

Table and Column Definitions Report

Filename:	H:\dm_publish\IAPP_TAB_COL.pdf
Run by:	CASEOWNER
Report Date:	August 16, 2013 03:43 PM
Total Pages:	97
Total Tables / Views / Materialized Views:	81

Parameters

Workarea:	GLOBAL SHARED WORKAREA
Container:	IAPP
Table / View / Materialized View:	%
Include Tables?	Y
Include Views?	Y
Include Materialized Views?	Y
Data Structure Diagram:	%
Exclude Prefix:	
Include Table / View / MV Descriptions?	Y
Include Table / View / MV Comments?	N
Include Column Descriptions?	Y
Include Column Comments?	N
Include Column Notes?	Y
Include Unique Constraints?	Y
Include Foreign Key Constraints?	Y
Include Check Constraints?	Y
Include Indexes?	Y

Table: AGENCY_SPATIAL_TABLE_LOOKUP*Description:*

Provides the ability to lookup references to external tables that contain spatial data for Agency organizational structures or administrative areas. Each Agency may have zero or more external tables that contain spatial data applicable to it. The references will be used by the web application to perform spatial queries to filter IAPP data by these areas.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	TABLE_ID Primary unique numeric identifier for an Agency Spatial Table reference.	NOT NULL	NUMBER(10)
2	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
3	TABLE_NAME The Oracle table name for the Agency Spatial Table being referenced. Does NOT include the owner name.	NOT NULL	VARCHAR2(30)
4	DESCRIPTION A short description for the contents of the Agency Spatial Table being referenced. This description does not need to reference the Agency that the table is applicable to. It should identify the nature of the spatial data in the table. For example: The Ministry of Forests and Range will have at least two tables applicable to it; one table that contains District polygons and one that contains Region polygons. The description for each of these would be 'Forest Districts' and 'Forest Regions' respectively.	NOT NULL	VARCHAR2(40)
5	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
6	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
7	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
8	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Unique Constraints:

ASTL_ASTL_DESC_UK
 INVASIVE_PLANT_AGENCY_CODE
 DESCRIPTION
 ASTL_ASTL_TBL_UK
 INVASIVE_PLANT_AGENCY_CODE
 TABLE_NAME

Foreign Keys:

ASTL_IPAC_FK
 INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE

Indexes:

ASTL_IPAC_FK_I
 INVASIVE_PLANT_AGENCY_CODE

Table: AREA_CLASSIFICATION_CODE*Description:*

The relevance that a particular Biological Control Record provides to the Invasive Alien Plant Program. Indicates if a Biological Control is classified as a Collection or Research area. Helps identify sensitive records that external users should not be able to see in detail.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	AREA_CLASSIFICATION_CODE Unique code identifying the classification of the area. Possible values are Research and Collection	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: BIOAGENT_MATURITY_STATUS_CODE*Description:*

The status is either Primary, Secondary or Tertiary and is an indication of the maturity of the research conducted on a Biological Agent.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	BIOAGENT_MATURITY_STATUS_CODE Unique code identifying the status.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: BIOGEOCLIMATIC_CATALOGUE*Description:*

The BIOGEOCLIMATIC CATALOGUE contains the complete set of unique valid combinations of biogeoclimatic Zone, Subzone, Variant and Phase. Any other combinations are not valid.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	BIOGEOCLIMATIC_CATALOGUE_ID	NOT NULL	NUMBER(10)

Assigned numeric identifier for a biogeoclimatic catalog entry unique within a biogeoclimatic unit.

Notes:

Stub of BEC.BIOGEOCLIMATIC CATALOGUE.

Table: BIOLOGICAL_AGENT_CODE*Description:*

Identifies an organism used to control an invasive alien plant. Examples: *Aceria chondrillae*, *Longitarsus jacobaeae* (Waterhouse), *Trichosirocalus horridus* (Panzer).

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	BIOLOGICAL_AGENT_CODE Unique code identifying the bioagent. <i>Increased length from 12 to 20 to allow flexibility for future codes. [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(7)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: BIOLOGICAL_AGENT_EXCEPTION**Description:**

A Biological Agent Exception will be generated if a user chooses to save a Biological Treatment, Biological Dispersal or an Invasive Plant Plan with an inappropriate biological agent/invasive plant combination. The appropriate combinations of biological agents and invasive plants is described in the BIOLOGICAL_AGENT_MATURITY table. If the combination that user chooses does not exist in this table then the user will be required to enter exception comments. These comments, along with other metadata will be sent to a 'Biological Agent Auditor' by email and stored in this entity.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	EXCEPTION_ID Primary unique identifier for a Biological Agent Exception	NOT NULL	NUMBER(10)
3	BIOLOGICAL_TREATMENT_ID Primary unique numeric identifier for a biological control.	NULL	NUMBER(10)
5	BIOLOGICAL DISPERSAL_ID Primary unique numeric identifier for a biological dispersal.	NULL	NUMBER(10)
6	PROPOSED_ACTIVITY_ID Primary unique numeric identifier for a proposed IAPP activity record.	NULL	NUMBER(10)
7	BIOLOGICAL_AGENT_CODE Unique code identifying the bioagent. <i>Increased length from 12 to 20 to allow flexibility for future codes. [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(7)
8	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
9	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
10	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
11	EXCEPTION_COMMENTS Exception comments entered by user at time of data entry and appropriate use of Biological Agent exception.	NOT NULL	VARCHAR2(2000)
12	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
13	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
14	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
15	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
16	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

