# Terrestrial T16A Range Status Assessment Raw Data Metadata

## Rotation

| | |
|---|---|
| Unique ID | T16A_IC01169 |
| Attribute Definition | Reference describing when data was collected at a broad level (i.e., Rotation 1, Rotation 2). |
| Value Type | Text |
| Code | Rotation 1 = 2007 onward \| Rotation 2 = 2015 onward |

## ABMI Site

| | |
|---|---|
| Unique ID | T16A_IC00003 |
| Attribute Definition | Reference number given to each ABMI data collection site. An alphabetized suffix distinguishes a new site from the old site(s). Off grid data collection sites are appended with an OG prefix, 2 -5 letter project code prefix, and a 1-2 digit suffix. |
| Value Type | Number |
| Format | 1-4 digits & 1 letter (if necessary); OG & 2-5 letter prefix, 1-4 digits, and 1-2 digit suffix |
| Range | 1-1656; OG & 2-5 letter prefix (if applicable) |

## Year

| | |
|---|---|
| Unique ID | T16A_IC00002 |
| Attribute Definition | Collection year. |
| Value Type | Date |
| Format | YYYY |

## Field Date

| | |
|---|---|
| Unique ID | T16A_IC00015 |
| Attribute Definition | Day, month, and year data was collected. |
| Value Type | Date |
| Format | DD-Mon-YY |
| Missing Values | DNC = Did Not Collect \| VNA = Variable Not Applicable |

## Field Crew Member(s)

| | |
|---|---|
| Unique ID | T16A_IC00379 |

| | |
|---|---|
| Attribute Definition | Initials for the field technicians collecting the field data. |
| Value Type | Text |
| Format | 2 or 3 letters (UPPERCASE) and 1 number (if necessary); 1 set of initials or a combination of many |
| Missing Values | DNC = Did Not Collect \| VNA = Variable Not Applicable |

Protocol Type

| | |
|---|---|
| Unique ID | T16A_IC00999 |
| Attribute Definition | Range Status Assessments are conducted on 3 types of sites: Grassland (follow Grassland Protocol), Tame Pasture (follow Grassland Protocol), or Forest & Parkland (follow Forest Protocol) |
| Value Type | Code |
| Code | Grassland \| Forest/Parkland \| Tame Pasture |
| Missing Values | DNC = Did Not Collect |

Reference Plant Community

| | |
|---|---|
| Unique ID | T16A_IC01007 |
| Attribute Definition | Plant reference community as described in ESRDs Range Plant Community Guides found at: http://esrd.alberta.ca/lands-forests/grazing-range-management/range-plant-community-guides-stocking-rates.aspx |
| Value Type | Code |
| Missing Values | DNC = Did Not Collect \| Not Determined |

Percentage of Site Assessed

| | |
|---|---|
| Unique ID | T16A_IC01000 |
| Attribute Definition | Percentage of the total site comprised of the indicated site type. |
| Value Type | Number |
| Range | 0-100 |
| Unit | % |

RSA Survey Category

| | |
|---|---|
| Unique ID | T16A_IC01125 |

| | |
|---|---|
| Attribute Definition | Range Status Assessment survey questions. A different set of questions are used depending on whether the site is Grassland (Native Grassland and Tame Pasture) or Forest & Parkland. |
| Value Type | Code |
| Code | GRASSLAND PROTOCOL \| 1. Plant Community = What kind of plants are on the site? \| 2. Expected Plant Layers = Are the expected plant layers present? \| 3. Plant Litter = Is the expected amount of plant litter present? \| 4a. Soil Erosion = Is there evidence of soil erosion? \| 4b. Bare Soil = Is there human-caused bare soil? \| 5a. Noxious Weed Presence = Are noxious weeds present? \| 5b. Noxious Weed Distribution = Are noxious weeds broadly distributed? \| 6a. Nuisance Species Presence = Are nuisance weedy species present? \| 6b. Nuisance Species Distribution = Are nuisance weedy species broadly distributed? \| FOREST PROTOCOL \| 1. Plant Community = What kind of plants are on the site? \| 2. Forest Structure = Are there changes to forest community structure? \| 3. Organic layer = Is the organic layer compacted? \| 4a. Soil Erosion = Is there evidence of soil erosion? \| 4b. Bare Soil = Is there human-caused bare soil? \| 5a. Noxious Weed Presence = Are noxious weeds present? \| 5b. Noxious Weed Distribution = Are noxious weeds broadly distributed? \| 6a. Nuisance Species Presence = Are nuisance weedy species present? \| 6b. Nuisance Species Distribution = Are nuisance weedy species broadly distributed? |

