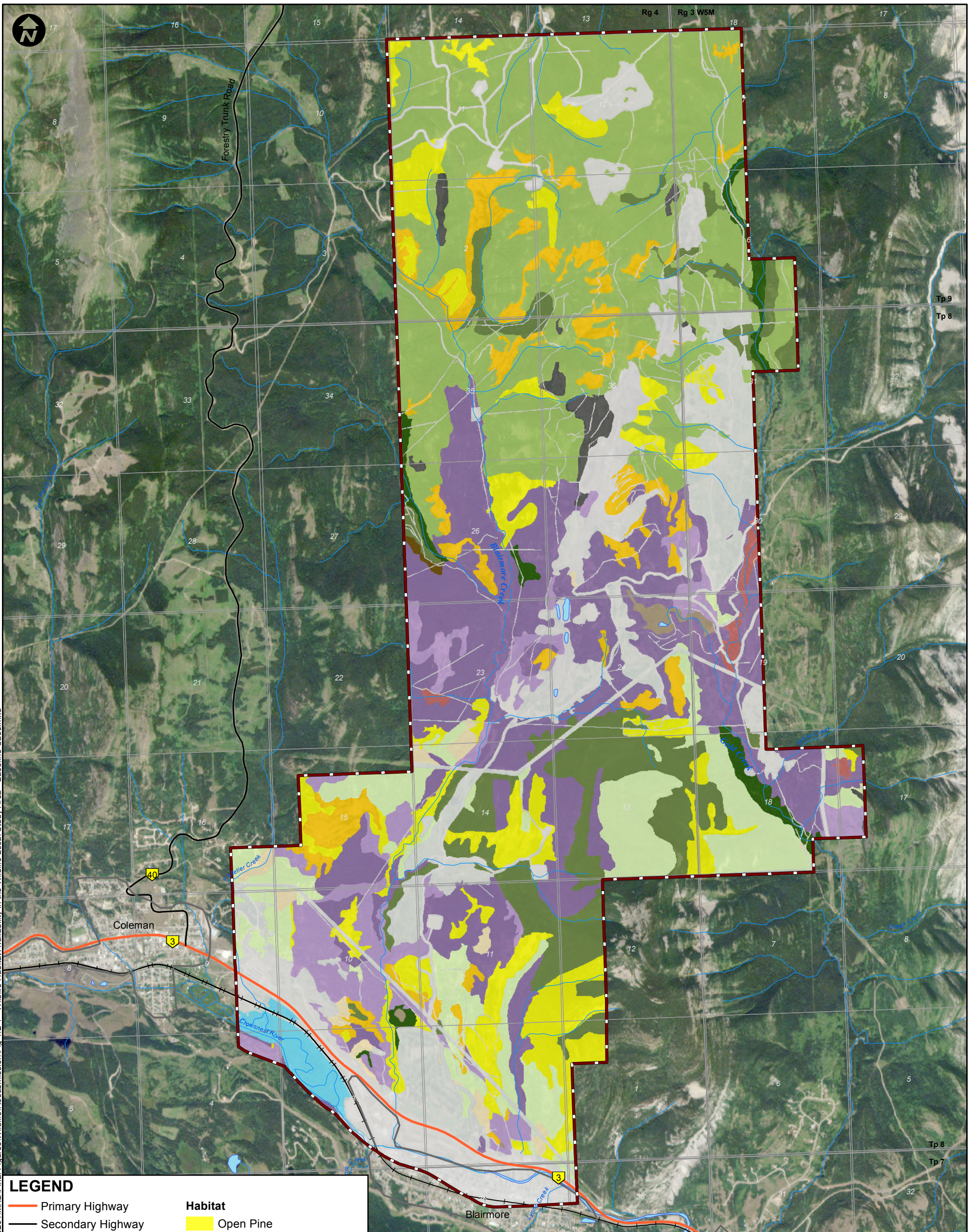


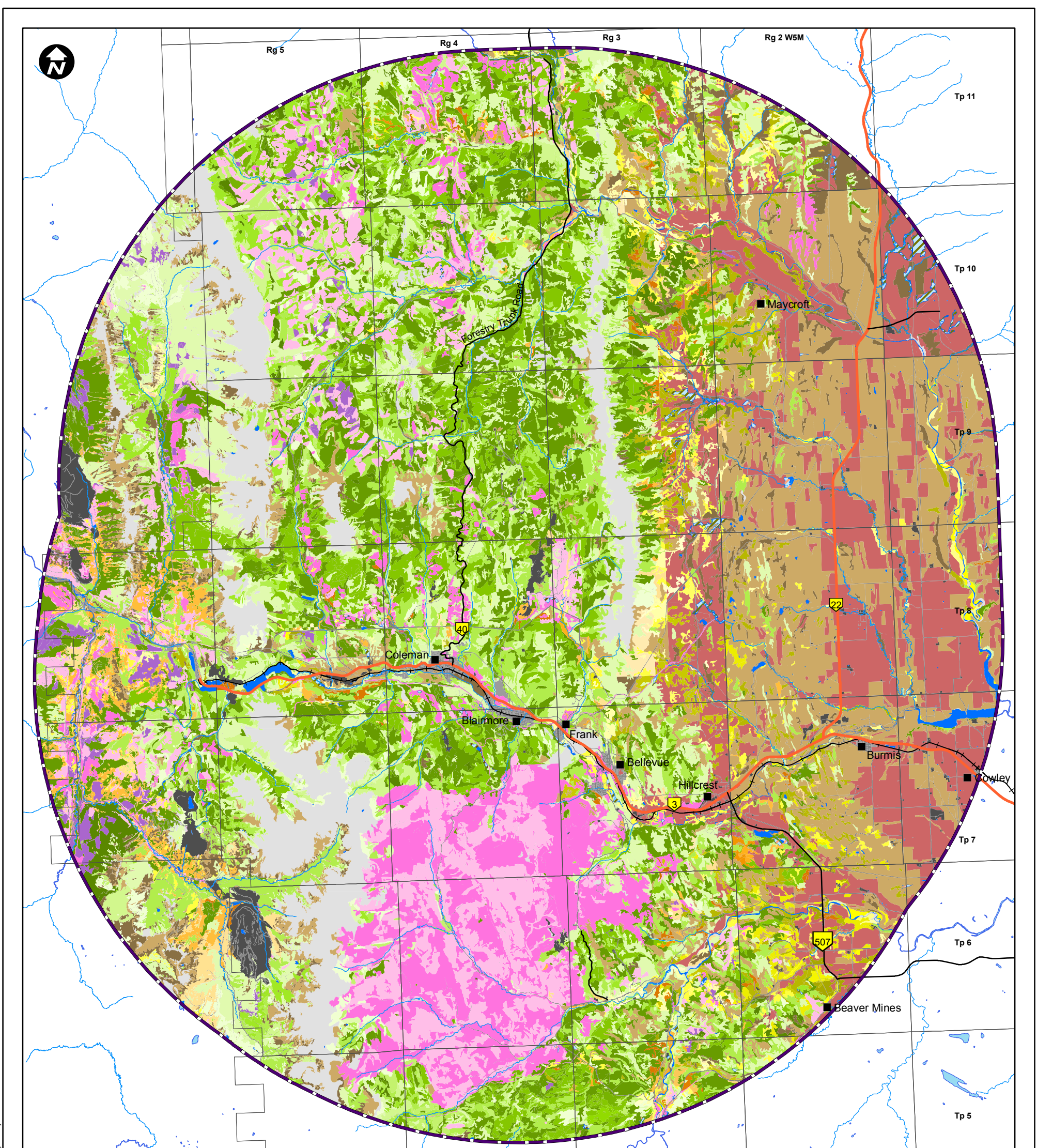
Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.2-1 - Wildlife Habitat Availability in the Wildlife Local Study Area - Baseline Case.mxd



LEGEND

Primary Highway	Open Pine
Secondary Highway	Open Deciduous
Existing Railway	Open Mixedwood
Surface Water Drainage	Open Mixed Coniferous
Waterbody	Moderate Mixed Coniferous
Wildlife Local Study Area	Closed Deciduous
	Closed Mixedwood
	Closed Spruce
	Closed Mixed Coniferous
	Grassland
	Upland Shrub
	Shrubby Wetland
	Treed Wetland
	Rock Barren
	Naturally Flooded Area
	Anthropogenic Disturbance

<p>PROJECT</p> RIVERSDALE RESOURCES <p>GRASSY MOUNTAIN COAL PROJECT</p>		<p>MILLENNIUM EMS Solutions Ltd.</p>
<p>TITLE</p> <p>WILDLIFE HABITAT AVAILABILITY IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE</p>		
<p>NOTES</p> <p>AltaLIS, 2016; Geobase, 2015; MEMS, 2016; RapidEye, 2015 (Image Date: Jul 26/13); Riversdale, 2016 Datum/Projection: UTM NAD 83 Zone 11</p>		<p>PROJECT: 14-00201-01 DRAWN BY: HS/SL CHECKED BY: LB DATE: JUNE 16, 2016</p>
<p>0 0.75 1.5 3 Kilometres</p>		<p>FIGURE</p> <p>4.2-1</p>



Ecological Land Cover Class

Open Broadleaf Young Forest	Closed Broadleaf Young Forest	Dense Conifer Young Forest	Moderate Mixed Young Forest	Natural Upland Herb	Wetland/Waterbody
Open Broadleaf Mature Forest	Closed Broadleaf Mature Forest	Dense Conifer Mature Forest	Moderate Mixed Mature Forest	Lush Herb	
Open Broadleaf Old Forest	Closed Broadleaf Old Forest	Dense Conifer Old Forest	Moderate Mixed Old Forest	Closed Regenerating Treed	Natural Shrubby Wetland
Moderate Broadleaf Young Forest	Open Conifer Young Forest	Closed Conifer Young Forest	Dense Mixed Young Forest	Open Regenerating Herb	Treed Wetland
Moderate Broadleaf Mature Forest	Open Conifer Mature Forest	Closed Conifer Mature Forest	Dense Mixed Mature Forest	Open Regenerating Shrub	Open Water
Moderate Broadleaf Old Forest	Open Conifer Old Forest	Closed Conifer Old Forest	Closed Mixed Young Forest	Barren Land	Anthropomorphic
Dense Broadleaf Young Forest	Moderate Conifer Young Forest	Open Mixed Young Forest	Closed Mixed Mature Forest	Agriculture	
Dense Broadleaf Mature Forest	Moderate Conifer Mature Forest	Open Mixed Mature Forest	Closed Mixed Old Forest	Settlement	
Dense Broadleaf Old Forest	Moderate Conifer Old Forest	Open Mixed Old Forest	Natural Shrubby	Linear Anthropogenic Disturbance	
					Industrial (e.g. Mining)

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Grizzly Bear Regional Study Area

PROJECT

RIVERSDALE GRASSY MOUNTAIN COAL PROJECT
RESOURCES

MILLENNIUM
EMS Solutions Ltd.

TITLE

WILDLIFE HABITAT AVAILABILITY IN THE WILDLIFE AND GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

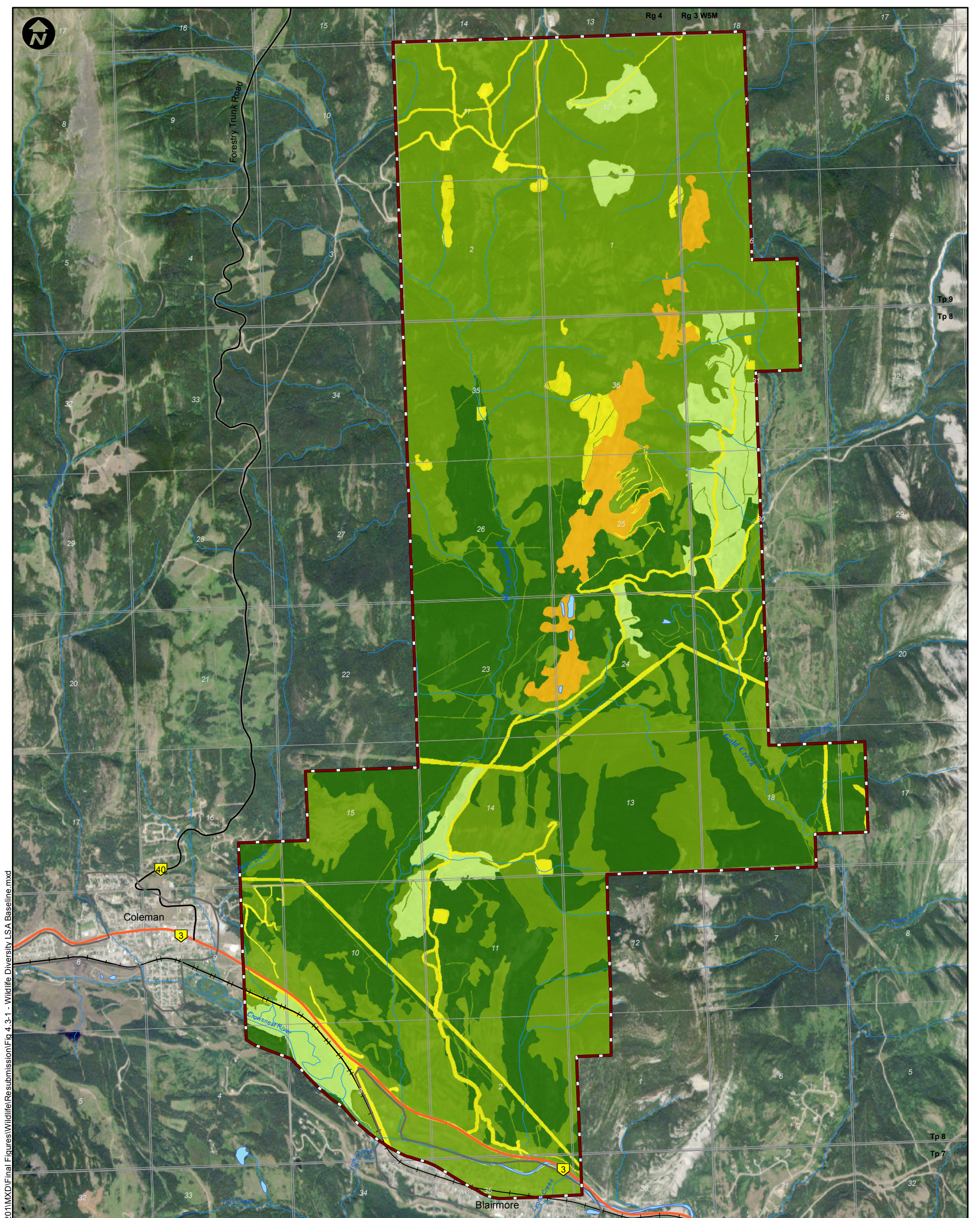
CHECKED BY: JP

DATE: OCTOBER 05, 2015

FIGURE

4.2-2





Document Path: K:\Active Projects\2014\AP_14-00201 to 14-00250\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig 4.3-1 - Wildlife Diversity LSA Baseline.mxd

LEGEND

- Primary Highway
 - Secondary Highway
 - Existing Railway
 - Surface Water Drainage
 - Waterbody
 - Wildlife Local Study Area
-
- Diversity**
- High
 - Moderate-High
 - Moderate
 - Moderate-Low
 - Low

PROJECT

RIVERSDALE **GRASSY MOUNTAIN COAL PROJECT**
RESOURCES

MILLENNIUM
EMS Solutions Ltd.