BAE_BAC_FK
BIOLOGICAL_AGENT_CODE = BIOLOGICAL_AGENT_CODE.BIOLOGICAL_AGENT_CODE

BAE_BD_FK
BIOLOGICAL_DISPERSAL_ID = BIOLOGICAL_DISPERSAL.BIOLOGICAL_DISPERSAL_ID

BAE_BT_FK
BIOLOGICAL_TREATMENT_ID = BIOLOGICAL_TREATMENT.BIOLOGICAL_TREATMENT_ID

BAE_IPAC_FK
INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE

BAE_IPS_FK
GENUS_CODE = INVASIVE_PLANT_SPECIES.GENUS_CODE
SPECIES_CODE = INVASIVE_PLANT_SPECIES.SPECIES_CODE

BAE_PA_FK
PROPOSED_ACTIVITY_ID = PROPOSED_IAPP_ACTIVITY.PROPOSED_ACTIVITY_ID

Check Constraints:

BAE_CONTEXT_ARC_CC
(BIOLOGICAL_TREATMENT_ID IS NOT NULL

Table: BIOLOGICAL_AGENT_EXCEPTION (cont'd)*Check Constraints:*

```
AND BIOLOGICAL_DISPERSAL_ID IS NULL
AND PROPOSED_ACTIVITY_ID IS NULL)
OR (BIOLOGICAL_TREATMENT_ID IS NULL
AND BIOLOGICAL_DISPERSAL_ID IS NOT NULL
AND PROPOSED_ACTIVITY_ID IS NULL)
OR (BIOLOGICAL_TREATMENT_ID IS NULL
AND BIOLOGICAL_DISPERSAL_ID IS NULL
AND PROPOSED_ACTIVITY_ID IS NOT NULL)
```

Indexes:

```
BAE_BAC_FK_I
  BIOLOGICAL_AGENT_CODE
BAE_BD_FK_I
  BIOLOGICAL_DISPERSAL_ID
BAE_BT_FK_I
  BIOLOGICAL_TREATMENT_ID
BAE_IPAC_FK_I
  INVASIVE_PLANT_AGENCY_CODE
BAE_IPS_FK_I
  GENUS_CODE
  SPECIES_CODE
BAE_PA_FK_I
  PROPOSED_ACTIVITY_ID
```

Table: BIOLOGICAL_AGENT_MATURITY**Description:**

Maps the ability of particular Biological Agents to control a particular Invasive Plant. The status is either PRI (Primary), SEC (Secondary) or TER (Tertiary) and indicates whether the biological agent acts directly on the plant or controls the plant by some secondary or tertiary process. "The agents of classical biological control may kill the weeds directly. However, usually they reduce weed population indirectly by decreasing reproductive and competitive abilities or plant vigour, which in turn encourages the re-establishment of native vegetation." [Source: Integrated Pest Management - Biocontrol, <http://www.for.gov.bc.ca/hfp/noxious/biocontr.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	BIOLOGICAL_AGENT_CODE Unique code identifying the bioagent. <i>Increased length from 12 to 20 to allow flexibility for future codes. [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(7)
* 2	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
* 3	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
4	BIOAGENT_MATURITY_STATUS_CODE Unique code identifying the status.	NOT NULL	VARCHAR2(1)
5	COMMENTS The COMMENTS contain notes or additional information on the status of the invasive plant species/biological agent combination provided by the biological agent maturity custodian.	NULL	VARCHAR2(2000)
6	EXPIRY_DATE The EXPIRY DATE is the date that the maturity record is no longer valid. Expired maturity records will be kept for historical purposes but will have no bearing on new records.	NOT NULL	DATE
7	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
8	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
9	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
10	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

BAM_BAC_FK
BIOLOGICAL_AGENT_CODE = BIOLOGICAL_AGENT_CODE.BIOLOGICAL_AGENT_CODE

BAM_BMSC_FK
BIOAGENT_MATURITY_STATUS_CODE =
BIOAGENT_MATURITY_STATUS_CODE.BIOAGENT_MATURITY_STATUS_CODE

BAM_IPS_FK
GENUS_CODE = INVASIVE_PLANT_SPECIES.GENUS_CODE
SPECIES_CODE = INVASIVE_PLANT_SPECIES.SPECIES_CODE

Indexes:

BAM_BAC_FK_I
BIOLOGICAL_AGENT_CODE

BAM_BMSC_FK_I
BIOAGENT_MATURITY_STATUS_CODE

BAM_IPS_FK_I
SPECIES_CODE
GENUS_CODE

Table: BIOLOGICAL_AGENT_SPREAD*Description:*

A transect from the release point indicating the extent of the spread of the biocontrol.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SPREAD_ID Primary unique numeric identifier for a biological spread.	NOT NULL	NUMBER(10)
2	BEARING The bearing of this transect, in degrees, measured clockwise from north.	NOT NULL	NUMBER(3)
3	DISTANCE Distance (metres) from the release point to the edge of the spread. <i>In the data, the most number of decimal places is 1 ("1.5"). And the largest value is 600. Hence my choices for length and decimal places. [Jon Aquino 2004-08-31]</i>	NOT NULL	NUMBER(10,1)
4	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
5	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
6	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
7	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
8	MONITORING_ID Primary unique numeric identifier for a monitoring.	NOT NULL	NUMBER(10)

