**Region 2 Aerial Detection Survey Commonly Used Queries and Dataset Addendums**

This document contains the syntax for some of the most common data queries.

The remainder of document is not meant to duplicate or replace the aerial detection survey metadata. It is just a means for keeping track of data updates and changes to procedures that otherwise may be documented in the metadata but easily overlooked.

**Commonly Used Queries**

**For 2017 - present**

**Mountain Pine Beetle – ALL Host Types**

DCA\_CODE = 11006 OR DCA\_CODE2 = 11006

**Mountain Pine Beetle – Lodgepole Pine**

(DCA\_CODE = 11006 AND HOST\_CODE = 108) OR (DCA\_CODE2 =11006 AND HOST\_CODE2 = 108)

**Mountain Pine Beetle – Ponderosa Pine**

(DCA\_CODE = 11006 AND HOST\_CODE = 122) OR (DCA\_CODE2 = 11006 AND HOST\_CODE2 = 122)

**Mountain Pine Beetle – 5N Pines**

(DCA\_CODE = 11006 AND HOST\_GROUP\_CODE = 9201) OR (DCA\_CODE2 =11006 AND HOST\_GROUP\_CODE2 = 9201)

**Spruce Beetle**

**To Query Engelmann Spruce Mortality from Spruce Beetle**:

(DCA\_CODE = 11009 AND HOST\_CODE = 93) OR (DCA\_CODE2 = 11009 AND HOST\_CODE2 =93)

**To include SB caused mortality in atypical host types (lpp, etc), remove host in query:**

DCA\_CODE = 11009 OR DCA\_CODE2 = 11009

**Douglas-fir Beetle**

DCA\_CODE = 11007 OR DCA\_CODE2 = 11007

**Western Balsam Bark Beetle (Subalpine Fir Decline)**

DCA\_CODE = 11015 OR DCA\_CODE2 = 11015

**Western Spruce Budworm**

DCA\_CODE = 12040 OR DCA\_CODE2 = 12040

**Douglas-fir Tussock Moth**

DCA\_CODE = 12123 OR DCA\_CODE2 = 12123

**Fir Engraver**

DCA\_CODE = 11050 OR DCA\_CODE2 = 11050

**Pine Sawfly**

DCA\_CODE = 12005 OR DCA\_CODE2 = 12005

**Pinyon Ips**

DCA\_CODE = 11019 OR DCA\_CODE2 = 11019

**Lodgepole Pine - Ips**

(DCA\_CODE = 11029 AND HOST\_CODE = 108) OR (DCA\_CODE2 =11029 AND HOST\_CODE2 = 108)

**Ponderosa Pine - Ips**

(DCA\_CODE = 11029 AND HOST\_CODE = 122) OR (DCA\_CODE2 =11029 AND HOST\_CODE2 = 122)

**Aspen**

**Aspen – Defoliation**

(HOST\_CODE = 746 AND DAMAGE\_TYPE\_CODE = 14 AND DCA\_CODE <> 29002) OR (HOST\_CODE2 = 746 AND DAMAGE\_TYPE\_CODE2 =14 AND DCA\_CODE2 <> 29002)

**Aspen – Discoloration**

(HOST\_CODE = 746 AND DAMAGE\_TYPE\_CODE = 3) OR (HOST\_CODE2 = 746 AND DAMAGE\_TYPE\_CODE2 =3)

**Aspen – SAD (Sudden Aspen Decline)**DCA\_CODE = 29002 OR DCA\_CODE2 = 29002

**Commonly Used Queries**

**For 2015 - 2016**

**Mountain Pine Beetle – ALL Host Types**

**("DCA1" = 11006) OR ("DCA2" = 11006) OR ("DCA3" = 11006)**

**Mountain Pine Beetle – Lodgepole Pine**

("DCA1" = 11006 AND "HOST1" = 108) OR ("DCA2" = 11006 AND "HOST2" = 108) OR ("DCA3" = 11006 AND "HOST3" = 108)

**Mountain Pine Beetle – Ponderosa Pine**

("DCA1" = 11006 AND "HOST1" = 122) OR ("DCA2" = 11006 AND "HOST2" = 122) OR ("DCA3" = 11006 AND "HOST3" = 122)