TITLE
WILDLIFE DIVERSITY IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE

NOTES
AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
DRAWN BY: HS
CHECKED BY: JP
DATE: OCTOBER 05, 2015

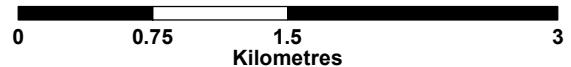
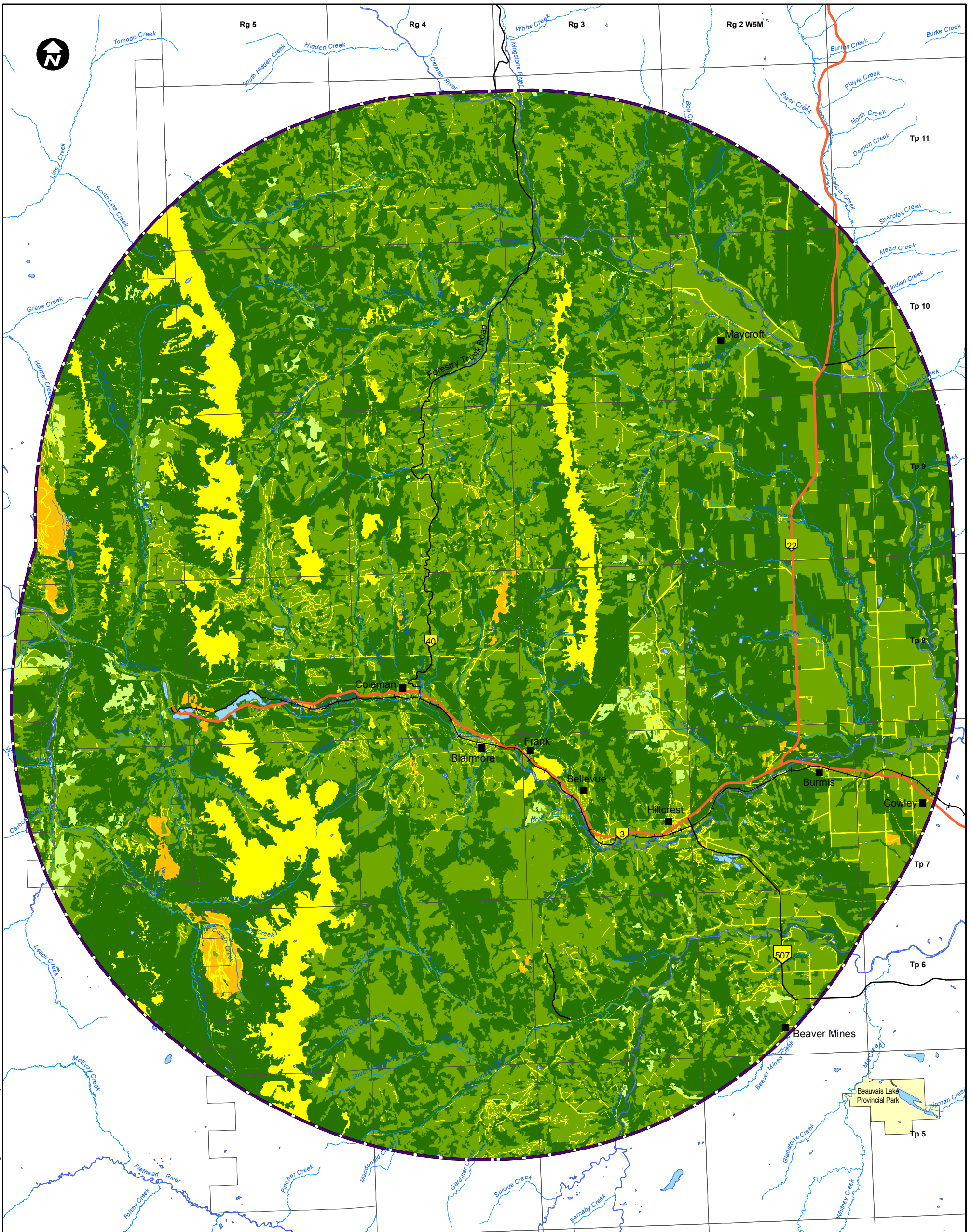


FIGURE
4.3-1



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Provincial Park
- Grizzly Bear Regional Study Area

Diversity

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low

PROJECT

RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**

MILLENNIUM
EMS Solutions Ltd.

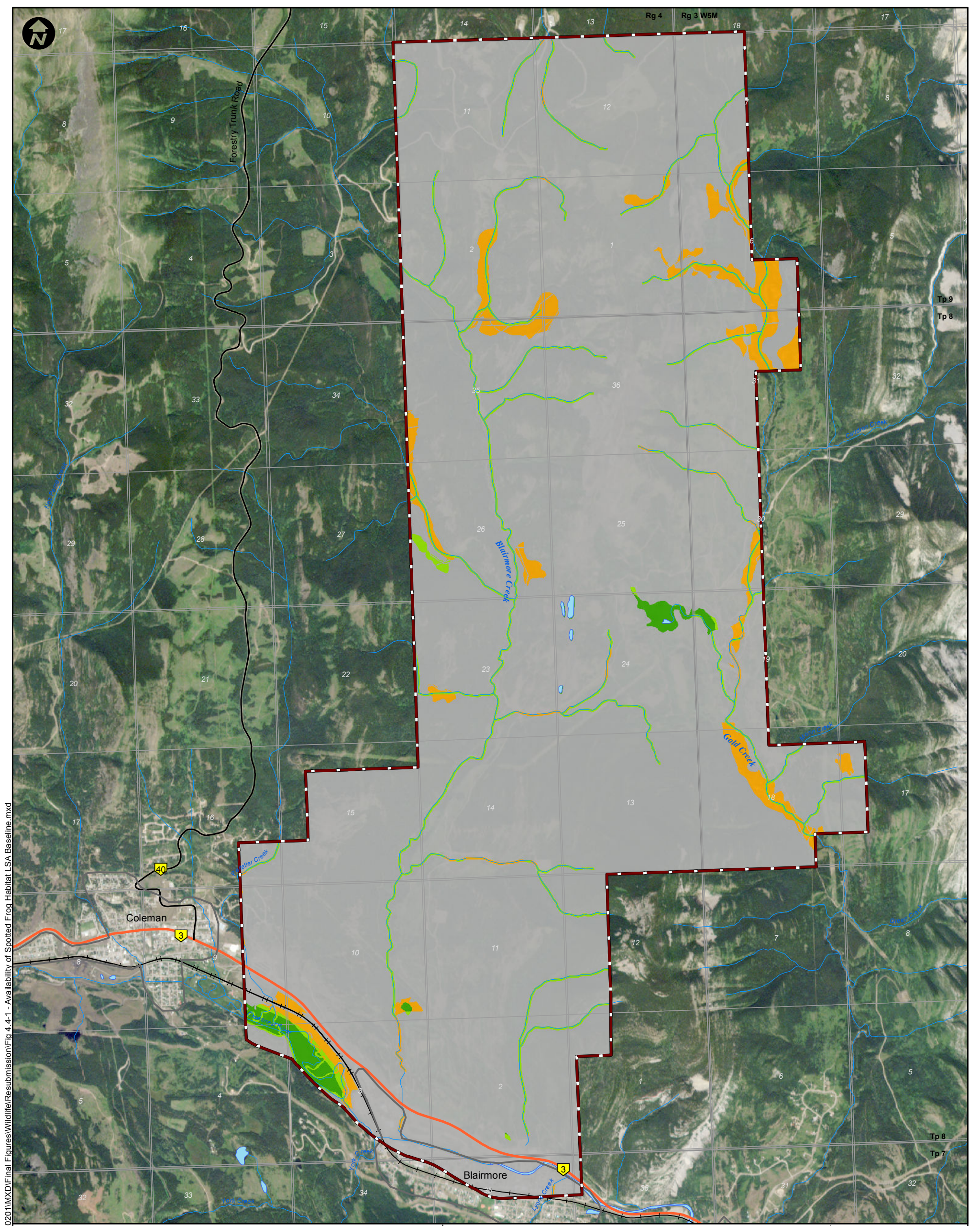
TITLE
WILDLIFE DIVERSITY IN THE GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

NOTES
 AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
 DRAWN BY: HS/SL
 CHECKED BY: JP
 DATE: OCTOBER 06, 2015

FIGURE
4.3-2

0 4 8 16
 Kilometres



Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-1 - Availability of Spotted Frog Habitat_LSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Columbia Spotted Frog Habitat Suitability

- High
- Moderate
- Low
- Nil

PROJECT

RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**

MILLENNIUM
EMS Solutions Ltd.

TITLE

AVAILABILITY OF COLUMBIA SPOTTED FROG HABITAT IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

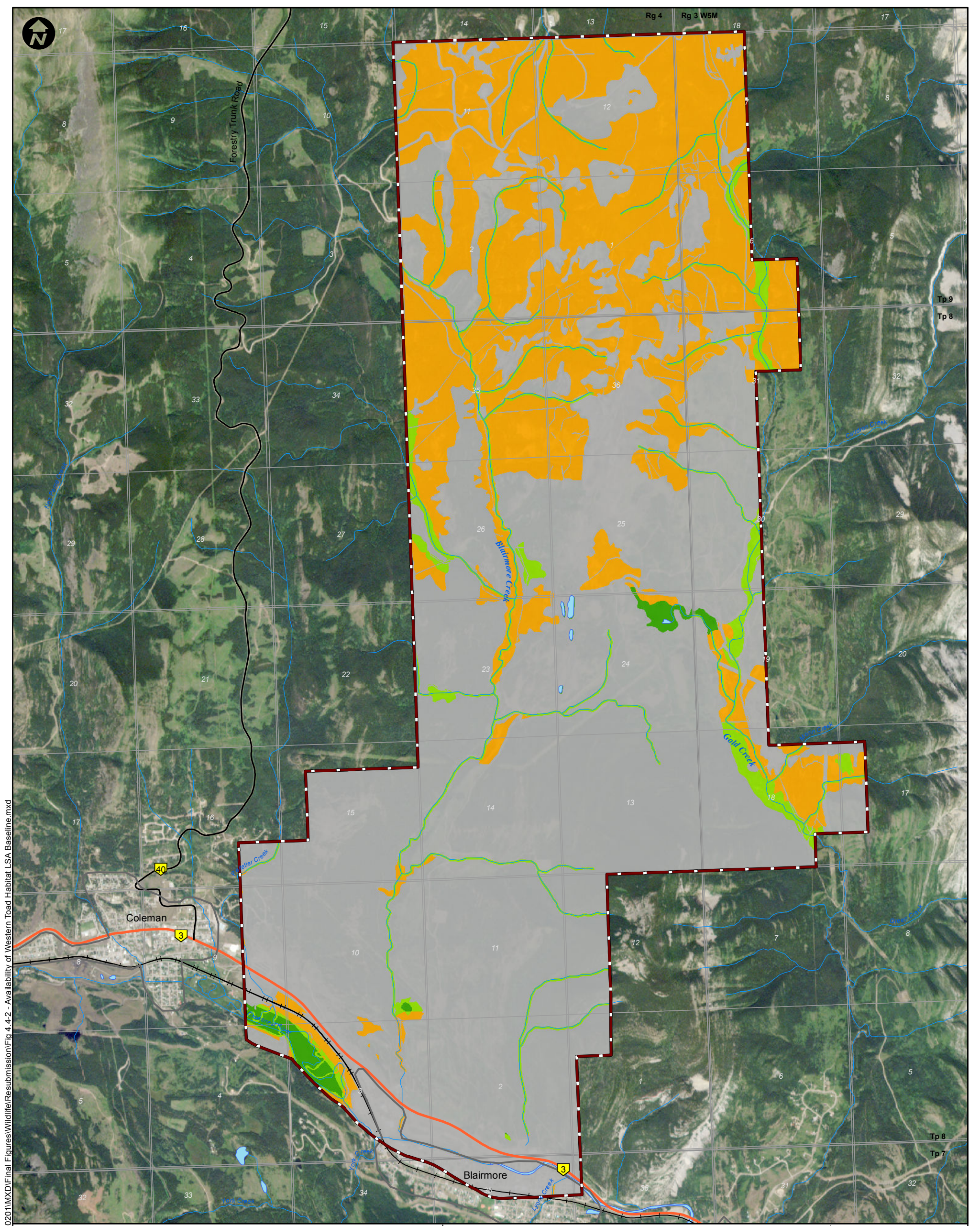
CHECKED BY: JP

DATE: OCTOBER 13, 2015

FIGURE

4.4-1





Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-2 - Availability of Western Toad Habitat LSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Western Toad Habitat Suitability

- High
- Moderate
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF WESTERN TOAD HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

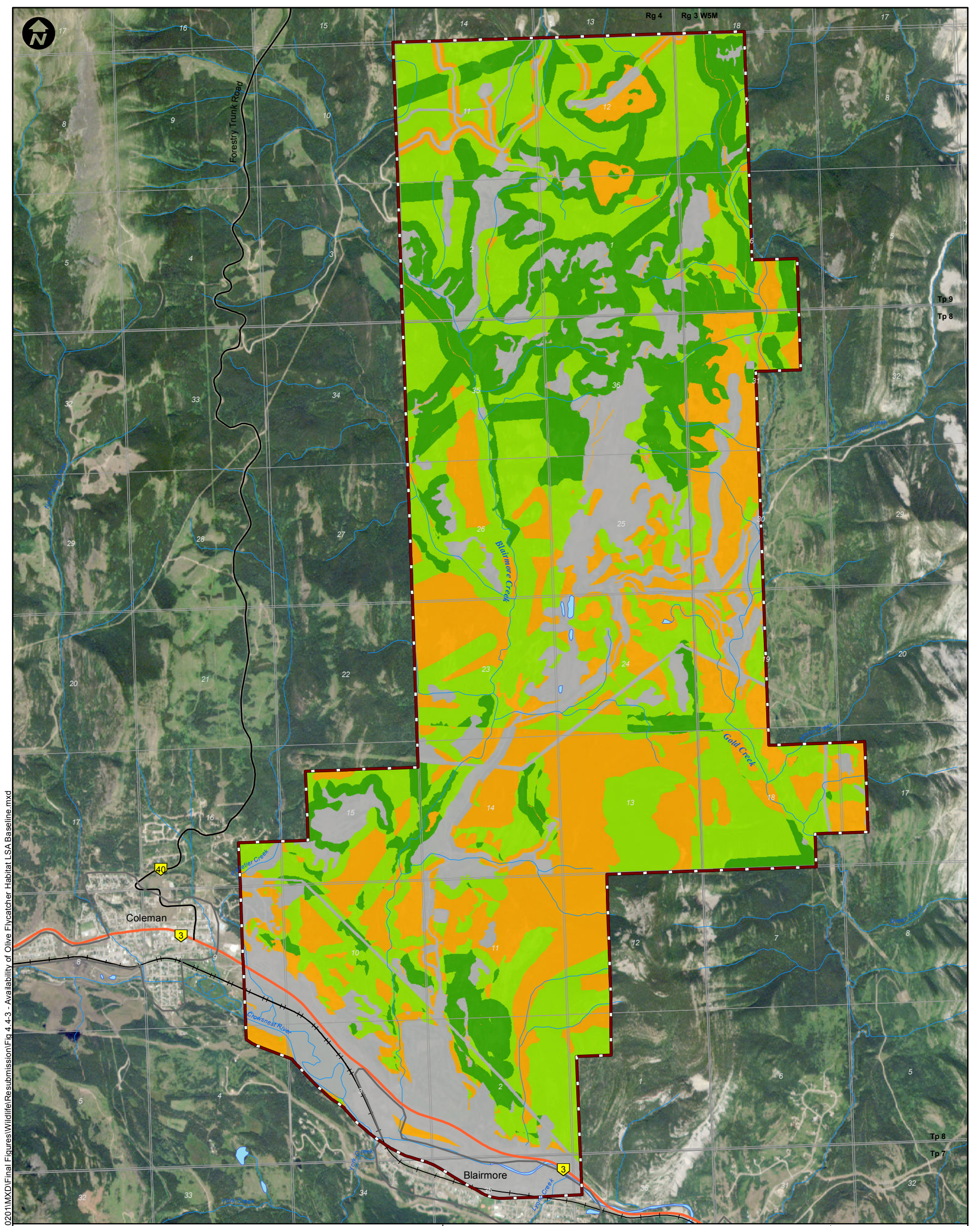
CHECKED BY: JP

DATE: OCTOBER 13, 2015

FIGURE

4.4-2





Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-3 - Availability of Olive Flycatcher Habitat LSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Olive-sided Flycatcher Habitat Suitability

- High
- Moderate
- Low
- Nil

PROJECT

RIVERSDALE **GRASSY MOUNTAIN COAL PROJECT**
RESOURCES

MILLENNIUM
EMS Solutions Ltd.