Foreign Keys:

BAS_MN_FK
MONITORING_ID = INVASIVE_PLANT_MONITORING.MONITORING_ID

Indexes:

BAS_MN_FK_I
MONITORING_ID

Table: BIOLOGICAL_AGENT_VW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
10	BIOLOGICAL_AGENT	NULL	VARCHAR2(240)
20	LATIN_NAME	NULL	VARCHAR2(240)

Table: BIOLOGICAL_DISPERSAL**Description:**

An observation of a biocontrol agent that had not been released at this site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	BIOLOGICAL_DISPERSAL_ID Primary unique numeric identifier for a biological dispersal.	NOT NULL	NUMBER(10)
2	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
3	BIOLOGICAL_AGENT_CODE Unique code identifying the bioagent.	NOT NULL	VARCHAR2(7)
4	INVASIVE_PLANT_AGENCY_CODE <i>Increased length from 12 to 20 to allow flexibility for future codes. [Jon Aquino 2004-09-01]</i> Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
5	PAPER_FILE_ID The file identification number used to reference the corresponding paperwork for this record.	NULL	VARCHAR2(20)
6	INSPECTION_DATE Date on which the inspection was made.	NOT NULL	DATE
7	PLANT_COUNT The number of plants sampled to determine bioagent density.	NULL	NUMBER(4)
8	AGENT_COUNT The number of bioagents found in the sample to determine bioagent density.	NULL	NUMBER(4)
9	COUNT_DURATION Number of minutes required for collection and inspection.	NULL	NUMBER(4)
10	COMMENTS A free-format, user-entered comment on the dispersal.	NULL	VARCHAR2(2000)
11	FOLIAR_FEEDING_DAMAGE_IND Indicates the presence of bioagent damage to leaves.	NOT NULL	VARCHAR2(1)
12	ROOT_FEEDING_DAMAGE_IND Indicates the presence of bioagent damage to roots.	NOT NULL	VARCHAR2(1)
13	SEED_FEEDING_DAMAGE_IND Indicates the presence of bioagent damage to seeds.	NOT NULL	VARCHAR2(1)
14	OVIPOSITION_MARKS_IND Indicates the presence of oviposition marks -- slits that the insect makes in the vegetation for depositing its eggs.	NOT NULL	VARCHAR2(1)
15	EGGS_PRESENT_IND Indicates the presence of biological agent eggs.	NOT NULL	VARCHAR2(1)
16	LARVAE_PRESENT_IND Indicates the presence of larvae -- the immature, second life stage of an insect; a larva hatches from an egg. Most are wormlike, such as caterpillars, maggots and grubs. Many pest insects cause the most damage in the larval stage, particularly those that eat plants. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf]	NOT NULL	VARCHAR2(1)
17	PUPAE_PRESENT_IND Indicates the presence of pupae -- the stage between the larva stage and the adult in insects that undergo complete metamorphosis; a nonfeeding and usually an inactive stage. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf]	NOT NULL	VARCHAR2(1)
18	ADULTS_PRESENT_IND Indicates the presence of the adult stage of the bioagent.	NOT NULL	VARCHAR2(1)
19	TUNNELS_PRESENT_IND Indicates the presence of exit holes or tunnels.	NOT NULL	VARCHAR2(1)
20	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NOT NULL	NUMBER(6)
21	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NOT NULL	NUMBER(7)
22	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11	NOT NULL	NUMBER(2)

Table: BIOLOGICAL_DISPERSAL (cont'd)*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
23	for British Columbia. ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCellD and IDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
24	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
25	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
26	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
27	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
28	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

BD_BAC_FK
 BIOLOGICAL_AGENT_CODE = BIOLOGICAL_AGENT_CODE.BIOLOGICAL_AGENT_CODE

BD_IPAC_FK
 INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE

BD_IP_FK
 INVASIVE_PLANT_ID = INVASIVE_PLANT.INVASIVE_PLANT_ID

Indexes:

BD_BAC_FK_I
 BIOLOGICAL_AGENT_CODE

BD_IPAC_FK_I
 INVASIVE_PLANT_AGENCY_CODE

BD_IP_FK_I
 INVASIVE_PLANT_ID

Table: BIOLOGICAL_DISPERSAL_POLY_SVW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
10	BIOLOGICAL_DISPERSAL_ID	NULL	VARCHAR2(240)
20	SITE_ID	NULL	VARCHAR2(240)
30	GEOMETRY	NULL	VARCHAR2(240)
40	FEATURE_AREA	NULL	VARCHAR2(240)
50	FEATURE_CODE	NULL	VARCHAR2(240)
60	INVASIVE_PLANT	NULL	VARCHAR2(240)
70	INSPECTION_DATE	NULL	VARCHAR2(240)
80	BIOLOGICAL_AGENT	NULL	VARCHAR2(240)
90	PRESENCE_IND	NULL	VARCHAR2(240)
100	UTM_EASTING	NULL	VARCHAR2(240)
110	UTM_NORTHING	NULL	VARCHAR2(240)
120	UTM_ZONE	NULL	VARCHAR2(240)
130	APP_LINK	NULL	VARCHAR2(240)
135	OBJECTID	NULL	VARCHAR2(240)