RSA Response Category

| | |
|---|---|
| Unique ID | T16A_IC01126 |
| Attribute Definition | Responses for each RSA Survey Category. Responses are different for Grassland (Native Grassland and Tame Pasture) and Forest (Forest & Parkland) sites |
| Value Type | Code |

| | |
|---|---|
| Code | GRASSLAND PROTOCOL \| 1. Plant Community \| 4 = The plant community closely resembles the reference plant community and alteration of the plant community is light \| 3 = Compared to the reference plant community, the plant community shows only minor alteration \| 2 = Compared to the reference plant community, the plant community shows moderate alteration \| 1 = Compared to the reference plant community, the plant community shows significant alterations \| ---------- 2. Expected Plant Layers \| 4 = The life form layers closely resemble the reference plant community. \| 3 = Compared to the reference plant community, one life form layer is absent or significantly reduced. \| 2 = Compared to the reference plant community, two life form layers are absent or significantly reduced. \| 1 = Compared to the reference plant community, three life form layers are absent or significantly reduced \| ---------- 3. Plant Litter \| 3 = Litter amounts are more or less uniform across site and include standing dead plant material, fallen dead plant material and variably decomposed material on the soil surface. Litter (lb./ac.) is 65-100% of that expected under moderate grazing by native ungulates. \| 2 = Litter amounts are slightly or moderately reduced and are somewhat patchy across the site. The standing dead plant material is less frequent than expected with fallen dead plant material and variably decomposed material on the soil surface being the dominant litter types. Litter is 35-65% of that expected under moderate grazing by native ungulates. \| 1 = Litter is greatly reduced or absent with little or no standing or fallen litter. Decomposing material on the soil surface is the main type of litter. The distribution of litter is fragmented across the site. Litter is <35% of that expected under moderate grazing by native ungulates \| ---------- 4a. Soil Erosion \| 4 = No sign of soil erosion (eg., no sign of deposition of soil/litter, plant pedestalling, coarse sand or aggregate remnants, flow patterns and/or scouring, or hoof sheering) beyond the natural extent for the site. \| 3 = Slight evidence of soil erosion that is human-caused beyond the natural extent expected for the site. Old erosion features are stable and vegetated, and flow patterns are short and shallow. \| 2 = Moderate amounts of soil erosion across site. Erosion features are present and active but with limited extent and with no off-site movement of material. Flow patterns have a well-defined branching pattern. Vegetation (live plants and litter) still protects most of the site. \| 1 = Extreme amounts of active soil erosion with material being carried off site. Flow patterns are obvious, fan deposits may be present, rills are abundant and deep, gullies are deep with sharp edges, plants are pedestalled and hoof sheering may be common \| ---------- 4b. Bare Soil \| 4 = Less than 10% of the exposed soil is human-caused. \| 3 = Between 10 and 20% of the exposed soil is human caused. \| 2 = Between 20 and 50% of the exposed soil is human caused. \| 1 = Greater than 50% of the exposed soil is human caused \| ---------- 5a. Noxious Weed Presence \| 4 = No noxious weeds are |

present. | 3 = Noxious weeds cover <1% of the site. | 2 = Noxious weeds cover 1-15% of the site. | 1 = Noxious weeds cover >15% of the site | ---------- 5b. Noxious Weed Distribution | 4 = No noxious weeds are present. | 3 = A few single individuals or patches of noxious weeds are present. | 2 = Sporadic patches of noxious weeds are present. | 1 = Noxious weeds are common and distributed throughout the site. | ---------- 6a. Nuisance Species Presence | 4 = No nuisance weeds are present. | 3 = Nuisance weeds cover <1% of the site. | 2 = Nuisance weeds cover 1-15% of the site. | 1 = Nuisance weeds cover >15% of the site. | ---------- 6b. Nuisance Species Distribution | 4 = No nuisance weeds are present. | 3 = A few single individuals or patches of nuisance weeds are present. | 2 = Sporadic patches of nuisance weeds are present. | 1 = Nuisance weeds are common and distributed throughout the site. | ---------- FOREST PROTOCOL | 1. Plant Community | 6 = The plant community closely resembles the reference plant community and alteration of the plant community is light | 5 = The plant community closely resembles the reference plant community and alteration is fairly light | 4 = Compared to the reference plant community, the plant community shows minor alterations | 3 = Compared to the reference plant community, the plant community shows moderate alteration | 2 = Compared to the reference plant community, the plant community shows heavy alteration | 1 = Compared to the reference plant community, the plant community shows very heavy alteration | ---------- 2. Forest Structure | 5 = All life form layers closely resemble the reference plant community. Less than 25% of the preferred shrubs are browsed | 4 = All life form layers are present in comparison to the reference plant community. 25-50% of the preferred shrubs are browsed. Less than 25% of the non-preferred shrubs are browsed. | 3 = One life form is significantly reduced or absent in comparison to the reference plant community. 50-75% of the preferred shrubs are browsed. 25-50% of the non-preferred shrubs are browsed. | 2 = Two life forms significantly are reduced or absent in comparison to the reference plant community. Preferred shrubs are absent or >75% browsed. 50-75% of the non-preferred shrubs are browsed. | 1 = Three life forms are significantly reduced or absent in comparison to the reference plant community. Preferred shrubs are absent or >75% browsed. Non-preferred shrubs are absent or >75% browsed. ---------- 3. Organic layer | 4 = LFH thickness is similar in disturbed and protected locations. Resistance to penetration is similar between disturbed and protected locations. | 3 = LFH thickness is 10-25% less in disturbed than in protected locations. Resistance to penetration is 20-50% greater in disturbed than in protected locations. | 2 = LFH thickness is 25-50% less in disturbed than in protected locations. Resistance to penetration is 50-200% greater in disturbed than in protected locations. | 1 = LFH thickness is >50% less in disturbed than in protected locations. Resistance