TITLE

AVAILABILITY OF OLIVE-SIDED FLYCATCHER HABITAT IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

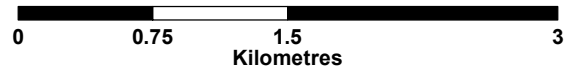
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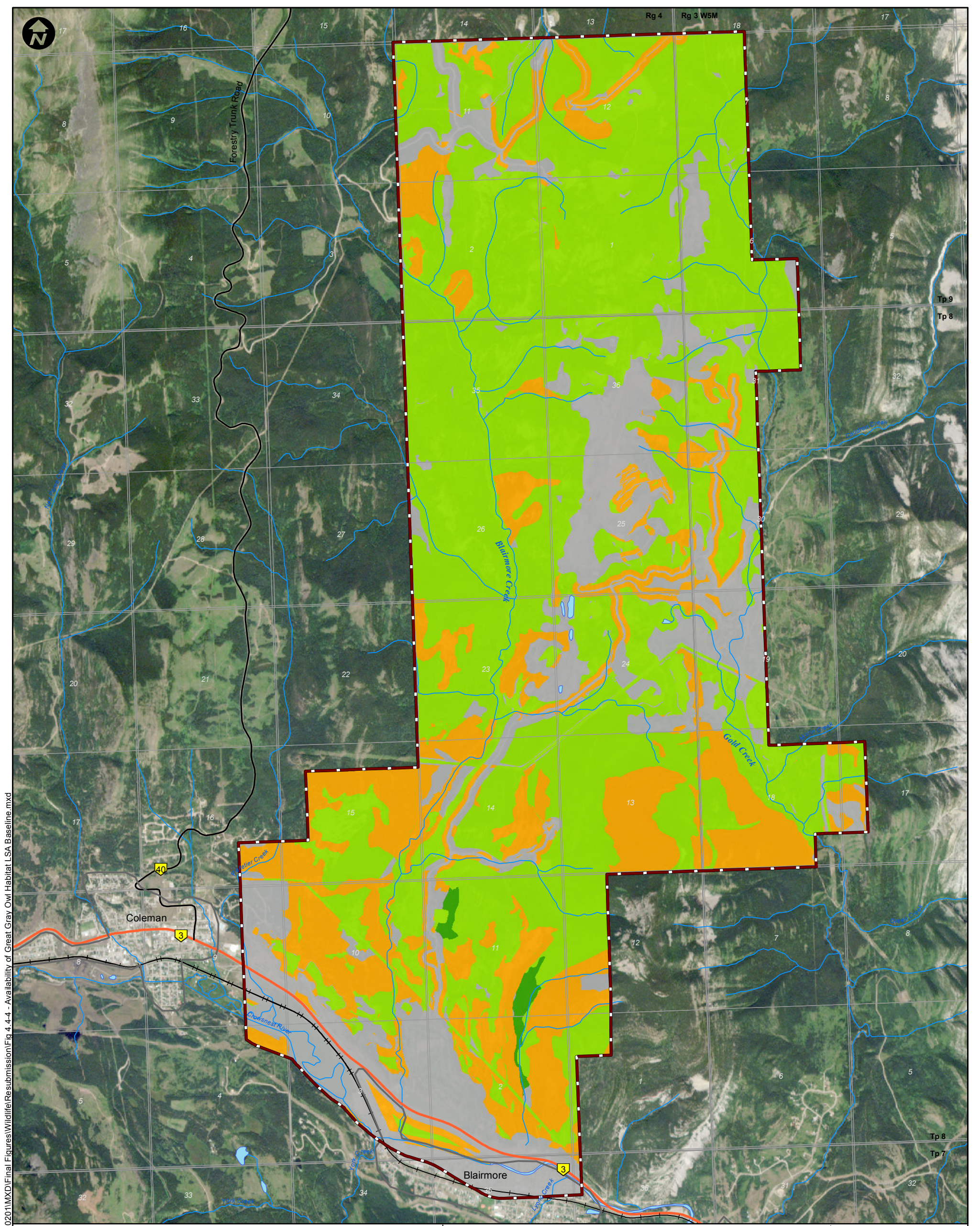
CHECKED BY: JP

DATE: JUNE 15, 2016

FIGURE

4.4-3





Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig 4.4-4 - Availability of Great Gray Owl Habitat LSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Great Gray Owl Habitat Suitability

- High
- Moderate
- Low
- Nil

PROJECT



**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF GREAT GRAY OWL HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS/SL

CHECKED BY: JP

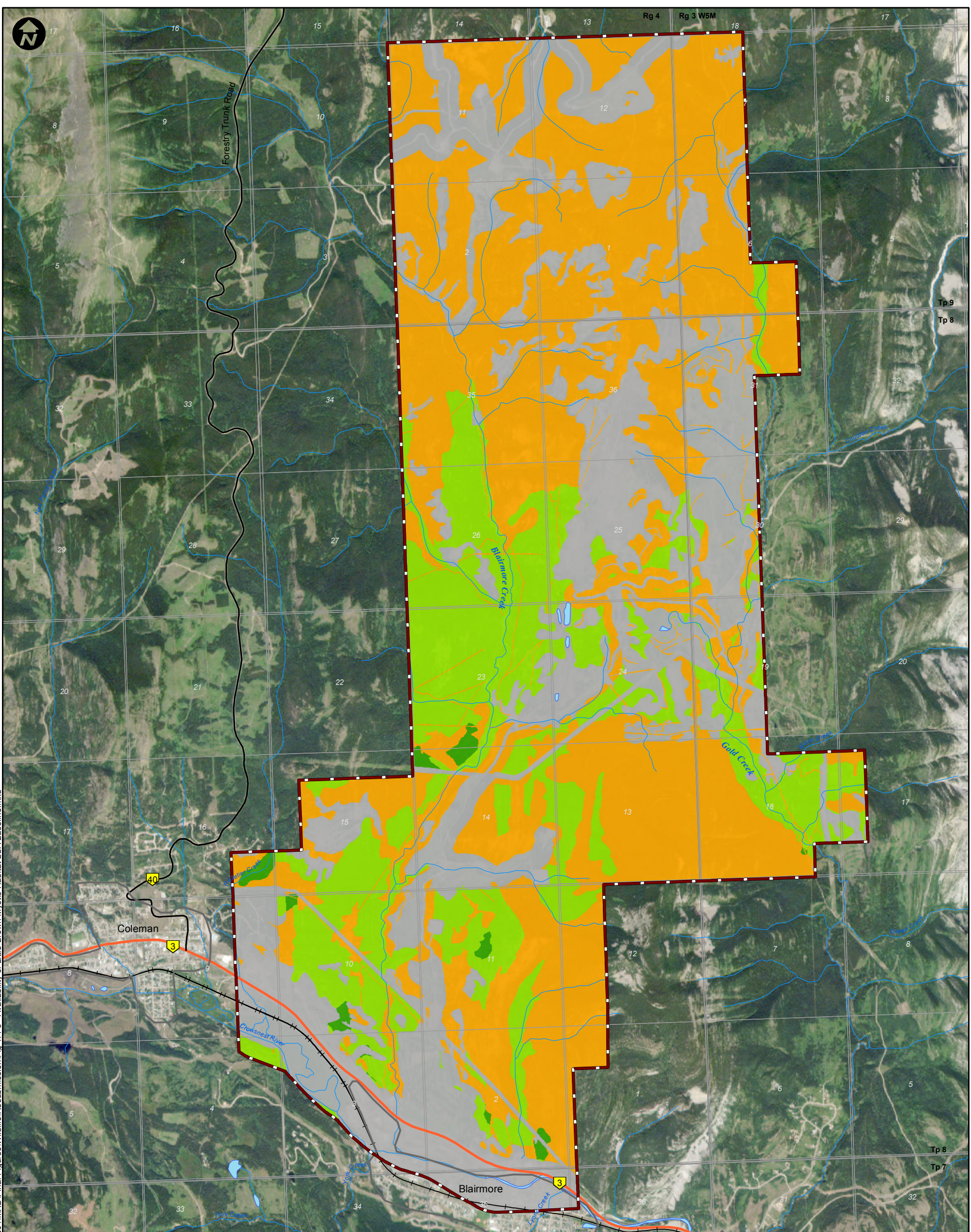
DATE: JUNE 15, 2016

FIGURE

4.4-4



Document Path: K:\Active Projects 2014\AP_14-002501\14-002501\Final\Figures\Wildlife\Resubmission\Fig 4.4-5 - Availability of Little Brown Myotis Habitat LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Little Brown Myotis Habitat Suitability

- High
- Moderate
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF LITTLE BROWN MYOTIS HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

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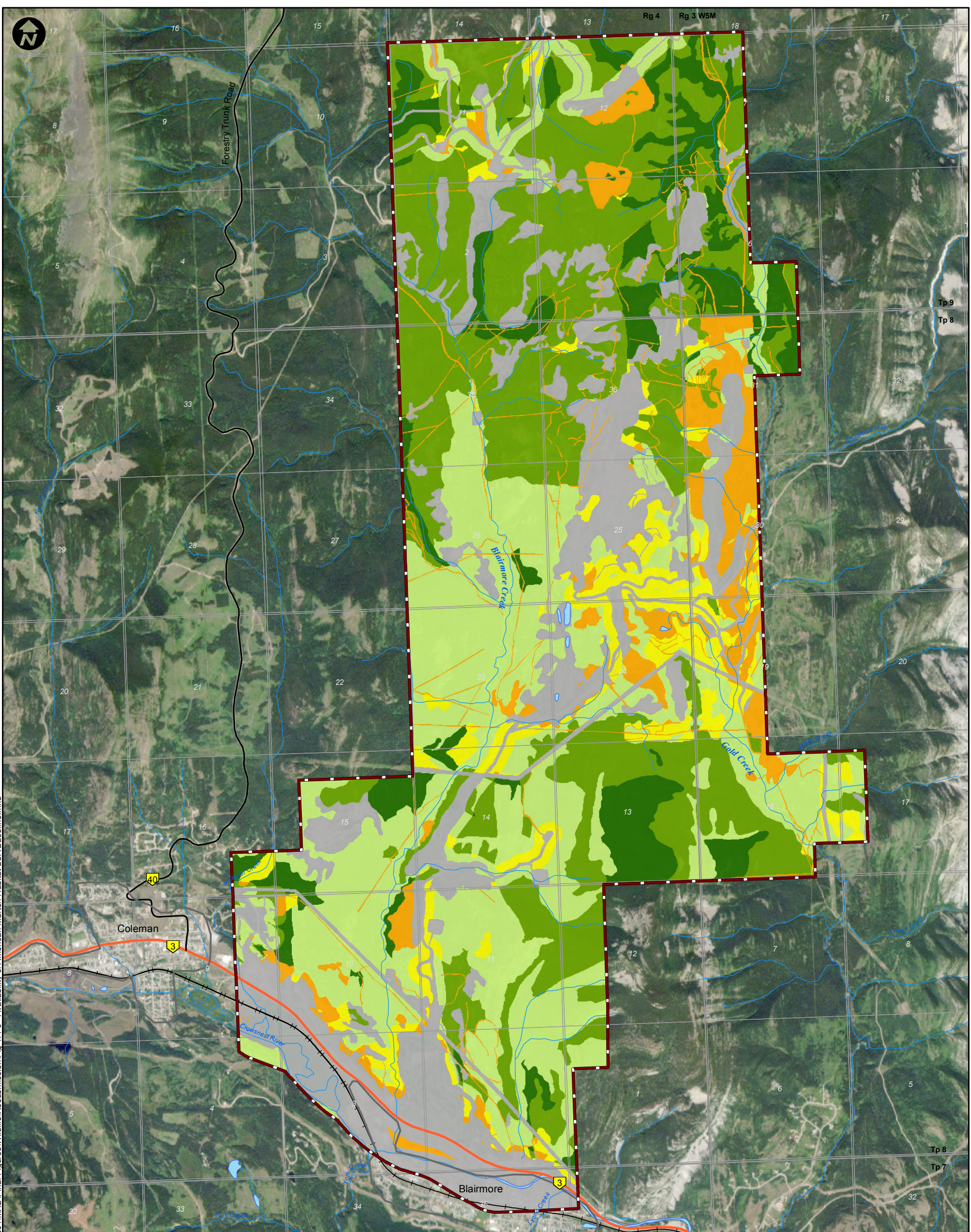
DATE: OCTOBER 13, 2015

FIGURE

4.4-5



Document Path: K:\Active Projects\2014\AP_14-002\01\MXD\Final\Figures\Wildlife\Resubmission\Fig_4.4-6 - Availability of American Marten Habitat_LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

- American Marten Habitat Suitability**
- High
 - Moderate-High
 - Moderate
 - Moderate-Low
 - Low
 - Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF AMERICAN MARTEN HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

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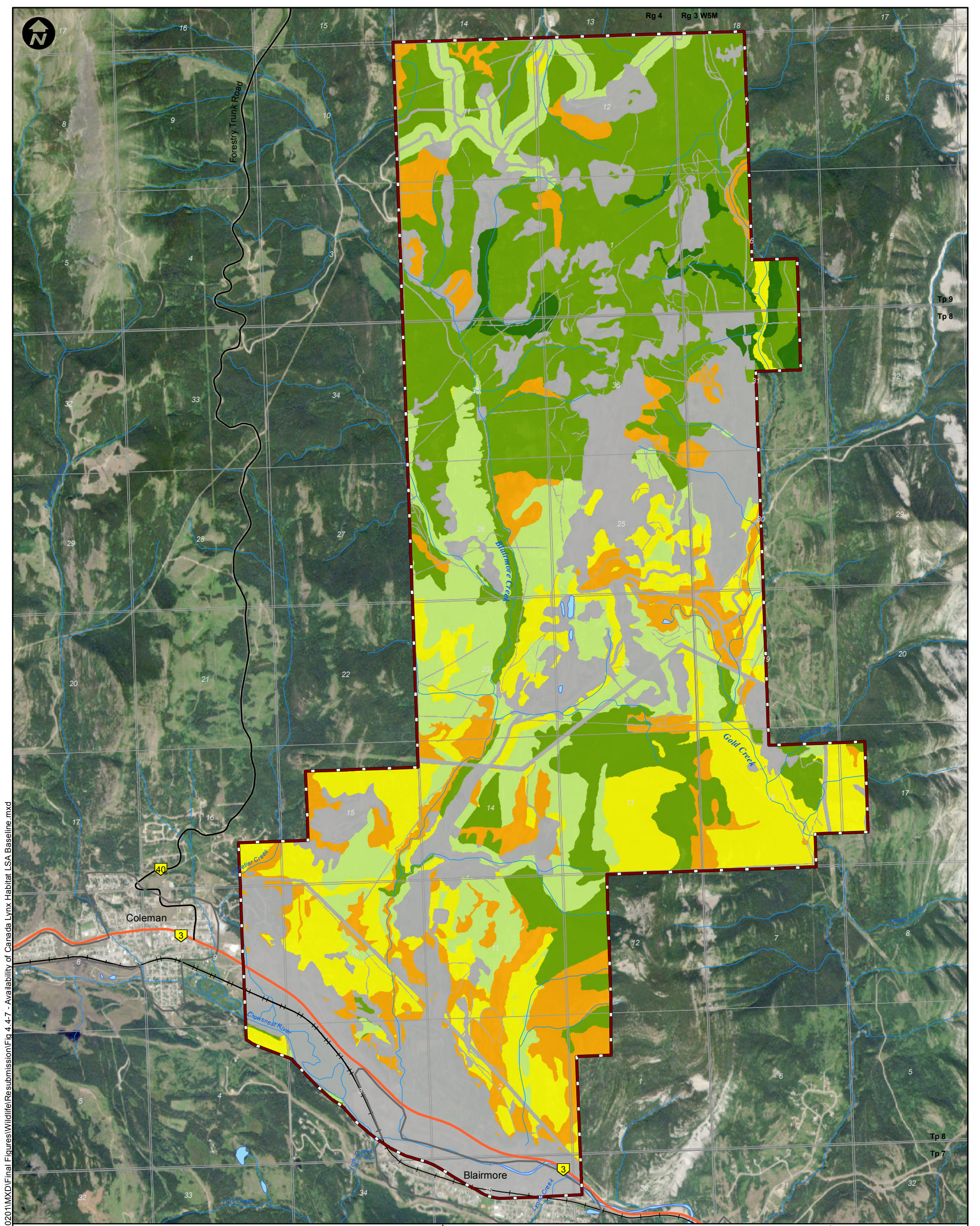
CHECKED BY: JP

DATE: OCTOBER 05, 2015

FIGURE

4.4-6





Document Path: K:\Active Projects\2014\AP_14-00201\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig_4.4-7 - Availability of Canada Lynx Habitat_LSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Canada Lynx Habitat Suitability

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF CANADA LYNX HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