**Mountain Pine Beetle – 5N Pines**

**("DCA1" = 11006 AND "HOST1" = 113) OR ("DCA2" = 11006 AND "HOST2" = 113) OR ("DCA3" = 11006 AND "HOST3" = 113)**

**Host 113 (limber pine) is equivalent to all five-needle pine types in R2.**

**Spruce Beetle**

**("DCA1" = 11009) OR ("DCA2" = 11009) OR ("DCA3" = 11009)**

**\*Includes SB caused mortality in atypical host types (lpp, etc), add host if you want only spruce mortality.**

**To Query Just Engelmann Spruce Mortality from Spruce Beetle**:

**("DCA1" = 11009 AND "HOST1" = 93) OR ("DCA2" = 11009 AND "HOST2" = 93) OR ("DCA3" = 11009 AND "HOST3" = 93)**

**Douglas-fir Beetle**

("DCA1" = 11007) OR ("DCA2" = 11007) OR ("DCA3" = 11007)

**Western Balsam Bark Beetle (Subalpine Fir Decline)**

**("DCA1" = 11015) OR ("DCA2" = 11015) OR ("DCA3" = 11015)**

**Western Spruce Budworm**

("DCA1" = 12040) OR ("DCA2" = 12040) OR ("DCA3" = 12040)

**Douglas-fir Tussock Moth**

("DCA1" = 12123) OR ("DCA2" = 12123) OR ("DCA3" = 12123)

**Pine Sawfly**

("DCA1" = 12005) OR ("DCA2" = 12005) OR ("DCA3" = 12005)

**Fir Engraver**

("DCA1" = 11050) OR ("DCA2" = 11050) OR ("DCA3" = 11050)

**Aspen – Defoliation**

("DCA1" = 12900 AND "HOST1" = 746) OR ("DCA2" = 12900 AND "HOST2" = 746) OR ("DCA3" = 12900 AND "HOST3" = 746)

**Aspen – Discoloration**

("DCA1" = 90000 AND "HOST1" = 746 AND "DMG\_TYPE1" = 3 ) OR ("DCA2" = 90000 AND "HOST2" = 746 AND "DMG\_TYPE2" = 3) OR ("DCA3" = 90000 AND "HOST3" = 746 AND "DMG\_TYPE3" = 3)

**Aspen – All (includes aspen decline, defoliation, discolor, frost damage, etc)**

("HOST1" = 746) OR ("HOST 2" = 746) OR ("HOST 3" = 746)

**Aspen Decline (for data from 2009-present)\***

**Aspen Decline – All 75 codes**

("DCA1" = **29002**) OR ("DCA2" = **29002**) OR ("DCA3" = **29002**)

**Aspen Decline – No Mortality (75)**

("DCA1" = **29002** AND "SEVERITY1" = -1) OR ("DCA2" = **29002** AND "SEVERITY2" = -1) OR ("DCA3" = **29002** AND "SEVERITY3" = -1)

**Aspen Decline – Low Mortality (75-L)**

("DCA1" = **29002** AND "SEVERITY1" = 1) OR ("DCA2" = **29002** AND "SEVERITY2" = 1) OR ("DCA3" = **29002** AND "SEVERITY3" = 1)

**Aspen Decline – High Mortality (75-H)**

("DCA1" = **29002** AND "SEVERITY1" = 2) OR ("DCA2" = **29002** AND "SEVERITY2" = 2) OR ("DCA3" = **29002** AND "SEVERITY3" = 2)

\*prior to 2009, aspen decline DCA code = 80001

**DCA 90000 now includes all of the unspecified agent codes, to view the type of damage, query on the DCA=90000 and the damage type code**.

**Commonly Used Queries**

**for 1996 – 2014 Datasets**

**Mountain Pine Beetle – ALL Host Types**

("DCA1" = 11006) OR ("DCA2" = 11006) OR ("DCA3" = 11006) OR ("DCA1" = 80003) OR ("DCA2" = 80003) OR ("DCA3" = 80003)

**Mountain Pine Beetle – Lodgepole Pine**

("DCA1" = 11006 AND "HOST1" = 108) OR ("DCA2" = 11006 AND "HOST2" = 108) OR ("DCA3" = 11006 AND "HOST3" = 108)

**Mountain Pine Beetle – Ponderosa Pine**

("DCA1" = 11006 AND "HOST1" = 122) OR ("DCA2" = 11006 AND "HOST2" = 122) OR ("DCA3" = 11006 AND "HOST3" = 122)

**Mountain Pine Beetle – 5N Pines**

("DCA1" = 80003) OR ("DCA2" = 80003) OR ("DCA3" = 80003)

**Spruce Beetle**

("DCA1" = 11009) OR ("DCA2" = 11009) OR ("DCA3" = 11009)