Table: BIOLOGICAL_MONITOR_POLY_SVW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
10	MONITORING_ID	NULL	VARCHAR2(240)
20	TREATMENT_ID	NULL	VARCHAR2(240)
30	SITE_ID	NULL	VARCHAR2(240)
40	GEOMETRY	NULL	VARCHAR2(240)
50	FEATURE_AREA	NULL	VARCHAR2(240)
60	FEATURE_CODE	NULL	VARCHAR2(240)
70	INVASIVE_PLANT	NULL	VARCHAR2(240)
80	TREATMENT_DATE	NULL	VARCHAR2(240)
90	INSPECTION_DATE	NULL	VARCHAR2(240)
100	BIOLOGICAL_AGENT	NULL	VARCHAR2(240)
110	PRESENCE_IND	NULL	VARCHAR2(240)
120	UTM_EASTING	NULL	VARCHAR2(240)
130	UTM_NORTHING	NULL	VARCHAR2(240)
140	UTM_ZONE	NULL	VARCHAR2(240)
150	APP_LINK	NULL	VARCHAR2(240)
155	OBJECTID	NULL	VARCHAR2(240)

Table: BIOLOGICAL_TREATMENT**Description:**

An application of a biological control. Biological control is the use of a weed's natural enemies (chiefly insects and pathogens) to reduce its population below a desired level. It can be divided into the following two approaches: inundative and classical. Inundative biological control uses mass application of an organism to attempt to eliminate a weed from an area. Like all such methods, it does not deal with the residual seed bank in the soil or prevent the weed from establishing from another source at a later date. Classical biological control uses the weed's natural enemies to establish a long-term balance between the biological control organism and the weed. [Source: Integrated Pest Management, <http://www.for.gov.bc.ca/hfp/noxious/integrat.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	BIOLOGICAL_TREATMENT_ID Primary unique numeric identifier for a biological control.	NOT NULL	NUMBER(10)
2	AREA_CLASSIFICATION_CODE Unique code identifying the classification of the area. Possible values are Research and Collection	NULL	VARCHAR2(1)
3	BIOLOGICAL_AGENT_CODE Unique code identifying the bioagent. <i>Increased length from 12 to 20 to allow flexibility for future codes. [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(7)
4	BIOAGENT_SOURCE The provider of the Biological Agent. Can be an organization, individual or country.	NULL	VARCHAR2(100)
5	COLLECTION_DATE The date that the Biological Agent was collected or harvested.	NULL	DATE
6	STAGE_EGG_IND Indicates the release of eggs of the bioagent.	NOT NULL	VARCHAR2(1)
7	STAGE_LARVA_IND Indicates the release of larvae -- the immature, second life stage of an insect; a larva hatches from an egg. Most are wormlike, such as caterpillars, maggots and grubs. Many pest insects cause the most damage in the larval stage, particularly those that eat plants. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf]	NOT NULL	VARCHAR2(1)
8	STAGE_PUPA_IND Indicates the release of pupae -- the stage between the larva stage and the adult in insects that undergo complete metamorphosis; a nonfeeding and usually an inactive stage. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf]	NOT NULL	VARCHAR2(1)
9	STAGE_ADULT_IND Indicates the release of the adult stage of the bioagent.	NOT NULL	VARCHAR2(1)
10	STAGE_OTHER_IND Indicates the release of a bioagent at a stage that is not listed.	NOT NULL	VARCHAR2(1)
11	RELEASE_TIME The time of day at which the bioagent was released.	NOT NULL	DATE
12	RELEASE_QUANTITY Number of insects released. <i>In the Access App, Validation Text is "<=9999". [Jon Aquino 2004-09-01]</i>	NOT NULL	NUMBER(6)
13	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NOT NULL	NUMBER(6)
14	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NOT NULL	NUMBER(7)
15	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NOT NULL	NUMBER(2)

Foreign Keys:

BT_ACC_FK
 AREA_CLASSIFICATION_CODE = AREA_CLASSIFICATION_CODE.AREA_CLASSIFICATION_CODE
BT_BAC_FK
 BIOLOGICAL_AGENT_CODE = BIOLOGICAL_AGENT_CODE.BIOLOGICAL_AGENT_CODE

Indexes:

Table: BIOLOGICAL_TREATMENT (cont'd)*Indexes:*

BT_ACC_FK_I
AREA_CLASSIFICATION_CODE
BT_BAC_FK_I
BIOLOGICAL_AGENT_CODE

Table: BIOLOGICAL_TREATMENT_POLY_SVW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
20	TREATMENT_ID	NULL	VARCHAR2(240)
30	SITE_ID	NULL	VARCHAR2(240)
40	GEOMETRY	NULL	VARCHAR2(240)
50	FEATURE_AREA	NULL	VARCHAR2(240)
60	FEATURE_CODE	NULL	VARCHAR2(240)
70	INVASIVE_PLANT	NULL	VARCHAR2(240)
80	TREATMENT_DATE	NULL	VARCHAR2(240)
90	BIOLOGICAL_AGENT	NULL	VARCHAR2(240)
100	RELEASE_QUANTITY	NULL	VARCHAR2(240)
110	UTM_EASTING	NULL	VARCHAR2(240)
120	UTM_NORTHING	NULL	VARCHAR2(240)
130	UTM_ZONE	NULL	VARCHAR2(240)
140	APP_LINK	NULL	VARCHAR2(240)
145	OBJECTID	NULL	VARCHAR2(240)