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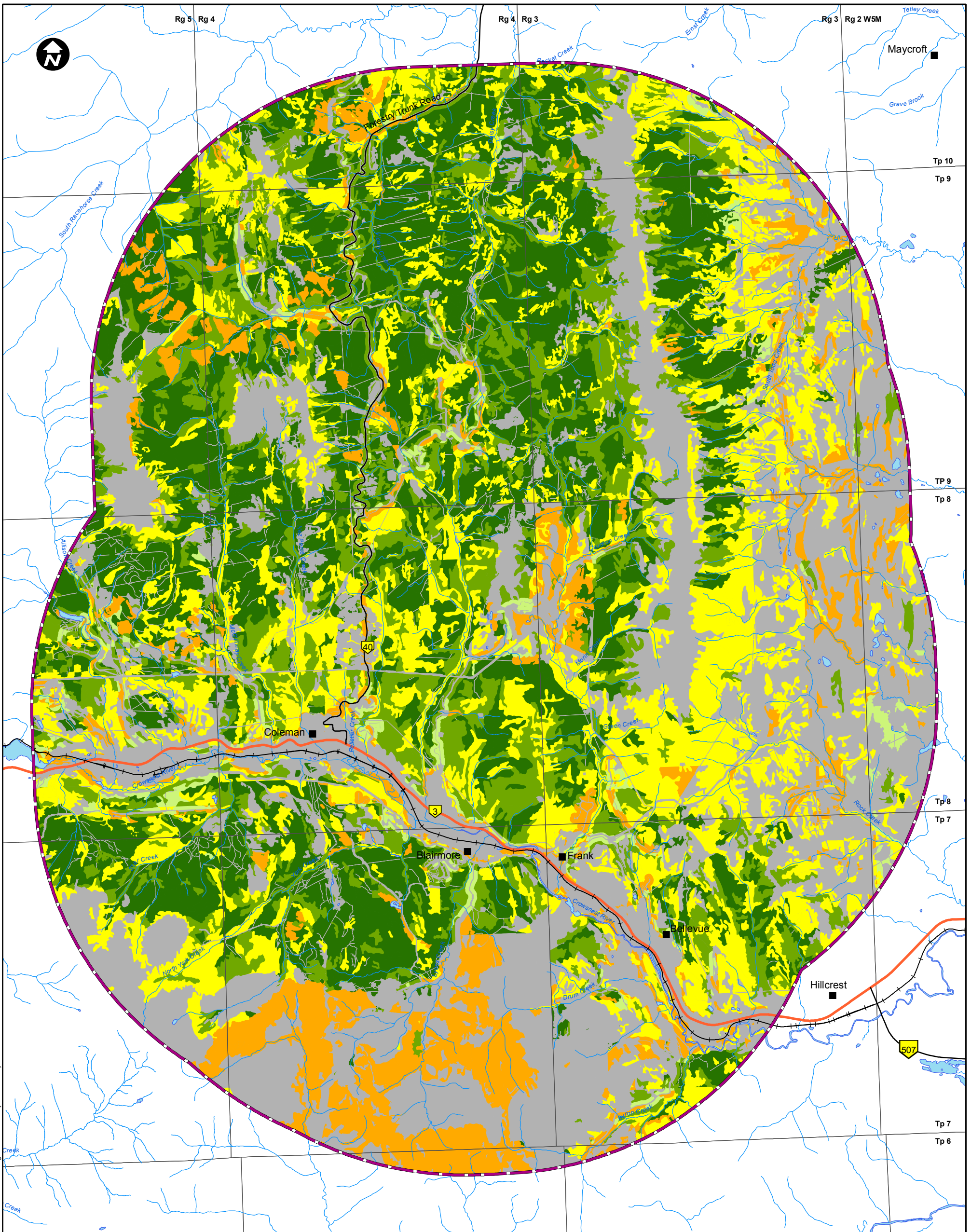
CHECKED BY: JP

DATE: OCTOBER 05, 2015

FIGURE

4.4-7





Document Path: K:\Active Projects 2014\AP 14-00201 to 14-00250\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig 4.4-8 - Availability of Canada Lynx Habitat RSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Regional Study Area

Canada Lynx Habitat Suitability

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF CANADA LYNX HABITAT IN THE
WILDLIFE REGIONAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

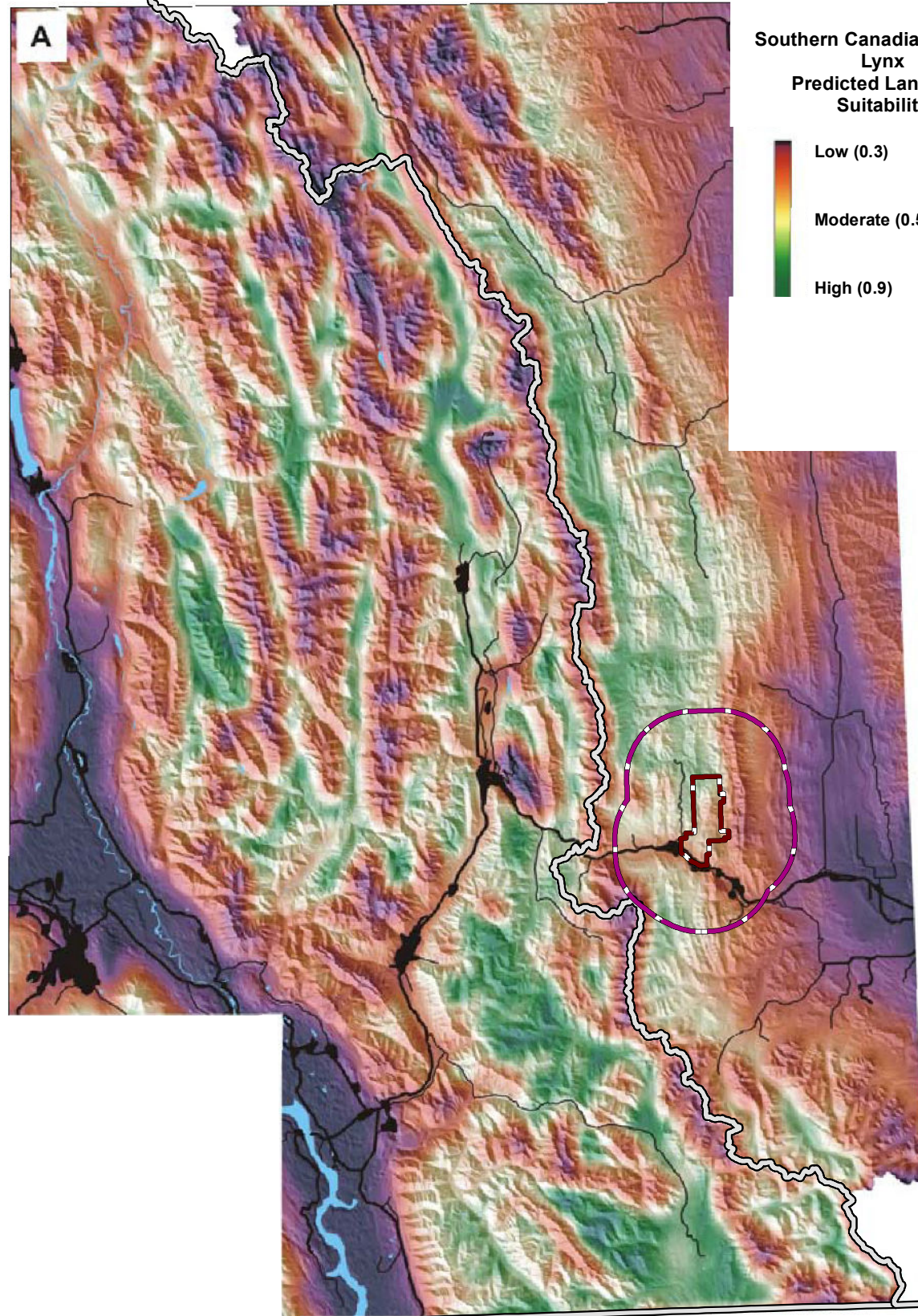
CHECKED BY: JP

DATE: OCTOBER 05, 2015

FIGURE

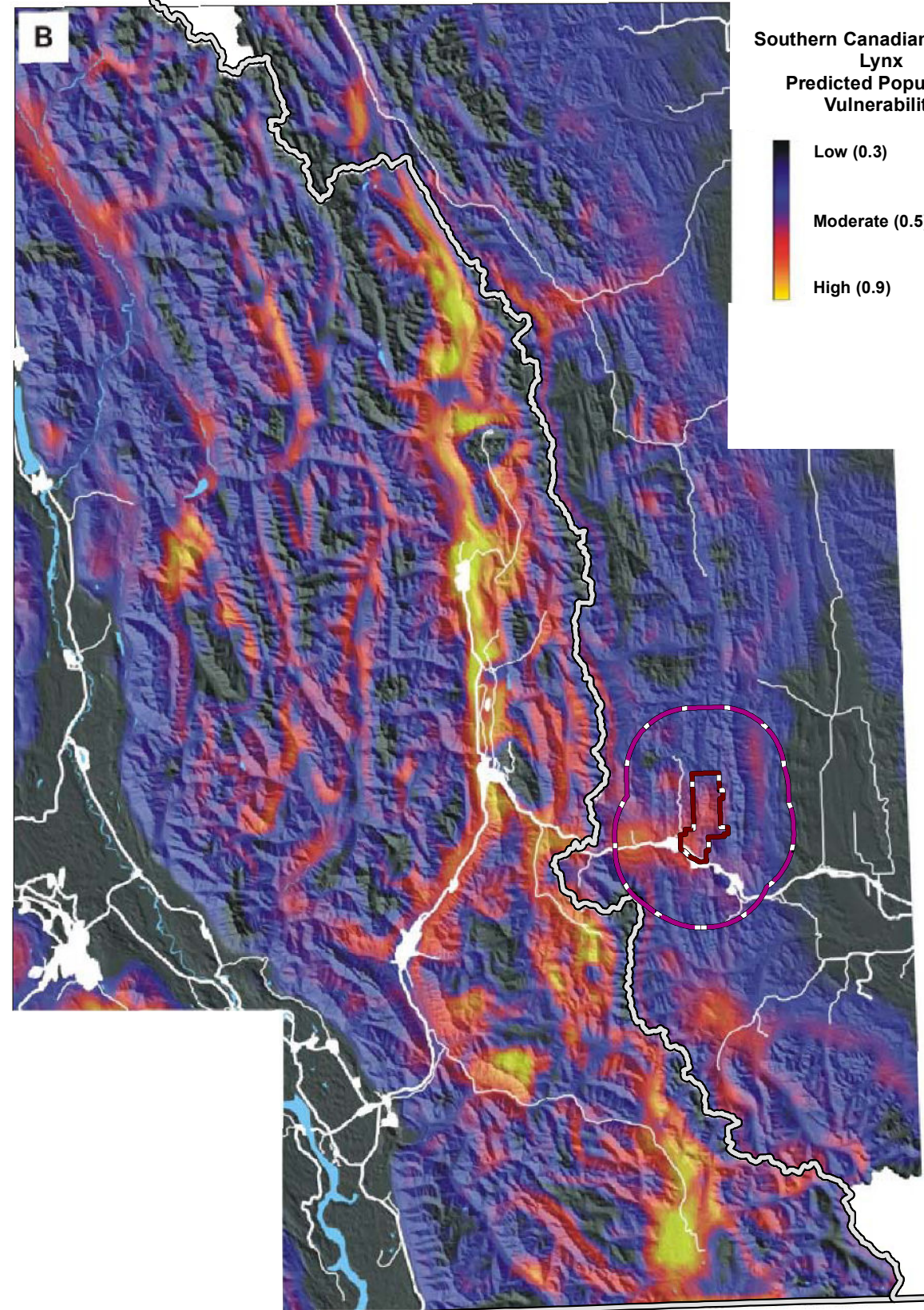
4.4-8





**Southern Canadian Rockies
Lynx
Predicted Landscape
Suitability**

Low (0.3)
Moderate (0.5)
High (0.9)



**Southern Canadian Rockies
Lynx
Predicted Population
Vulnerability**

Low (0.3)
Moderate (0.5)
High (0.9)

LEGEND

- Major Roads
- ▭ Provincial Boundary
- ▭ Wildlife Regional Study Area
- ▭ Wildlife Local Study Area

PROJECT



GRASSY MOUNTAIN COAL PROJECT

TITLE

**PREDICTED LYNX DISTRIBUTION BASED ON LANDSCAPE SUITABILITY
AND POPULATION VULNERABILITY IN SOUTHEASTERN BRITISH COLUMBIA
AND SOUTHWESTERN ALBERTA**

NOTES

Apps et al., 2003; MEMS, 2015
Datum/Projection: UTM NAD 83 Zone 11



PROJECT: 14-00201

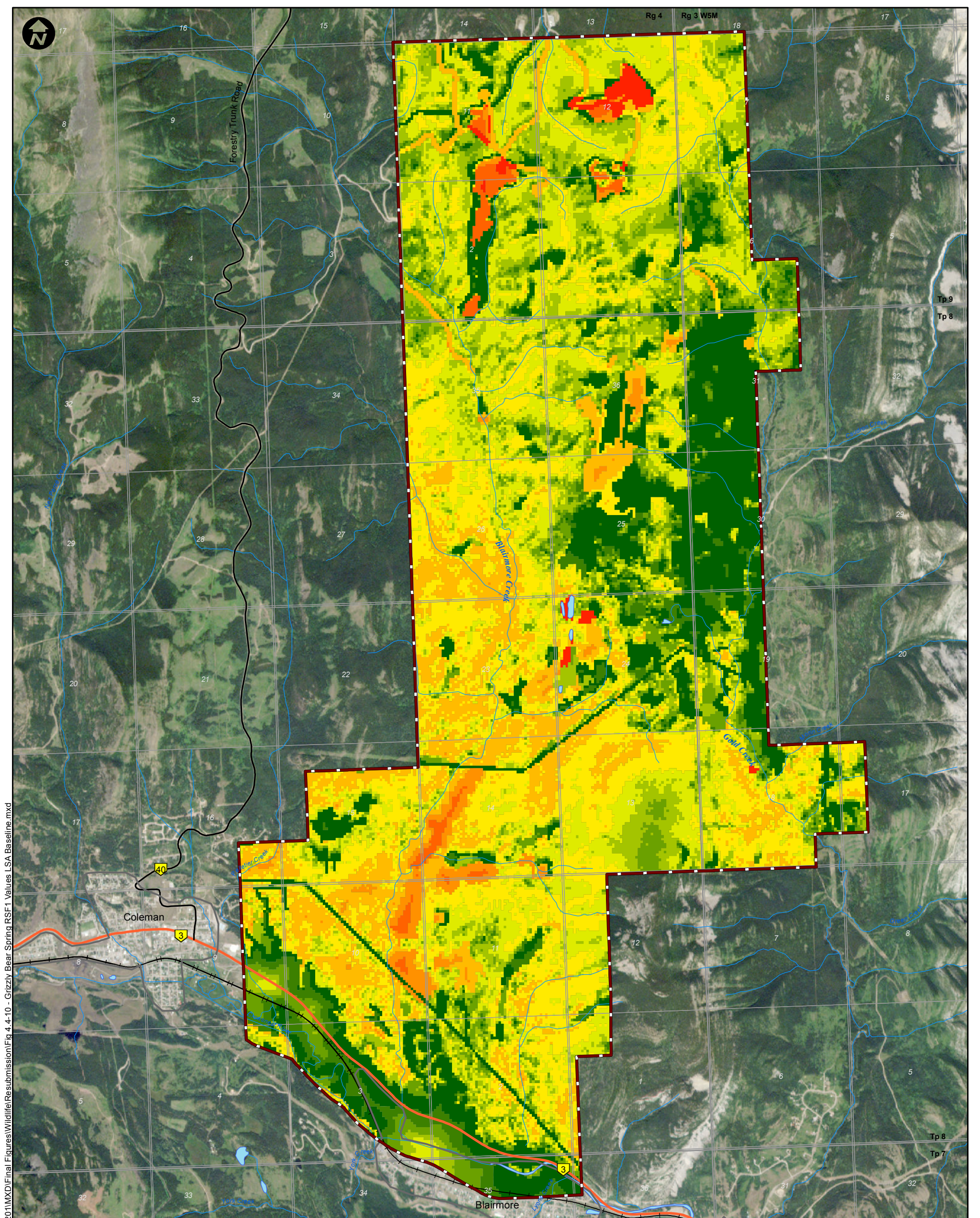
DRAWN BY: HS

CHECKED BY: LB

DATE: OCTOBER 05, 2015

FIGURE

4.4-9



DocumentPath: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig_4.4-10 - Grizzly Bear Spring RSF 1 Values_LSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- + Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

RSF Spring

- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE
**SPRING RESOURCE SELECTION FUNCTION VALUES FOR
GRIZZLY BEARS IN THE WILDLIFE
LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