| | |
|---|---|
| | to penetration is >200% greater in disturbed than in protected locations. \| ---------- 4a. Soil Erosion \| 4 = No sign of soil erosion (eg., no sign of deposition of soil/litter, plant pedestalling, coarse sand or aggregate remnants, flow patterns and/or scouring, or hoof sheering) beyond the natural extent expected for the site. \| 3 = Slight evidence of soil erosion that is human-caused and beyond the natural extent expected for the site. Old erosion features are stable and vegetated, and flow patterns are short and shallow. \| 2 = Moderate amounts of soil erosion across site. Erosion features are present and active but with limited extent and with no off-site movement of material. Flow patterns have a well-defined branching pattern. Vegetation (live plants and litter) still protects most of the site. \| 1 = Extreme amounts of active soil erosion with material being carried off site. Flow patterns are obvious, fan deposits may be present, rills are abundant and deep, gullies are deep with sharp edges, plants are pedestalled, and hoof sheering may be common. ---------- 4b. Bare Soil \| 4 = Human caused bare soil covers <1% of the site. \| 3 = Human caused bare soil covers 1-5% of the site. \| 2 = Human caused bare soil covers 5 -15% of the site. \| 1 = Human caused bare soil covers >15% of the site. \| ---------- 5a. Noxious Weed Presence \| 4 = No noxious weeds are present. \| 3 = Noxious weeds cover <1% of the site. \| 2 = Noxious weeds cover 1-15% of the site. \| 1 = Noxious weeds cover >15% of the site \| ---------- 5b. Noxious Weed Distribution \| 4 = No noxious weeds are present. \| 3 = A few single individuals or patches of noxious weeds are present. \| 2 = Sporadic patches of noxious weeds are present. \| 1 = Noxious weeds are common and distributed throughout the site. \| ---------- 6a. Nuisance Species Presence \| 4 = No nuisance weeds are present. \| 3 = Nuisance weeds cover <1% of the site. \| 2 = Nuisance weeds cover 1-15% of the site. \| 1 = Nuisance weeds cover >15% of the site. \| ---------- 6b. Nuisance Species Distribution \| 4 = No nuisance weeds are present. \| 3 = A few single individuals or patches of nuisance weeds are present. \| 2 = Sporadic patches of nuisance weeds are present. \| 1 = Nuisance weeds are common and distributed throughout the site. |
| Missing Values | DNC = Did Not Collect \| VNA = Variable Not Applicable |

Litter Tally

| | |
|---|---|
| Unique ID | T16A_IC01291 |
| Attribute Definition | We estimate litter in a 0.25m area in 1 or >1 samples over multiple areas to represent 1 ha. Litter consists of non-grazed matter including standing/fallen stems, leaf material and partly decomposed material. |
| Value Type | Code |
| Missing Values | DNC = Did Not Collect |

## Litter Weight (lb/ac)

| | |
|---|---|
| Unique ID | T16A_IC01292 |
| Attribute Definition | Litter tally is averaged to provide litter quantity/acre to indicate capability for moisture retention and forage production. |
| Value Type | Number |
| Range | 1-3000 |
| Unit | lb/acre |
| Missing Values | DNC = Did Not Collect |