Table: CHEMICAL_METHOD_CODE*Description:*

Indicates the application method for the herbicide. Examples: Boomless Nozzle, Fixed Boom.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	CHEMICAL_METHOD_CODE Unique code identifying the chemical control method.	NOT NULL	VARCHAR2(3)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: CHEMICAL_TREATMENT**Description:**

An application of a herbicide. Various herbicides are used for spot treatments of weeds in British Columbia. The herbicide selected should depend on the target weed species and environmental factors. Application rate will be dictated by the size and accessibility of the infestation, its proximity to wells and other water, and the potential impacts of the application on non-target vegetation. Some herbicides have residual effects and persist in the soil in an active state for some time after application. Other herbicides become inactive once they contact soil. The residual activity of a herbicide varies with rate of application, soil properties, and climate, and its impact on non-target vegetation should be carefully considered. [Source: Integrated Pest Management, <http://www.for.gov.bc.ca/hfp/noxious/integrat.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 6	CHEMICAL_TREATMENT_ID Primary unique numeric identifier for a chemical control.	NOT NULL	NUMBER(10)
7	CHEMICAL_METHOD_CODE Unique code identifying the chemical control method.	NOT NULL	VARCHAR2(3)
8	HERBICIDE_CODE Unique code identify the herbicide.	NOT NULL	VARCHAR2(1)
9	AREA_TREATED Area (hectares) treated with the chemical control. <i>Current values are 0.16, 0.1, 0.03, 0.02, 0.01, 0.006. [Jon Aquino 2004-08-31]</i>	NOT NULL	NUMBER(15,4)
	<i>Use same length and decimal places as Mechanical Control's. See its justification in the comments. [Jon Aquino 2004-09-01]</i>		
10	APPLICATION_TIME Time of day, a factor affecting herbicide effectiveness. Generally carbohydrate levels in the leaves are lowest in the morning and highest in the late afternoon. Spraying early in the morning is more effective. [Source: Integrated Weed Management: An Introductory Manual, http://www.agf.gov.bc.ca/cropprot/weedman.htm]	NOT NULL	DATE
11	TEMPERATURE Temperature (Celsius), a factor affecting herbicide effectiveness. Under dry or cool conditions, plants grow slowly and translocation of systemic herbicides is slow. [Source: Integrated Weed Management: An Introductory Manual, http://www.agf.gov.bc.ca/cropprot/weedman.htm] <i>In Access app, Validation Text is "Temperature must be <=40. Enter 0 if no information is available". [Jon Aquino 2004-08-31]</i>	NOT NULL	NUMBER(2)
12	HUMIDITY Humidity (%), a factor affecting herbicide effectiveness. Warm temperatures and high humidity are generally favoured for best control with systemic herbicides. [Source: Integrated Weed Management: An Introductory Manual, http://www.agf.gov.bc.ca/cropprot/weedman.htm] <i>In Access app, Validation Text is "Value may not exceed 100%. Enter 0 if no information is available" [Jon Aquino 2004-08-31]</i>	NULL	NUMBER(3)
13	WIND_VELOCITY Wind velocity (km/h), a factor affecting herbicide effectiveness. Avoid spraying in wind as herbicide will be lost to drift. [Source: Integrated Weed Management: An Introductory Manual, http://www.agf.gov.bc.ca/cropprot/weedman.htm] <i>In Access app, Validation Text is "Value must be <= 100. Enter 0 if no information is available" [Jon Aquino 2004-08-30]</i>	NOT NULL	NUMBER(3)
14	WIND_DIRECTION Wind direction (bearing in degrees), a factor affecting herbicide effectiveness. Avoid spraying in wind as herbicide will be lost to drift. [Source: Integrated Weed Management: An Introductory Manual, http://www.agf.gov.bc.ca/cropprot/weedman.htm] <i>In Access app, Validation Text is "Value must be <=360. Enter 0 if no information is available" [Jon Aquino 2004-08-30]</i>	NULL	NUMBER(3)
15	APPLICATION_RATE The application rate, in litres of chemical per hectare.	NULL	NUMBER(10,2)
16	AMOUNT_USED The amount of chemical used, in litres.	NOT NULL	NUMBER(10,5)
17	DILUTION_RATE The dilution rate, calculated by dividing the application rate by the delivery rate. [Source: Range Manual, http://www.for.gov.bc.ca/hfp/range/manual/Ch11-app-19.htm]	NULL	NUMBER(10,4)
18	DELIVERY_RATE	NULL	NUMBER(10,0)

Table: CHEMICAL_TREATMENT (cont'd)*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
20	TANK_MIX_ID The sprayer delivery rate, in L/ha. A unique ID used to group chemical treatments that were done at one time using a mix of two or more herbicides.	NULL	NUMBER(10,0)

Foreign Keys:

CT_CMCD_FK
CHEMICAL_METHOD_CODE = CHEMICAL_METHOD_CODE.CHEMICAL_METHOD_CODE
CT_HC_FK
HERBICIDE_CODE = HERBICIDE_CODE.HERBICIDE_CODE

Indexes:

CT_CMCD_FK_I
CHEMICAL_METHOD_CODE
CT_HC_FK_I
HERBICIDE_CODE

Table: CHEMICAL_TREATMENT_POLY_SVW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
20	TREATMENT_ID	NULL	VARCHAR2(240)
30	SITE_ID	NULL	VARCHAR2(240)
40	GEOMETRY	NULL	VARCHAR2(240)
50	FEATURE_AREA	NULL	VARCHAR2(240)
60	FEATURE_CODE	NULL	VARCHAR2(240)
70	INVASIVE_PLANT	NULL	VARCHAR2(240)
80	TREATMENT_DATE	NULL	VARCHAR2(240)
90	AREA_TREATED	NULL	VARCHAR2(240)
100	HERBICIDE_CODE	NULL	VARCHAR2(240)
110	HERBICIDE	NULL	VARCHAR2(240)
120	CHEMICAL_METHOD	NULL	VARCHAR2(240)
130	UTM_EASTING	NULL	VARCHAR2(240)
140	UTM_NORTHING	NULL	VARCHAR2(240)
150	UTM_ZONE	NULL	VARCHAR2(240)
160	APP_LINK	NULL	VARCHAR2(240)
165	OBJECTID	NULL	VARCHAR2(240)

Table: DISPERSAL_SURVEYOR*Description:*

The IAPP participants that acted as surveyors for a particular Biological Dispersal.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	PARTICIPANT_ID Primary unique numeric identifier for an applicator.	NOT NULL	NUMBER(10)
* 2	BIOLOGICAL_DISPERSAL_ID Primary unique numeric identifier for a biological dispersal.	NOT NULL	NUMBER(10)
3	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
4	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
5	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
6	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

DS_BD_FK
BIOLOGICAL_DISPERSAL_ID = BIOLOGICAL_DISPERSAL.BIOLOGICAL_DISPERSAL_ID
DS_PART_FK
PARTICIPANT_ID = IAPP_PARTICIPANT.PARTICIPANT_ID

Indexes:

DS_BD_FK_I
BIOLOGICAL_DISPERSAL_ID
DS_PART_FK_I
PARTICIPANT_ID

Table: EFFICACY_RATING_CODE*Description:*

Level of control achieved on a site according to the following scale:

- 9 - Complete control
- 8 - Excellent control
- 7 - Good control
- 6 - Fair control
- 5 - Poor control
- 4 - Moderate injury
- 3 - Definite effect
- 2 - Slight effect
- 1 - Possible effect

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	EFFICACY_RATING_CODE Unique numerical code identifying level of control achieved on a site.	NOT NULL	VARCHAR2(2)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: FOREST_CLIENT*Description:*

Any company or individual who is dealing, has dealt or plans to deal with the Ministry. This is effectively the name and address list for the Ministry.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	CLIENT_NUMBER	NOT NULL	VARCHAR2(8)
	Sequentially assigned number to identify a ministry client.		

Table: HERBICIDE_CODE*Description:*

Identifies a herbicide - a pesticide used to kill plants and control vegetation. Examples: Tordon 22K, Round-up. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, <http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf>].

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	HERBICIDE_CODE Unique code identify the herbicide.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: IAPP_ACTIVITY_CODE*Description:*

Identifies an activity conducted on invasive alien plants. Examples: Chemical Treatment, Biological Monitoring.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	IAPP_ACTIVITY_CODE Unique code identifying the activity.	NOT NULL	VARCHAR2(2)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: IAPP_AGENCY_FOREST_CLIENT*Description:*

Maps each INVASIVE_PLANT_AGENCY_CODE to a single FOREST_CLIENT for the purposes of providing agency level security. The WebADE getUsersClientLocations call will return all Clients that a user is associated with. The application will use this mapping to determine which agencies the user can act upon based on the Clients he/she is associated with.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
2	CLIENT_NUMBER	NOT NULL	VARCHAR2(8)
3	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
4	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
5	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
7	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

IAFC_FC_FK
CLIENT_NUMBER = FOREST_CLIENT.CLIENT_NUMBER
IAFC_IPAC_FK
INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE

Indexes:

IAFC_FCL_FK_I
CLIENT_NUMBER
IAFC_IPAC_FK_I
INVASIVE_PLANT_AGENCY_CODE

Table: IAPP_BIOLOGICAL_AGENT*Description:*

Identifies an organism used to control an invasive alien plant. Examples: *Aceria chondrillae*, *Longitarsus jacobaeae* (Waterhouse), *Trichosirocalus horridus* (Panzer).

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	BIOLOGICAL_AGENT	NOT NULL	VARCHAR2(8)
	Unique code identifying the bioagent with a space inserted as the fourth character for display.		
20	LATIN_NAME	NOT NULL	VARCHAR2(120)
	LATIN_NAME is made up of the combination of the Latin Genus and Species names for the Biological Agent.		

Table: IAPP_BIOLOGICAL_DISPERSAL_POLY*Description:*

An observation of a biocontrol agent that had not been released at this site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	BIOLOGICAL_DISPERSAL_ID Primary unique numeric identifier for a biological dispersal.	NOT NULL	NUMBER(10)
20	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
30	GEOMETRY A polygon representing the boundary of a biological monitoring activity. The polygon has two possible sources: it is generated by buffering the point described by the biological monitoring UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
31	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in hectares.	NOT NULL	NUMBER
40	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
50	INVASIVE_PLANT The 4 character code for the Invasive Plant Species genus concatenated with the 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(8)
60	INSPECTION_DATE Date on which the inspection was made.	NOT NULL	DATE
61	BIOLOGICAL_AGENT Unique code identifying the bioagent with a space inserted as the fourth character for display.	NULL	VARCHAR2(8)
70	PRESENCE_IND Indicates the presence of a bioagent.	NOT NULL	VARCHAR2(1)
80	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	NUMBER(6)
90	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	NUMBER(7)
91	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	NUMBER(2)
150	APP_LINK An http link to view the entity represented by the polygon within the IAPP web application	NOT NULL	VARCHAR2(120)
225	OBJECTID OBJECTID is a unique surrogate key used to register the layer in ArcSDE.	NOT NULL	NUMBER(38)