CHECKED BY: JP

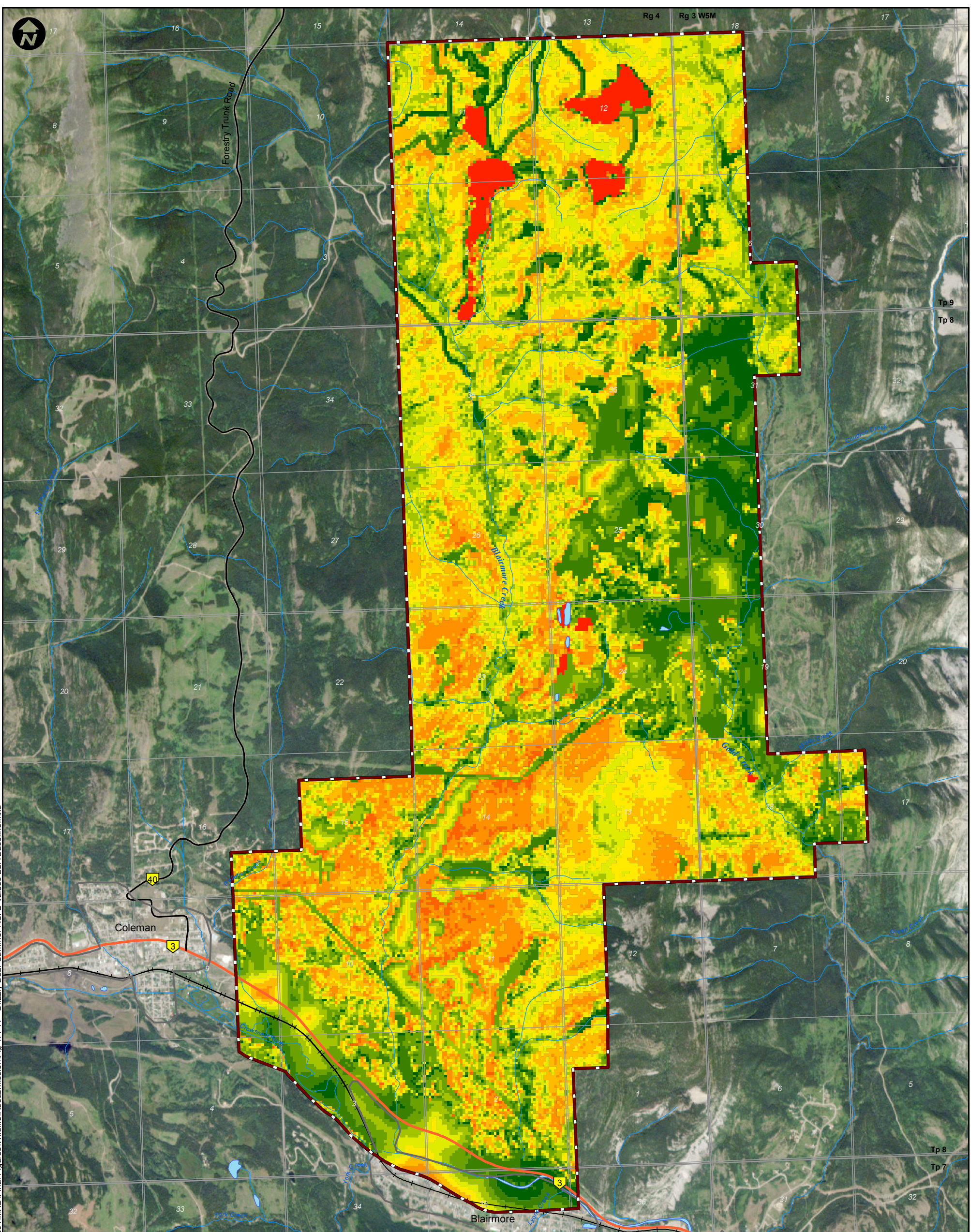
DATE: OCTOBER 05, 2015

FIGURE

4.4-10



Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-11 - Grizzly Bear Summer RSF2 Values_LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

RSF Summer

- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

PROJECT

RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**

MILLENNIUM
EMS Solutions Ltd.

TITLE
SUMMER RESOURCE SELECTION FUNCTION VALUES FOR GRIZZLY BEARS IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE

NOTES

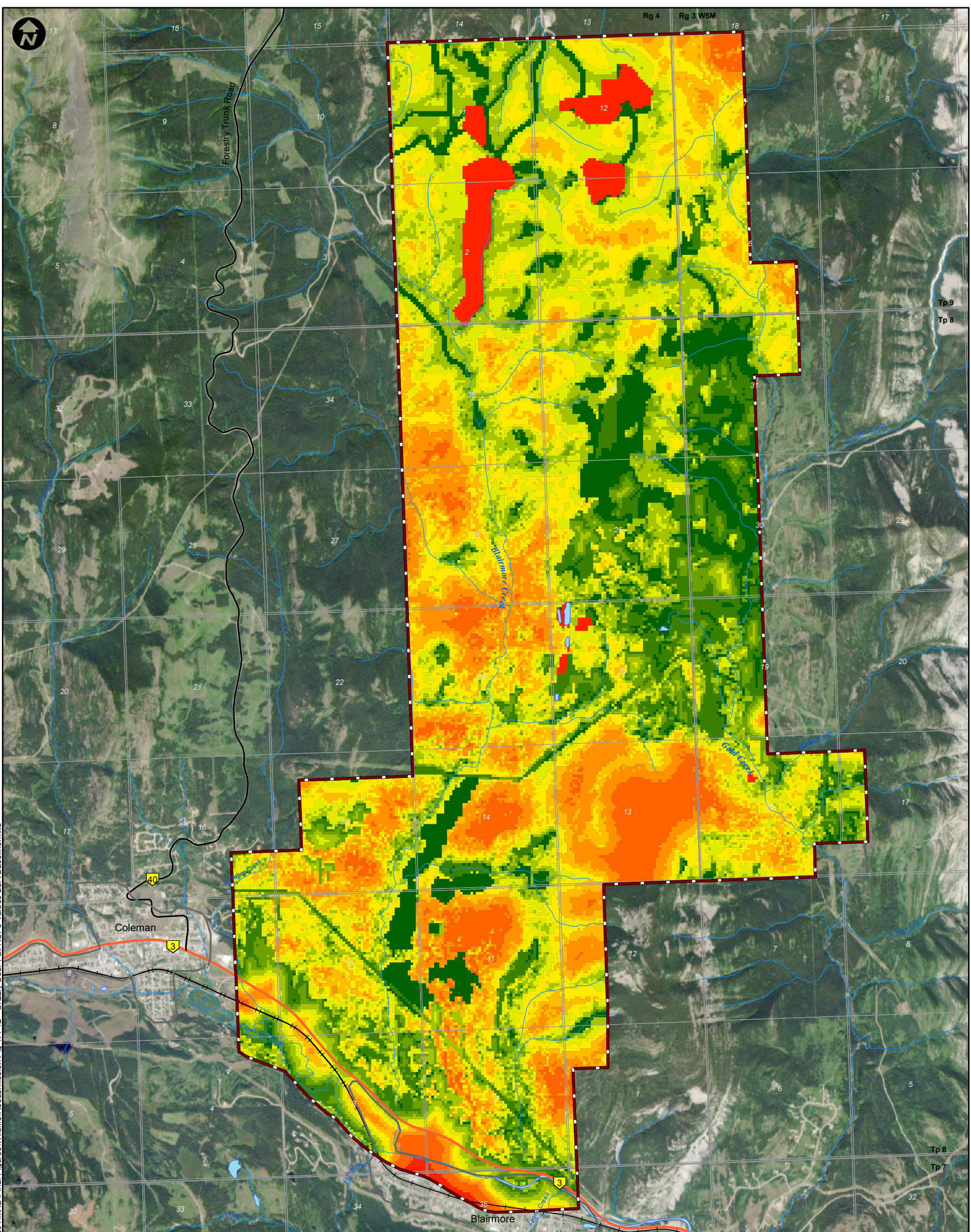
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 (Image Date: Jul 26/13); Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
 DRAWN BY: HS
 CHECKED BY: JP
 DATE: OCTOBER 05, 2015



FIGURE
4.4-11

Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-12 - Grizzly Bear Fall RSF3 Values LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- + Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area



PROJECT

RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**



TITLE
FALL RESOURCE SELECTION FUNCTION VALUES FOR GRIZZLY BEARS IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
 (Image Date: Jul 26/13); Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

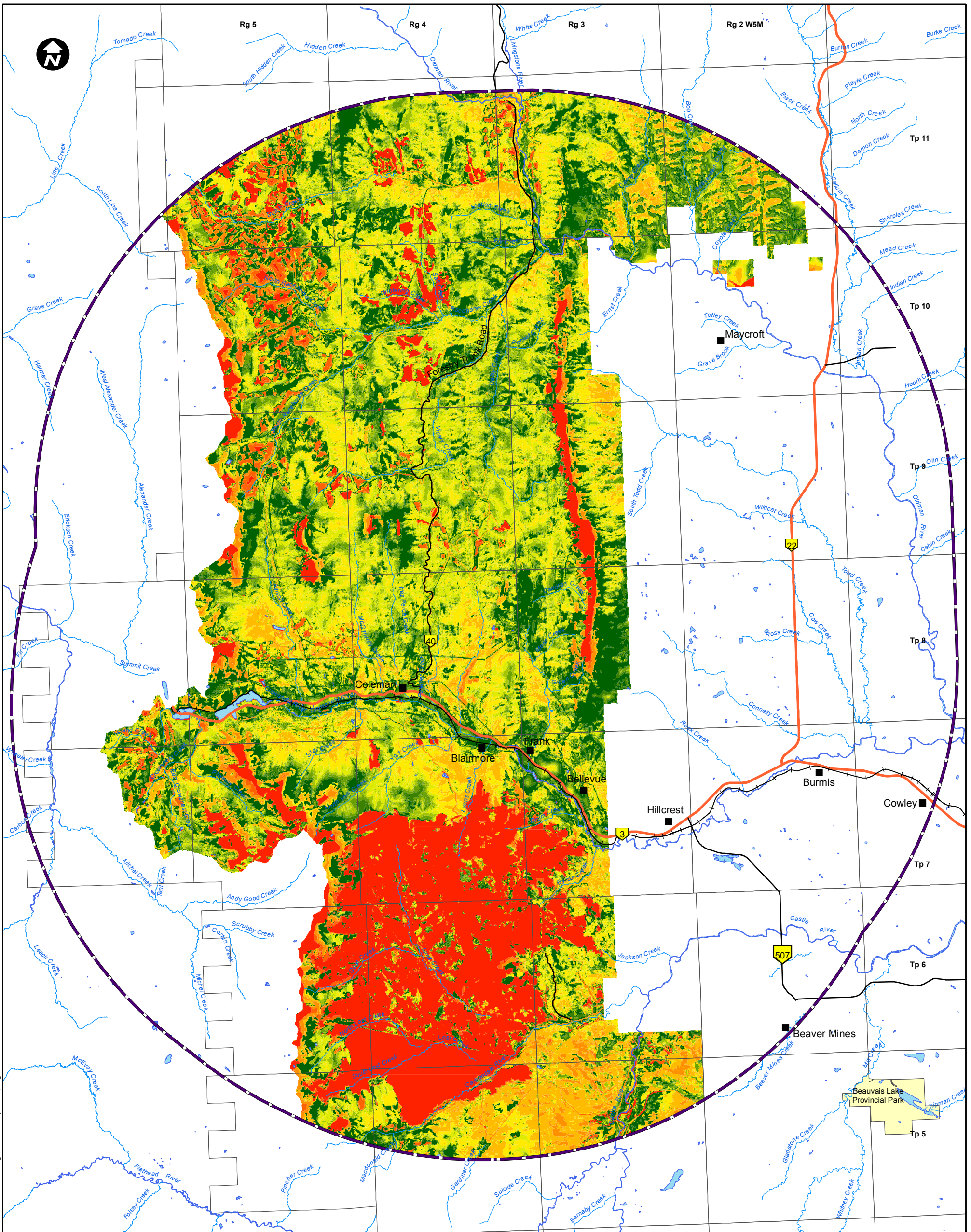
DRAWN BY: HS

CHECKED BY: JP

DATE: OCTOBER 05, 2015

FIGURE
4.4-12





Document Path: K:\Active Projects\2014\AP_14-00201 to 14-00250\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig 4.4-13 - Grizzly Bear Spring RSF1 Values RSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Provincial Park
- Grizzly Bear Regional Study Area

- RSF Spring**
- 10
 - 9
 - 8
 - 7
 - 6
 - 5
 - 4
 - 3
 - 2
 - 1

PROJECT



RIVERSDALE RESOURCES GRASSY MOUNTAIN COAL PROJECT



TITLE
SPRING RESOURCE SELECTION FUNCTION VALUES FOR GRIZZLY BEAR IN THE GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

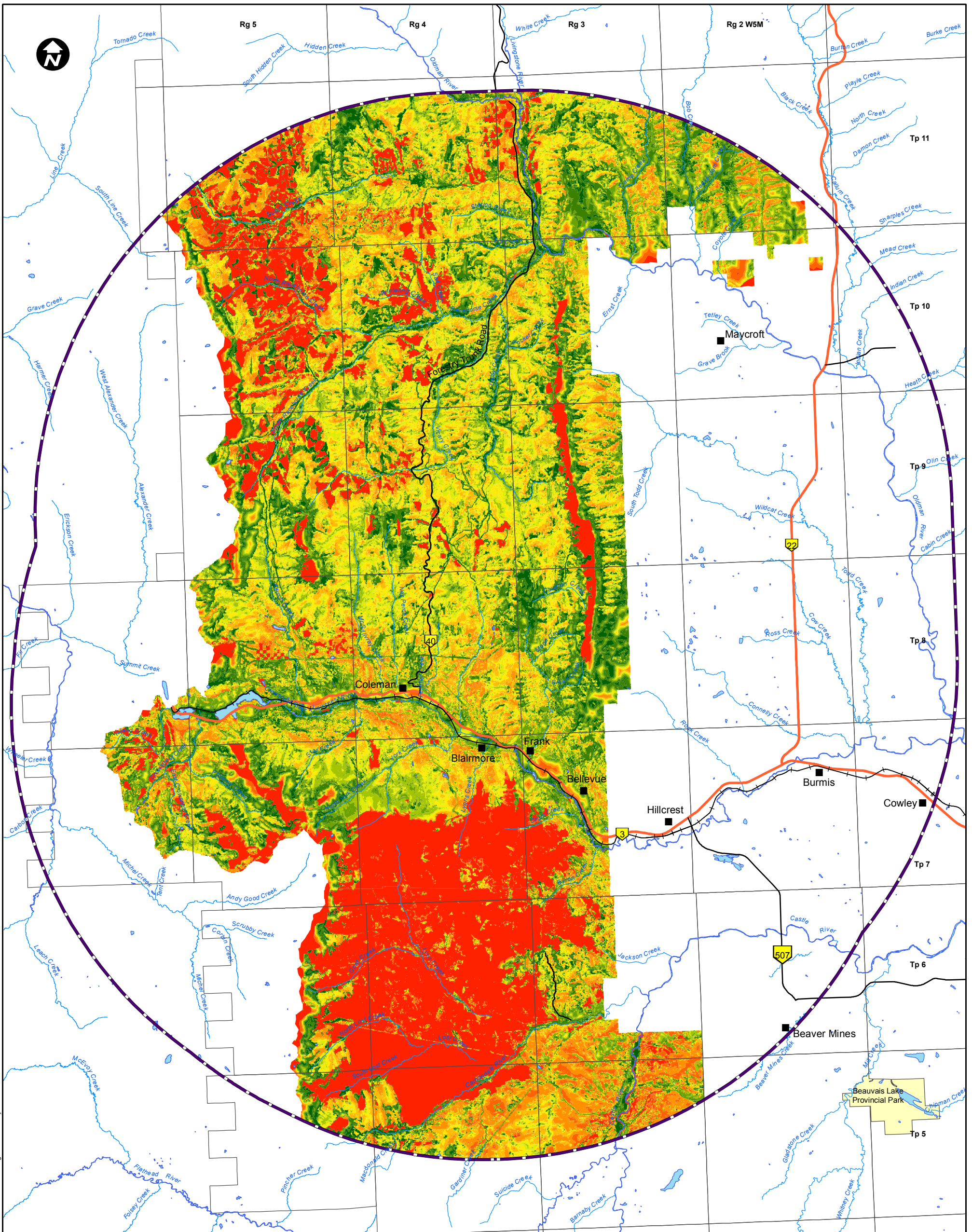
NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
 DRAWN BY: HS
 CHECKED BY: JP
 DATE: OCTOBER 05, 2015

FIGURE
4.4-13





LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Provincial Park
- Grizzly Bear Regional Study Area

RSF Summer

- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

PROJECT

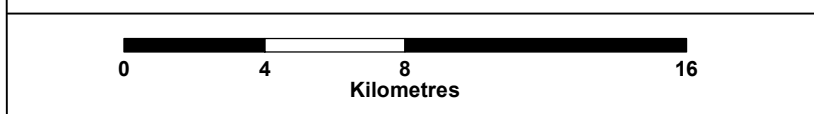
RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**