**Douglas-fir Beetle**

("DCA1" = 11007) OR ("DCA2" = 11007) OR ("DCA3" = 11007)

**Western Balsam Bark Beetle (Subalpine Fir Decline)**

("DCA1" = 80002) OR ("DCA2" = 80002) OR ("DCA3" = 80002)

**Western Spruce Budworm**

("DCA1" = 12040) OR ("DCA2" = 12040) OR ("DCA3" = 12040)

**Aspen – All (includes aspen decline, defoliation, frost damage, etc)**

("HOST1" = 746) OR ("HOST 2" = 746) OR ("HOST 3" = 746)

**Aspen Decline (for data from 2009-present)\***

**Aspen Decline – All 75 codes**

("DCA1" = 24032) OR ("DCA2" = 24032) OR ("DCA3" = 24032)

**Aspen Decline – No Mortality (75)**

("DCA1" = 24032 AND "SEVERITY1" = -1) OR ("DCA2" = 24032 AND "SEVERITY2" = -1) OR ("DCA3" = 24032 AND "SEVERITY3" = -1)

**Aspen Decline – Low Mortality (75-L)**

("DCA1" = 24032 AND "SEVERITY1" = 1) OR ("DCA2" = 24032 AND "SEVERITY2" = 1) OR ("DCA3" = 24032 AND "SEVERITY3" = 1)

**Aspen Decline – High Mortality (75-H)**

("DCA1" = 24032 AND "SEVERITY1" = 2) OR ("DCA2" = 24032 AND "SEVERITY2" = 2) OR ("DCA3" = 24032 AND "SEVERITY3" = 2)

\*prior to 2009, aspen decline DCA code = 80001

**Dataset Addendums**

**2015 –** Updated Damage Causal Agent (DCA), Host, and Damage Type codes. DMSM was used for the first time to map the Medicine Bow NF.

**2014 –** No major changes

**2013 –** The intensity code T-Trace was added to the % tree mortality coding system.

**2012-** Blue Spruce Ips (*Ips hunteri*) assigned code – 11063. Previously it was coded as 11030 with a host code 93 (blue spruce).

**\*\*New coding system introduced to capture tree mortality\*\***

In 2012, a new coding system was introduced in an attempt to more accurately capture tree mortality. Surveyors now use an intensity code rather than a trees per acre value to estimate mortality.

The intensity code is the estimate of dead “fader” trees in the polygon or point as a percentage of the total trees within the delineated area. An intensity code of L-light (1-10%), M-moderate (11-29%), S-severe (30-50%), and VS-very severe (>50%) may be used after the causal agent code. In 2013, a T-Trace category was added (1-3%) and the Light category was modified to 4-10%. Value ranges represent the percent of current “faders” in relation to the TOTAL forested area within the polygon. Periodically whole numbers of trees can be used as an intensity code for small groups of tree (same as previous methods).

The new system is based on the standard used in British Columbia, Canada (see <http://www.for.gov.bc.ca/hfp/health/overview/methods.htm> for more information).

**2011 –** For the first time, rusty tussock moth (DCA=12121) was recorded in the Bighorn NF.

**2010 –** No new changes

**2009** – In 2009, FHTET amended and updated the GIS handbook and appendixes. This update affected the way R2 codes aspen dieback and mortality. DCA 80001 in previous years (1994 – 2008) is now represented by 24032.

In 2009, a large outbreak of marssonina (DCA=25036) was recorded on the western slope in CO.

**2008** – New coding procedures were initiated this year for recording aspen due to the increased interest in aspen dieback and mortality – particularly in the southwestern part of CO. New surveyor codes are 🡪75, 75-L, and 75-H. See **ADM\_ADS\_Methods.doc** for full description of coding methods.

**1996 – 2007 –**

**1994 – 1995** – These were the first two years that the Digital Aerial Sketch Mapper (DASM) system was in used in Region 2.

**For additional information regarding the Region 2 Aerial Detection Survey Data –**

* Please review the metadata accompanying the ADS shapefiles
* Learn more from the [R2-ADS website](http://www.fs.usda.gov/wps/portal/fsinternet/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gjAwhwtDDw9_AI8zPyhQoY6BdkOyoCAGixyPg!/?ss=1102&navtype=BROWSEBYSUBJECT&cid=STELPRDB5165873&navid=140000000000000&position=SubFeature*&ttype=detail&pname=Region%25202-%2520Forest%2520&%2520Grassland%2520Health)
* Visit the [Forest Health Technology](http://www.fs.fed.us/foresthealth/technology/gis.shtml#ADS) Enterprise Team website