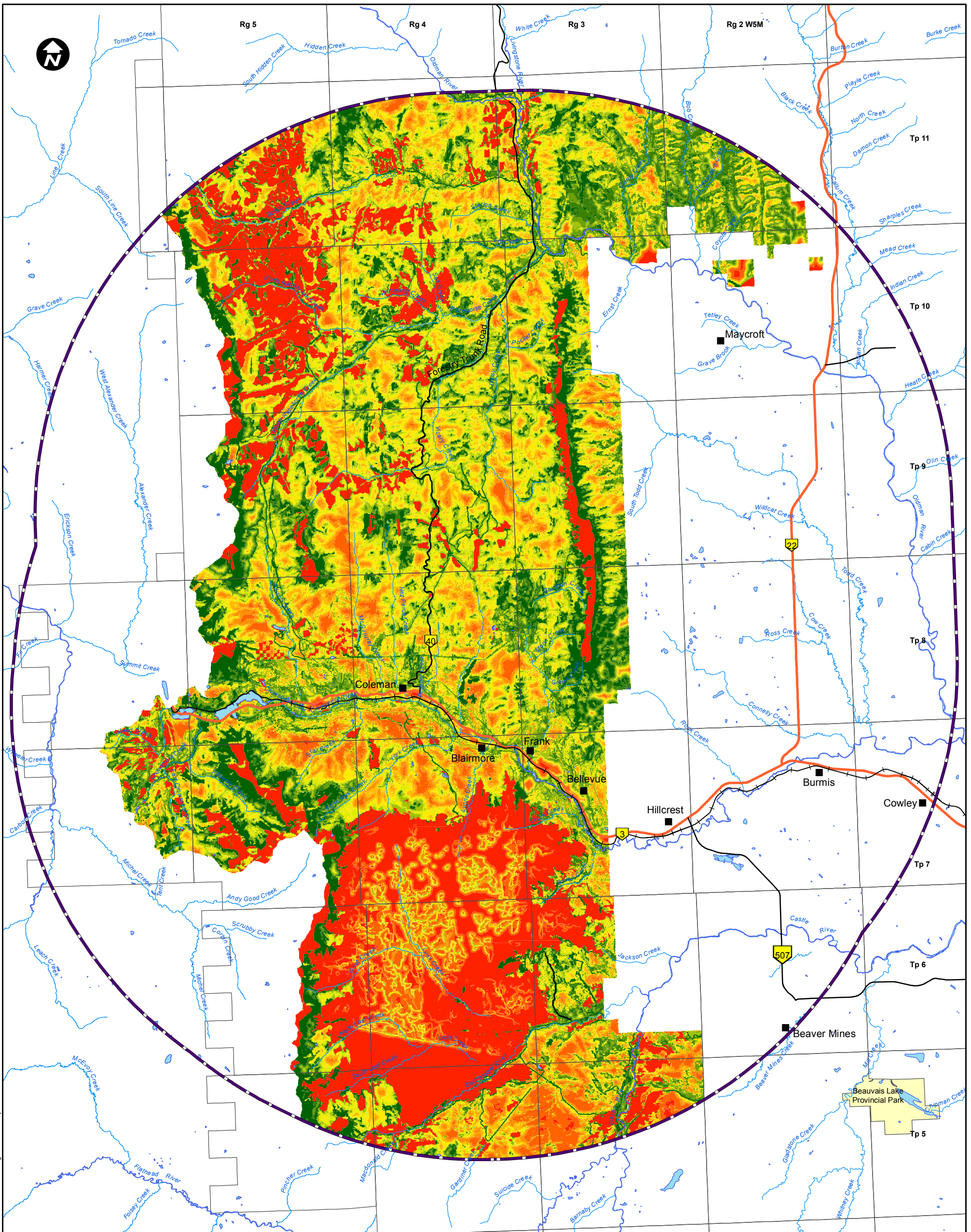
MILLENNIUM EMS Solutions Ltd.

TITLE
SUMMER RESOURCE SELECTION FUNCTION VALUES FOR GRIZZLY BEAR IN THE GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

NOTES
 AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
 DRAWN BY: HS
 CHECKED BY: JP
 DATE: OCTOBER 05, 2015
FIGURE
4.4-14





LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Provincial Park
- Grizzly Bear Regional Study Area

RSF Fall

- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

PROJECT

RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**

MILLENNIUM
EMS Solutions Ltd.

TITLE
FALL RESOURCE SELECTION FUNCTION VALUES FOR GRIZZLY BEAR IN THE GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

NOTES
 AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
 DRAWN BY: HS
 CHECKED BY: JP
 DATE: OCTOBER 05, 2015

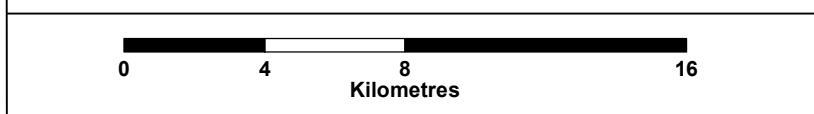
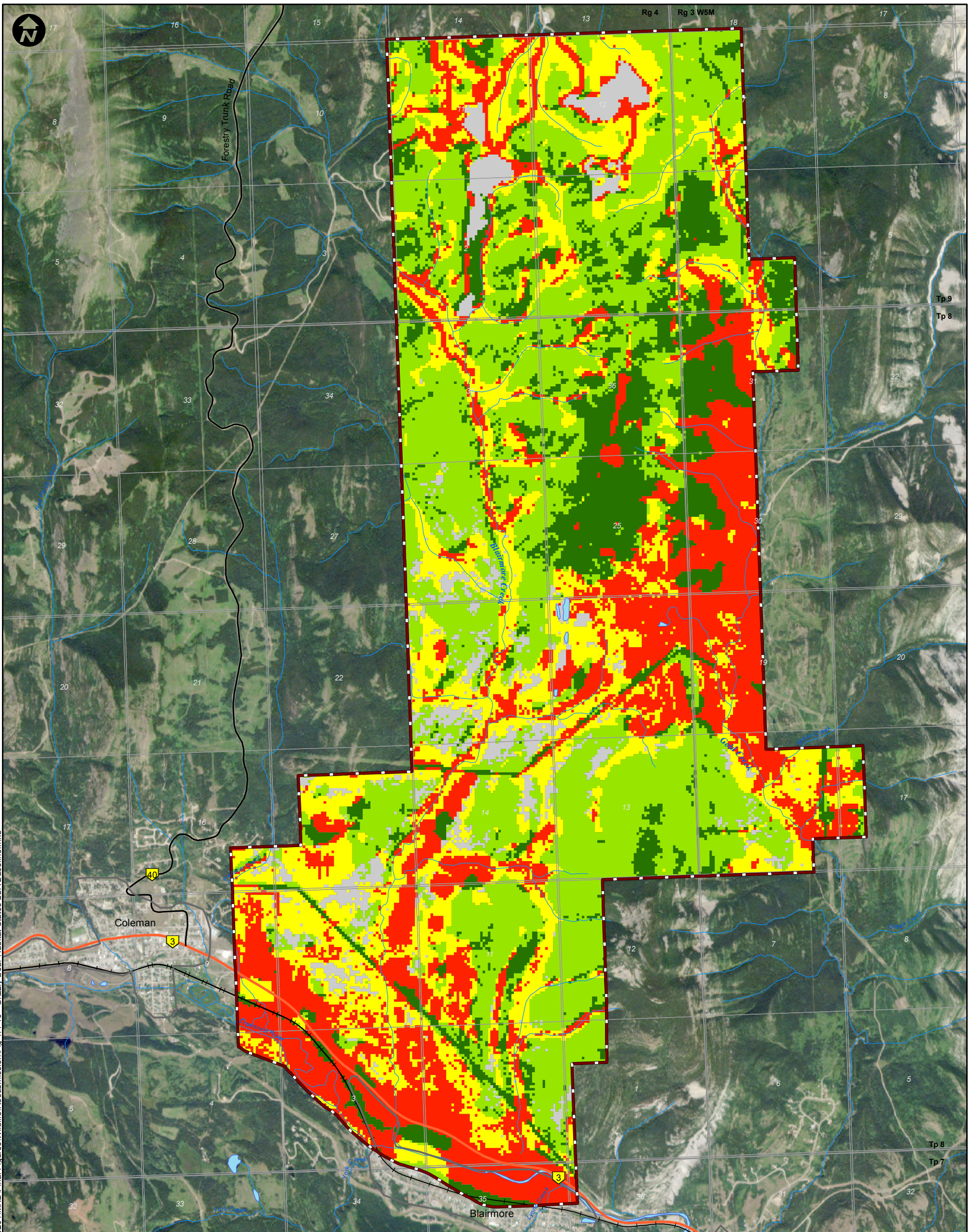


FIGURE
4.4-15



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Habitat States

- 2: Primary Sink
- 1: Secondary Sink
- 0: Non-critical Habitat
- 1: Secondary Source
- 2: Primary Source

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**GRIZZLY BEAR HABITAT STATES IN THE WILDLIFE
LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

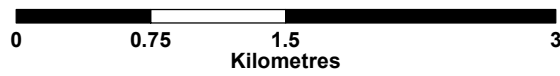
DRAWN BY: HS

CHECKED BY: JP

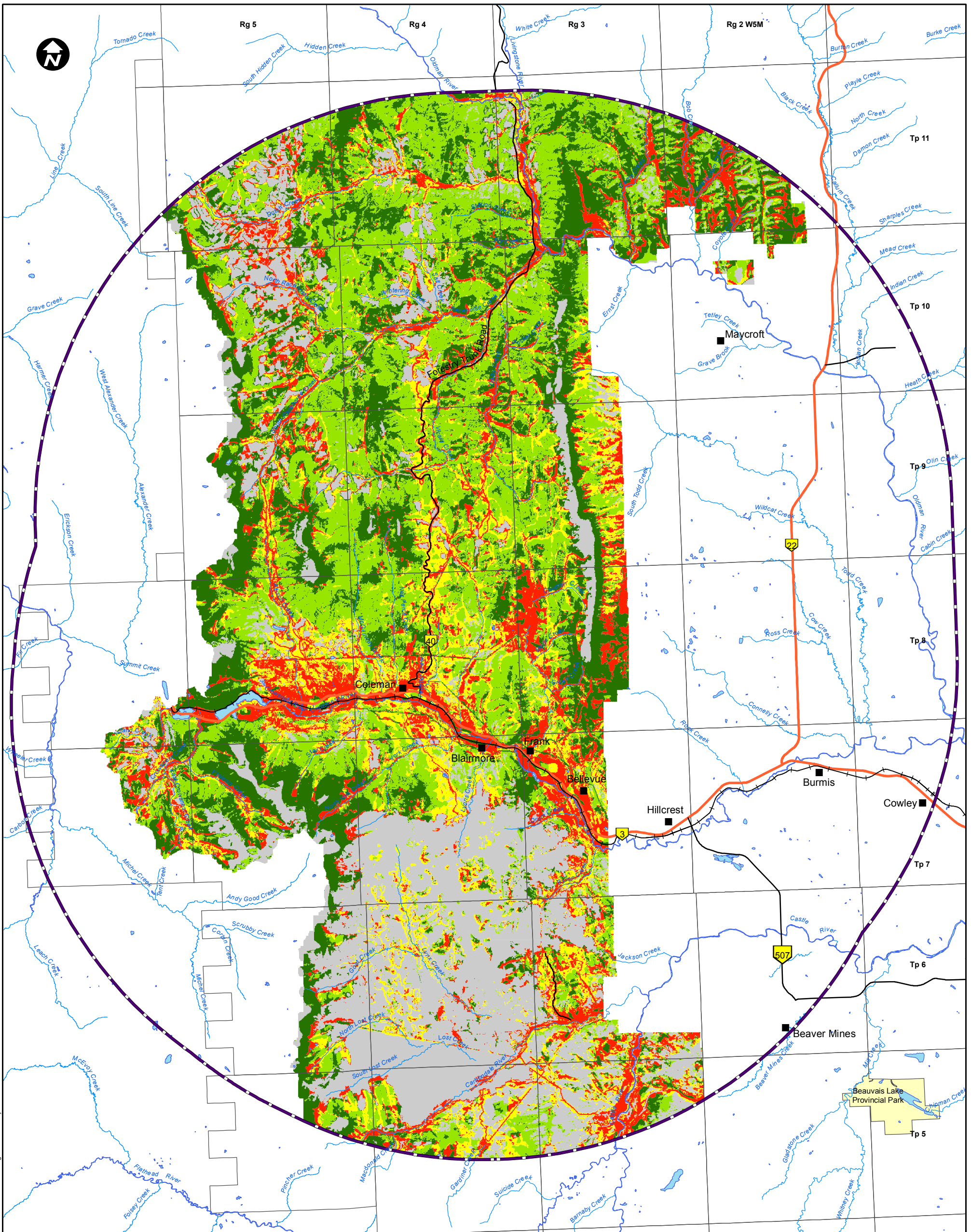
DATE: OCTOBER 05, 2015

FIGURE

4.4-16



Document Path: K:\Active Projects\2014\AP_14-00201\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig_4.4-16 - Grizzly Bear Habitat States LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Provincial Park
- Grizzly Bear Regional Study Area

Habitat States

- -2: Primary Sink
- -1: Secondary Sink
- 0: Non-critical Habitat
- 1: Secondary Source
- 2: Primary Source

PROJECT

RIVERSDALE RESOURCES

GRASSY MOUNTAIN COAL PROJECT

TITLE
GRIZZLY BEAR HABITAT STATES IN THE GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

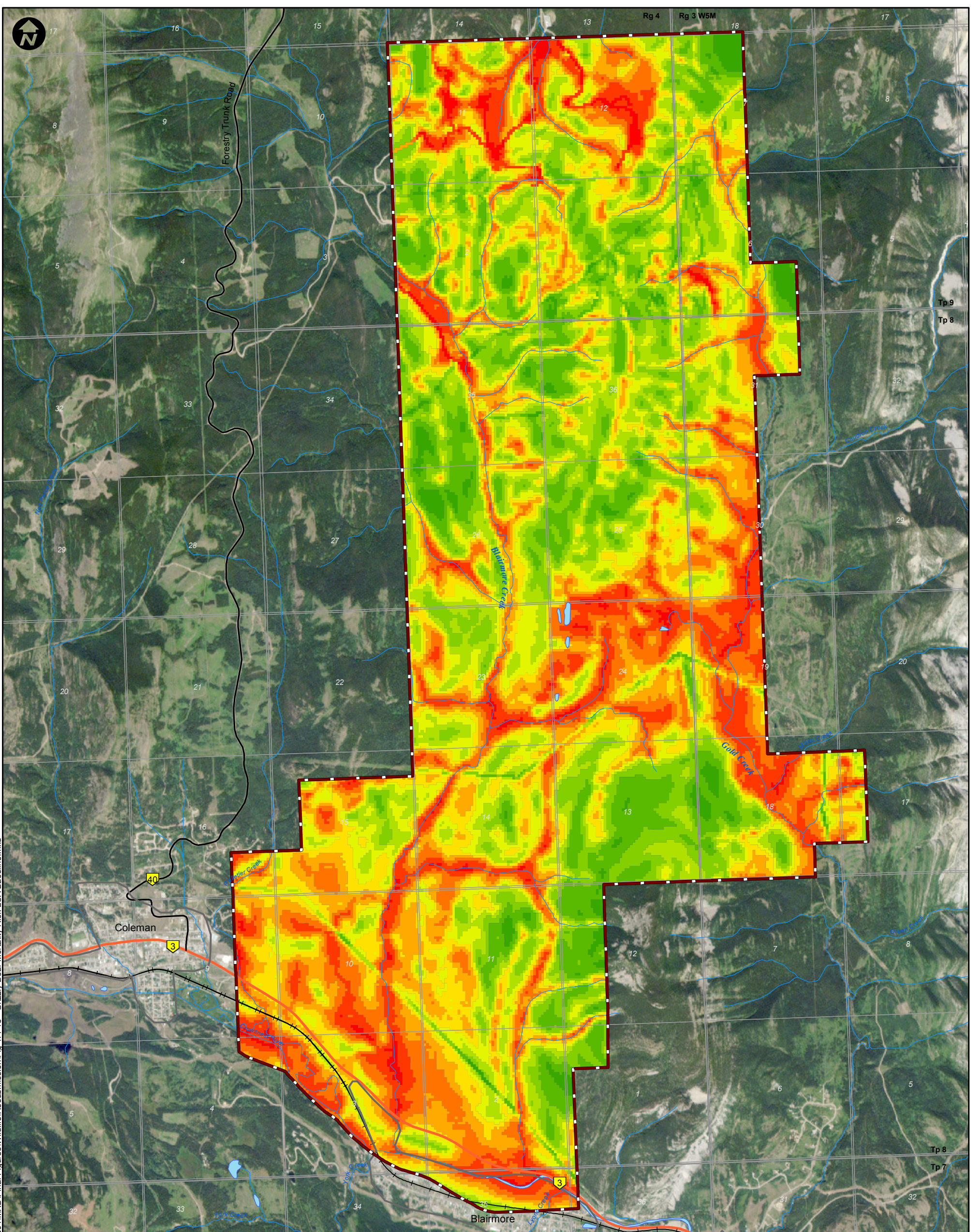
NOTES
 AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
 Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
 DRAWN BY: HS
 CHECKED BY: JP
 DATE: OCTOBER 05, 2015

0 4 8 16
Kilometres

FIGURE
4.4-17

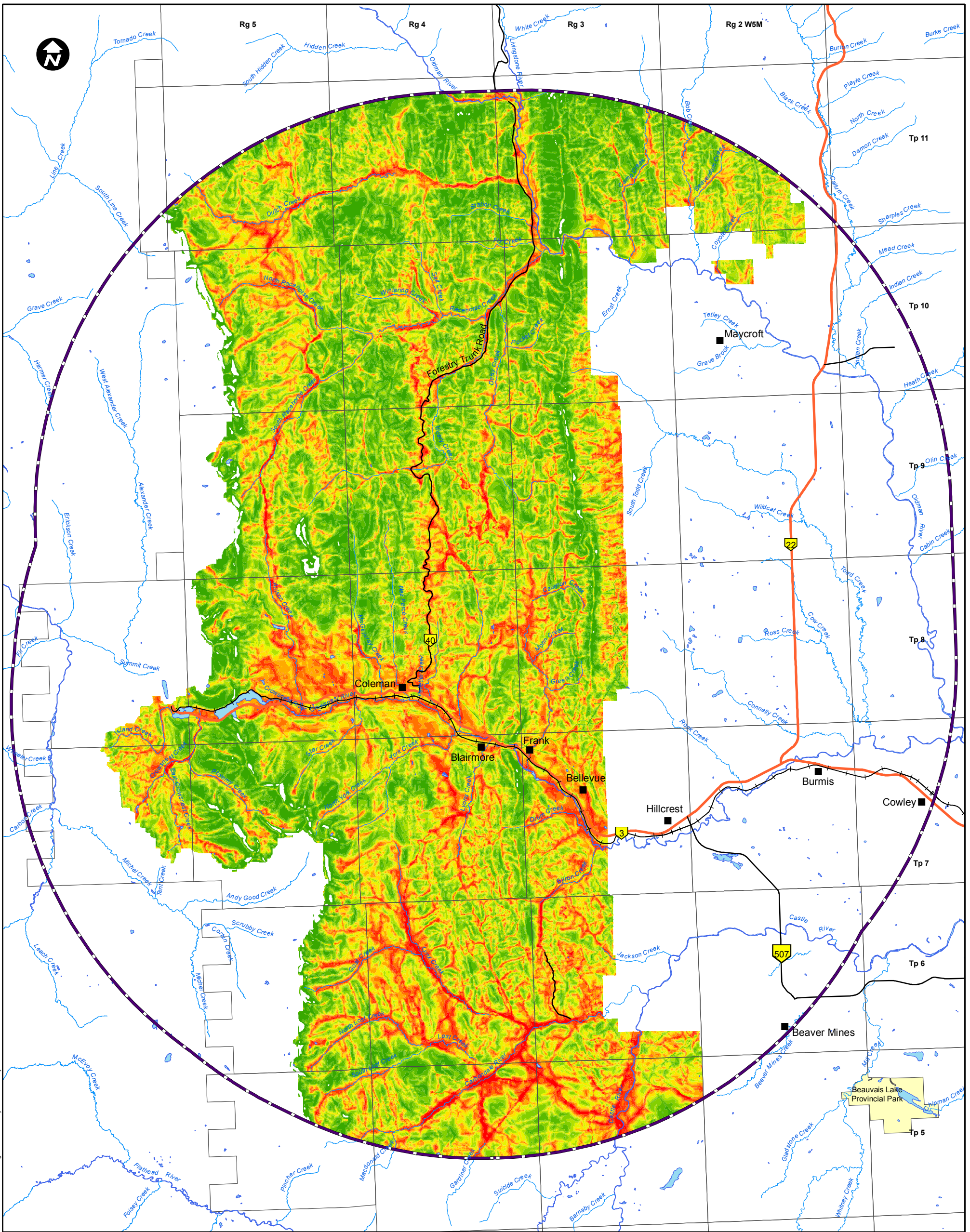
Document Path: K:\Active Projects 2014\AP_14-00201 to 14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-18 - Grizzly Bear Mortality Risk LSA Baseline.mxd



- LEGEND**
- Primary Highway
 - Secondary Highway
 - Existing Railway
 - Surface Water Drainage
 - Waterbody
 - Wildlife Local Study Area

- Mortality Risk**
- 10
 - 9
 - 8
 - 7
 - 6
 - 5
 - 4
 - 3
 - 2
 - 1

<p>PROJECT</p> <p>RIVERSDALE RESOURCES</p>	<p>GRASSY MOUNTAIN COAL PROJECT</p>	<p>MILLENNIUM EMS Solutions Ltd.</p>
<p>TITLE</p> <p>GRIZZLY BEAR MORTALITY RISK IN THE WILDLIFE LOCAL STUDY AREA - BASELINE CASE</p>		
<p>NOTES</p> <p>AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015 (Image Date: Jul 26/13); Riversdale, 2015 Datum/Projection: UTM NAD 83 Zone 11</p>		<p>PROJECT: 14-00201-01 DRAWN BY: HS CHECKED BY: JP DATE: OCTOBER 05, 2015</p>
<p>0 0.75 1.5 3 Kilometres</p>		<p>FIGURE 4.4-18</p>



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Provincial Park
- Grizzly Bear Regional Study Area

Mortality Risk

- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

PROJECT

RIVERSDALE RESOURCES **GRASSY MOUNTAIN COAL PROJECT**

TITLE

GRIZZLY BEAR MORTALITY RISK IN THE GRIZZLY BEAR REGIONAL STUDY AREA - BASELINE CASE

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

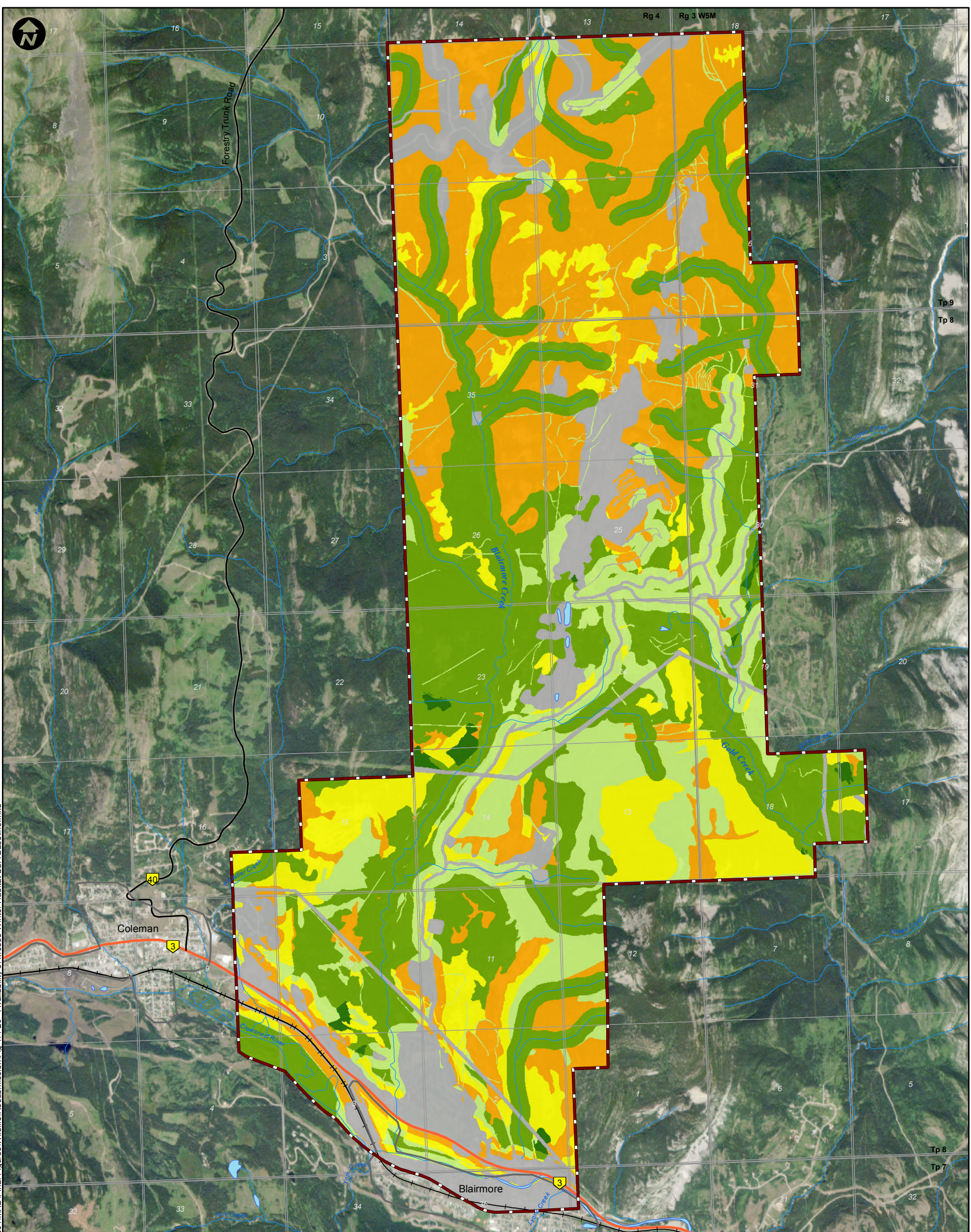
0 4 8 16
Kilometres

MILLENNIUM
EMS Solutions Ltd.

PROJECT: 14-00201-01
DRAWN BY: HS
CHECKED BY: JP
DATE: OCTOBER 05, 2015
FIGURE
4.4-19

Document Path: K:\Active Projects\2014\AP_14-00201 to 14-00250\14-00201\IMXD\Final\Figures\Wildlife\Resubmission\Fig 4.4-19 - Grizzly Bear Mortality Risk RSA Baseline.mxd

Document Path: K:\Active Projects\2014\AP_14-00201\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig_4.4-20 - Availability of Moose Winter Habitat_LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Moose Winter Habitat Suitability

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF MOOSE WINTER HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

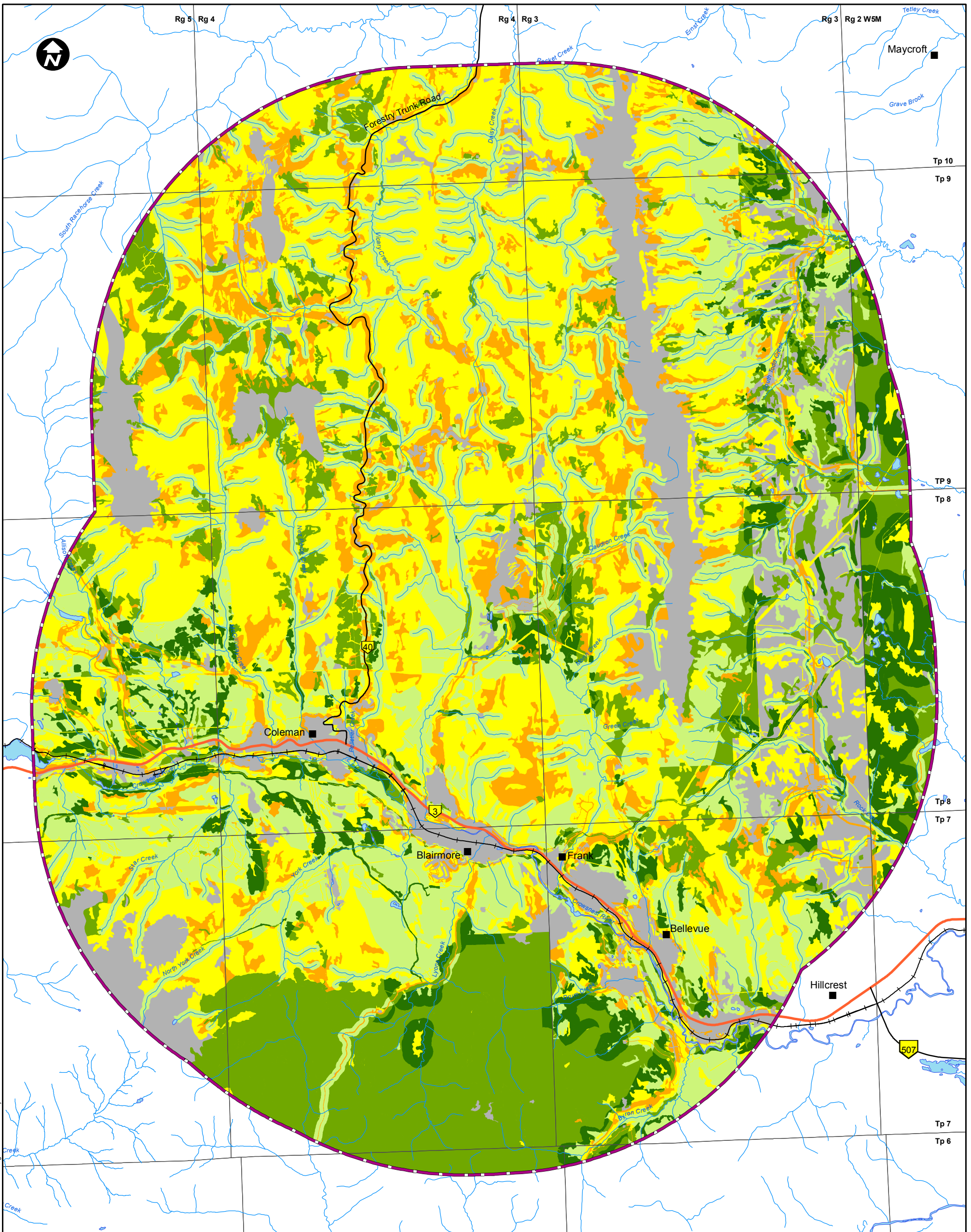
CHECKED BY: JP

DATE: OCTOBER 05, 2015

FIGURE

4.4-20





LEGEND

- Primary Highway
- Secondary Highway
- + Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Regional Study Area

Moose Winter Habitat Suitability

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF MOOSE WINTER HABITAT IN THE
WILDLIFE REGIONAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

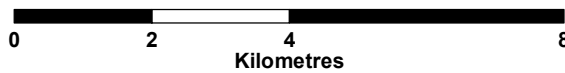
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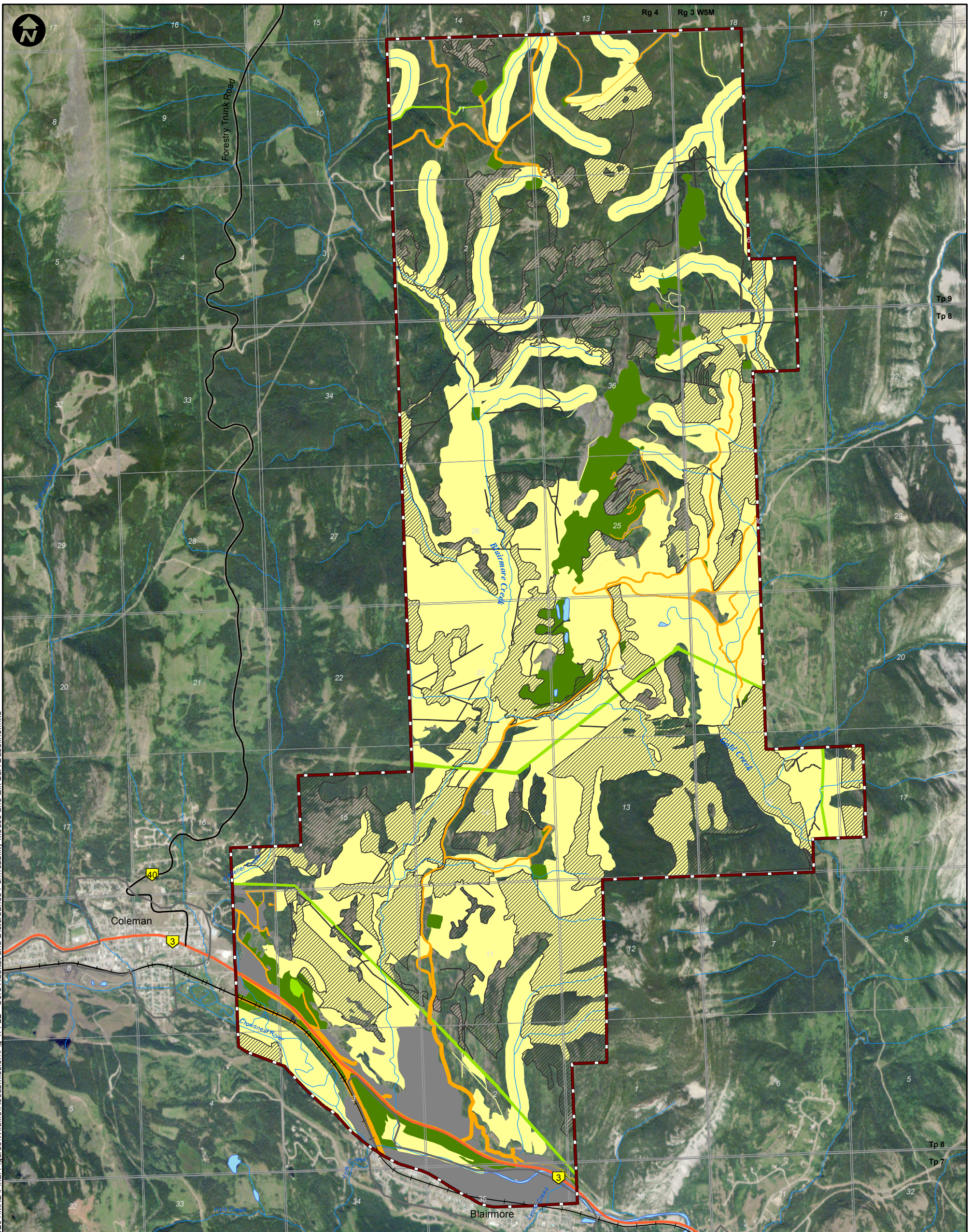
DATE: OCTOBER 05, 2015

FIGURE

4.4-21



Document Path: K:\Active Projects 2014\AP_14-002501 to 14-002501\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-22 - Core Habitat and Disturbance Permeability_Moose and Elk_LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area
- Moose Core Habitat
- Elk Core Habitat
- Disturbance Permeability**
- High
- Moderate
- Low
- Impermeable

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



**TITLE CORE HABITAT AND DISTURBANCE PERMEABILITY
FOR MOOSE AND ELK IN THE WILDLIFE LOCAL
STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

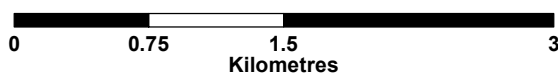
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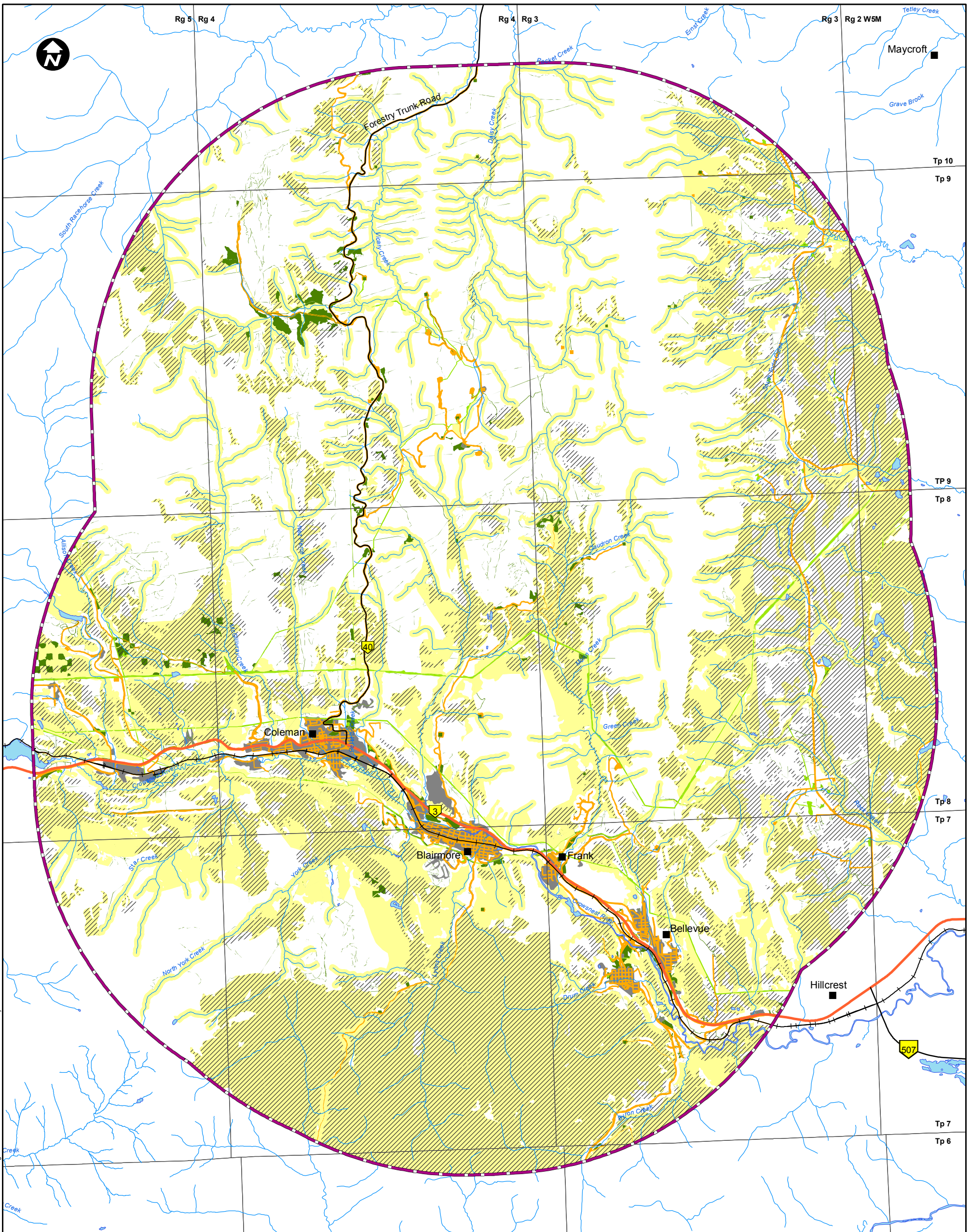
CHECKED BY: JP

DATE: OCTOBER 06, 2015

FIGURE

4.4-22





Document Path: K:\Active Projects 2014\AP 14-00201 to 14-00250\14-00201\MXD\Final\Figures\Wildlife\Resubmission\Fig 4.4-23 - Core Habitat and Disturbance Permeability Moose and Elk RSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Regional Study Area
- Moose Core Habitat
- Elk Core Habitat
- Disturbance Permeability**
- High
- Moderate
- Low
- Impermeable

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
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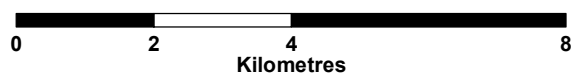


TITLE CORE HABITAT AND DISTURBANCE PERMEABILITY FOR MOOSE AND ELK IN THE WILDLIFE REGIONAL STUDY AREA - BASELINE CASE

NOTES

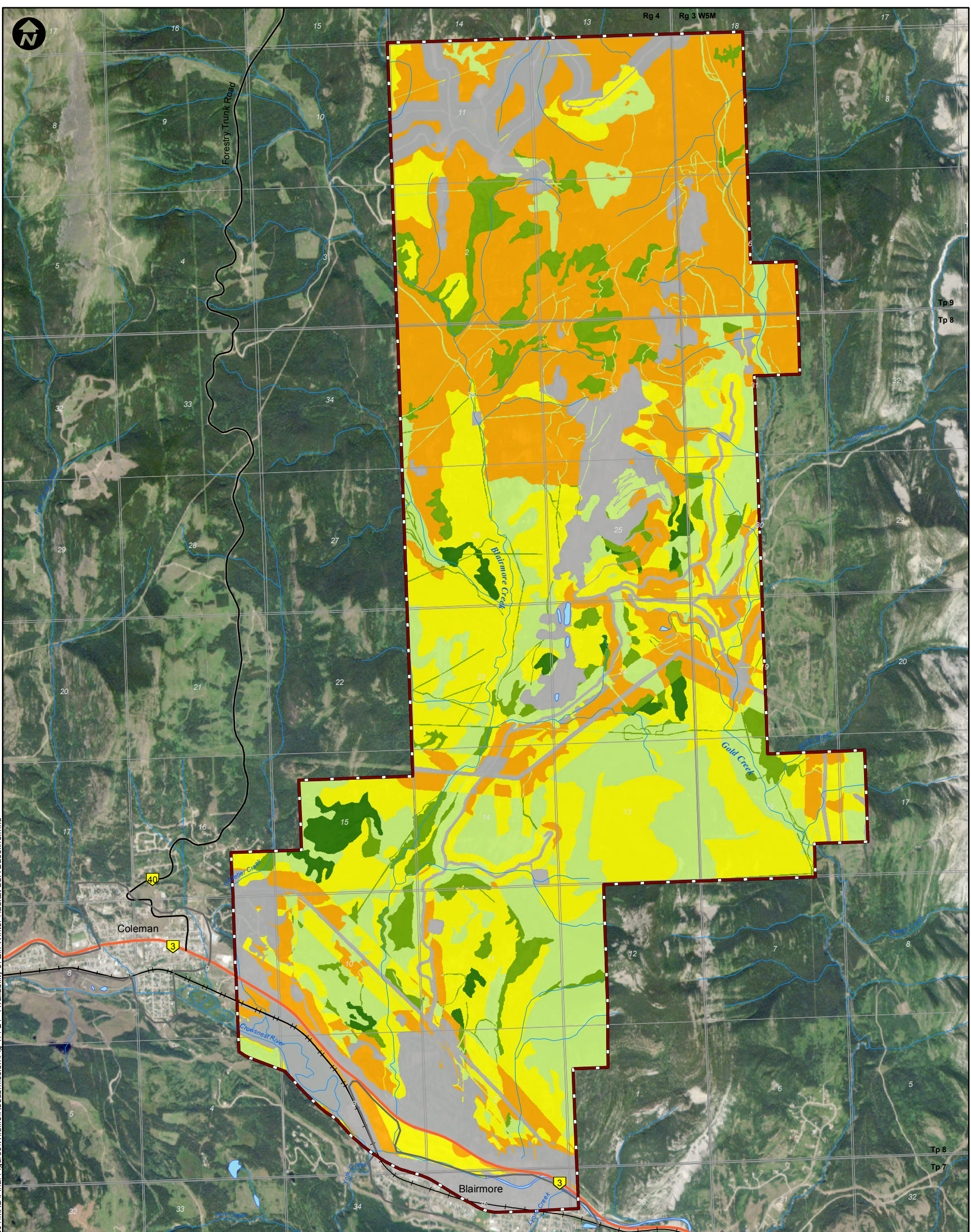
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Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01
DRAWN BY: HS
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DATE: OCTOBER 06, 2015



**FIGURE
4.4-23**

Document Path: K:\Active Projects 2014\AP_14-00250\14-00201\MXD\Final Figures\Wildlife\Resubmission\Fig 4.4-24 - Availability of Elk Winter Habitat LSA Baseline.mxd



LEGEND

- Primary Highway
- Secondary Highway
- Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Local Study Area

Elk Winter Habitat Suitability

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low
- Nil

PROJECT



**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF ELK WINTER HABITAT IN THE
WILDLIFE LOCAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; RapidEye, 2015
(Image Date: Jul 26/13); Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

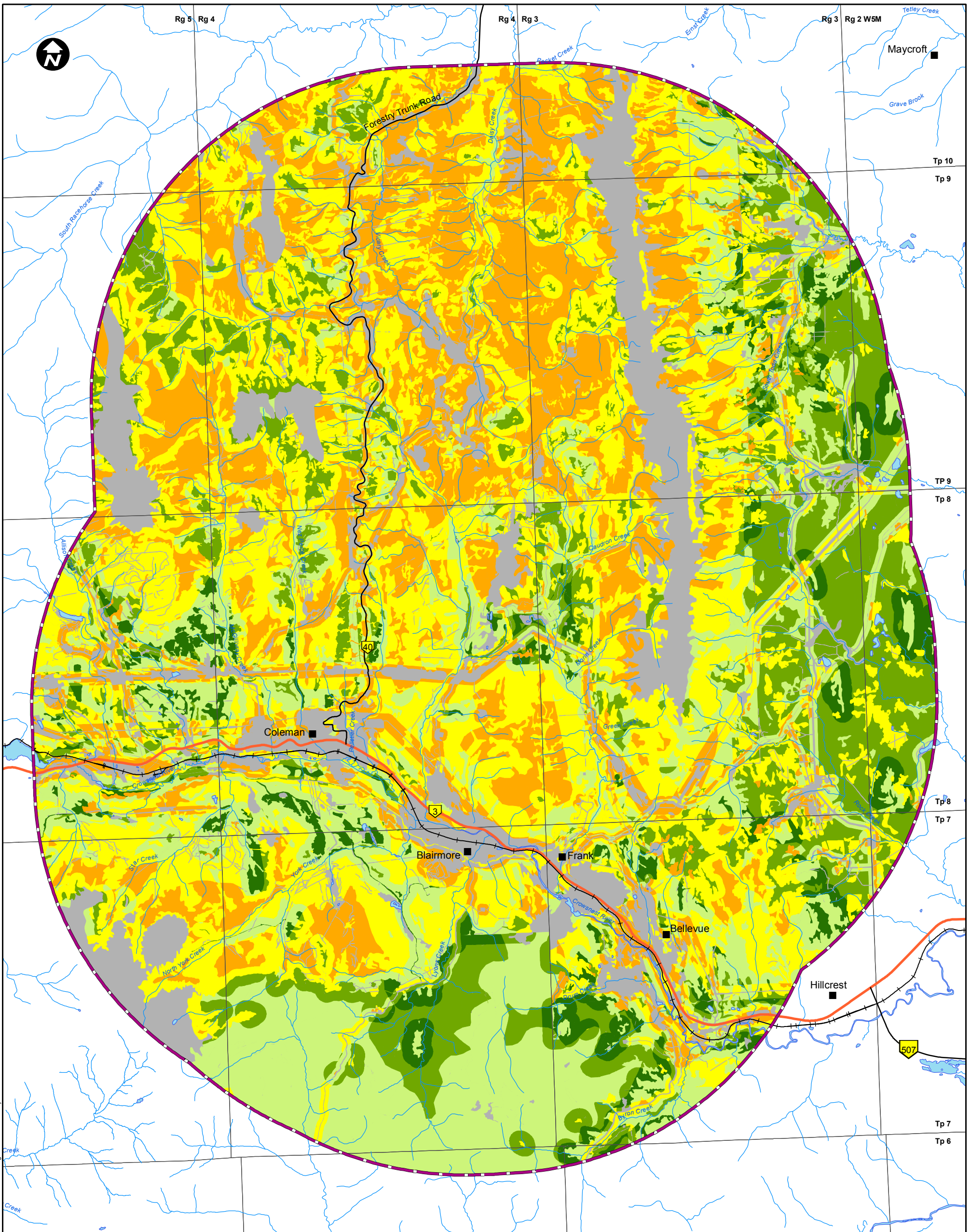
CHECKED BY: JP

DATE: OCTOBER 06, 2015

FIGURE

4.4-24





Document Path: K:\Active Projects 2014\AP 14-00201 to 14-00250\14-00201\Figures\Wildlife\Resubmission\Fig 4.4-25 - Availability of Elk Winter Habitat RSA Baseline.mxd

LEGEND

- Primary Highway
- Secondary Highway
- + Existing Railway
- Surface Water Drainage
- Waterbody
- Wildlife Regional Study Area

Moose Winter Habitat Suitability

- High
- Moderate-High
- Moderate
- Moderate-Low
- Low
- Nil

PROJECT



RIVERSDALE
RESOURCES

**GRASSY MOUNTAIN
COAL PROJECT**



TITLE

**AVAILABILITY OF ELK WINTER HABITAT IN THE
WILDLIFE REGIONAL STUDY AREA - BASELINE CASE**

NOTES

AltaLIS, 2015; Geobase, 2015; MEMS, 2015; Riversdale, 2015
Datum/Projection: UTM NAD 83 Zone 11

PROJECT: 14-00201-01

DRAWN BY: HS

CHECKED BY: JP

DATE: OCTOBER 06, 2015

FIGURE

4.4-25