Unique Constraints:

IAPP_BDP_OID_UK
OBJECTID

Indexes:

IAPP_BDP_IPSP_FK_I
SITE_ID
IAPP_BDP_SP_I
GEOMETRY

Table: IAPP_BIOLOGICAL_MONITOR_POLY**Description:**

An inspection of a biocontrol treatment to determine presence at a given location, density per plant or area, amount and type of damage per plant or area, and direction, distance, and rate of movement from release point.

For most operational biological control programs, checking for presence will be the only monitoring function. If there is doubt as to whether a release has been made in an area before, or if it is possible that agents have naturally distributed themselves into an area, monitoring of the weed stand should be conducted before a new release is made. Biological control releases can fail at a given site during establishment for various reasons. New releases should therefore be monitored for establishment within 1-2 years to determine if a supplementary release is necessary.

[Source: Field Guide to the Biological Control of Weeds in British Columbia,
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh27-3.pdf>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	MONITORING_ID Primary unique numeric identifier for a monitoring.	NOT NULL	NUMBER(10)
20	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
30	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
31	GEOMETRY A polygon representing the boundary of a biological monitoring activity. The polygon has two possible sources: it is generated by buffering the point described by the biological monitoring UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
40	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in hectares.	NOT NULL	NUMBER
50	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
60	INVASIVE_PLANT The 4 character code for the Invasive Plant Species genus concatenated with the 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(8)
70	TREATMENT_DATE Date on which the control was applied.	NOT NULL	DATE
71	INSPECTION_DATE Date on which the inspection was made.	NOT NULL	DATE
80	BIOLOGICAL_AGENT Unique code identifying the bioagent with a space inserted as the fifth character for display.	NULL	VARCHAR2(8)
90	PRESENCE_IND Indicates the presence of a bioagent.	NOT NULL	VARCHAR2(1)
100	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	NUMBER(6)
110	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	NUMBER(7)
111	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	NUMBER(2)
150	APP_LINK An http link to view the entity represented by the polygon within the IAPP web application	NOT NULL	VARCHAR2(120)
225	OBJECTID OBJECTID is a unique surrogate key used to register the layer in ArcSDE.	NOT NULL	NUMBER(38)

Unique Constraints:

IAPP_BMP_OID_UK
 OBJECTID

Table: IAPP_BIOLOGICAL_MONITOR_POLY (cont'd)*Indexes:*

IAPP_BMO_BA_I
BIOLOGICAL_AGENT
IAPP_BMP_IP_I
INVASIVE_PLANT
IAPP_BMP_SP_I
GEOMETRY

Table: IAPP_BIOLOGICAL_TREATMENT_POLY*Description:*

An application of a biological control. Biological control is the use of a weed's natural enemies (chiefly insects and pathogens) to reduce its population below a desired level. It can be divided into the following two approaches: inundative and classical. Inundative biological control uses mass application of an organism to attempt to eliminate a weed from an area. Like all such methods, it does not deal with the residual seed bank in the soil or prevent the weed from establishing from another source at a later date. Classical biological control uses the weed's natural enemies to establish a long-term balance between the biological control organism and the weed. [Source: Integrated Pest Management, <http://www.for.gov.bc.ca/hfp/noxious/integrat.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 20	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
30	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
40	GEOMETRY A polygon representing the boundary of a treatment. The polygon has two possible sources: it is generated by buffering the point described by the treatment UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
50	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in hectares.	NOT NULL	NUMBER
60	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
70	INVASIVE_PLANT The 4 character code for the Invasive Plant Species genus concatenated with the 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(8)
80	TREATMENT_DATE Date on which the control was applied.	NOT NULL	DATE
90	BIOLOGICAL_AGENT Unique code identifying the bioagent with a space inserted as the fourth character for display.	NULL	VARCHAR2(8)
100	RELEASE_QUANTITY Number of insects released.	NULL	NUMBER(6)
110	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	VARCHAR2(40)
120	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	VARCHAR2(40)
130	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	VARCHAR2(40)
140	APP_LINK An http link to view the entity represented by the polygon within the IAPP web application	NOT NULL	VARCHAR2(120)
225	OBJECTID OBJECTID is a unique surrogate key used to register the layer in ArcSDE.	NOT NULL	NUMBER(38)

Unique Constraints:

IAPP_BTP_OID_UK
OBJECTID

Indexes:

IAPP_BTP_DT_I
TREATMENT_DATE
IAPP_BTP_IPSP_FK_I
SITE_ID
IAPP_BTP_SP_I
GEOMETRY

Table: IAPP_CHEMICAL_TREATMENT_POLY**Description:**

Polygon geometry for a chemical treatment area. An application of a herbicide. Various herbicides are used for spot treatments of weeds in British Columbia. The herbicide selected should depend on the target weed species and environmental factors. Application rate will be dictated by the size and accessibility of the infestation, its proximity to wells and other water, and the potential impacts of the application on non-target vegetation. Some herbicides have residual effects and persist in the soil in an active state for some time after application. Other herbicides become inactive once they contact soil. The residual activity of a herbicide varies with rate of application, soil properties, and climate, and its impact on non-target vegetation should be carefully considered. Includes attribute data for the treatment.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 20	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
30	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
35	GEOMETRY A polygon representing the boundary of a treatment. The polygon has two possible sources: it is generated by buffering the point described by the treatment UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
50	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in hectares.	NOT NULL	NUMBER
60	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
70	INVASIVE_PLANT The 4 character code for the Invasive Plant Species genus concatenated with the 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(8)
80	TREATMENT_DATE Date on which the control was applied.	NOT NULL	DATE
90	AREA_TREATED Area (hectares) treated with the chemical control.	NULL	NUMBER(15,4)
100	HERBICIDE_CODE Unique code identify the herbicide.	NOT NULL	VARCHAR2(1)
110	HERBICIDE The full name of the herbicide used in the treatment.	NOT NULL	VARCHAR2(120)
120	CHEMICAL_METHOD Indicates the application method for the herbicide. Examples: Boomless Nozzle, Fixed Boom.	NOT NULL	VARCHAR2(120)
130	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	VARCHAR2(40)
140	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	VARCHAR2(40)
150	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	VARCHAR2(40)
170	APP_LINK An http link to view the entity represented by the polygon within the IAPP web application	NOT NULL	VARCHAR2(120)
225	OBJECTID OBJECTID is a unique surrogate key used to register the layer in ArcSDE.	NOT NULL	NUMBER(38)

Unique Constraints:

IAPP_CTP_OID_UK
OBJECTID

Indexes:

IAPP_CTP_DT_I
TREATMENT_DATE
IAPP_CTP_IPSP_FK_I

Table: IAPP_CHEMICAL_TREATMENT_POLY (cont'd)*Indexes:*

SITE_ID
IAPP_CTP_SP_I
GEOMETRY

Table: IAPP_CONTAINMENT_AREA_SP*Description:*

IAPP CONTAINMENT AREA SP is a closed polygon which delineates an invasive plant population within this established boundary where action is taken to prevent its spread beyond the polygon. Treatment within the polygon will occur for a specific invasive plant when critical thresholds are met or exceeded as defined by the treatment matrix. Containment lines are normally drawn at a provincial (broad) scale and are intended to mimic distinct geographic breaks such as height-of-land, a river or major highway.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 2	CONTAINMENT_POLY_ID CONTAINMENT POLY ID is a unique surrogate key for the materialized view IAPP CONTAINMENT AREA SP.	NOT NULL	NUMBER(10)
5	INVASIVE_PLANT INVASIVE PLANT is a concatenation of the 4 character GENUS CODE and the 3 character SPECIES CODE that form the a unique key for the IAPP INVASIVE PLANT SPECIES materialized view. The GENUS CODE and SPECIES CODE are used together by the business to identify Invasive Plant species.	NOT NULL	VARCHAR2(8)
10	GEOMETRY GEOMETRY is a closed polygon which delineates a "containment line" for an invasive plant species. Containment lines are normally drawn at a provincial (broad) scale and are intended to mimic distinct geographic breaks such as height-of-land, a river or major highway. The polygon is captured through digitized geometry that is loaded from external sources.	NOT NULL	
40	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in square meters. This column is included so that Oracle Spatial functions are not required to determine the area of the GEOMETRY.	NOT NULL	NUMBER
50	FEATURE_CODE FEATURE CODE is an alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
70	ENTRY_TIMESTAMP ENTRY_TIMESTAMP contains the time the record was entered.	NOT NULL	DATE
225	OBJECTID OBJECTID is a unique surrogate key used to register the layer in ArcSDE.	NOT NULL	NUMBER(38)

Unique Constraints:

IAPP_CA_OID_UK
OBJECTID

Indexes:

IAPP_CA_IP_I
INVASIVE_PLANT
IAPP_CA_SP_I
GEOMETRY

Table: IAPP_CONTAINMENT_POLY*Description:*

A closed polygon which delineates an invasive plant population within this established boundary where action is taken to prevent its spread beyond the polygon. Treatment within the polygon will occur for a specific invasive plant when critical thresholds are met or exceeded as defined by the treatment matrix. Containment lines are normally drawn at a provincial (broad) scale and are intended to mimic distinct geographic breaks such as height-of-land, a river or major highway.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	CONTAINMENT_POLY_ID Primary unique numeric identifier for an Invasive Alien Plant Program containment polygon.	NOT NULL	NUMBER(10)
2	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NULL	VARCHAR2(4)
5	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NULL	VARCHAR2(3)
6	GEOMETRY A closed polygon which delineates containment line for an invasive plant species. Containment lines are normally drawn at a provincial (broad) scale and are intended to mimic distinct geographic breaks such as height-of-land, a river or major highway. The polygon is captured through digitized geometry that is loaded from external sources.	NOT NULL	
7	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
8	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
9	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
10	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
11	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)

Foreign Keys:

ICP_IPS_FK
 GENUS_CODE = INVASIVE_PLANT_SPECIES.GENUS_CODE
 SPECIES_CODE = INVASIVE_PLANT_SPECIES.SPECIES_CODE

Indexes:

ICP_IPS_FK_I
 GENUS_CODE
 SPECIES_CODE

Table: IAPP_DISPERSAL_CLOUDED_POLY*Description:*

Abstracted polygon geometry for a biological dispersal.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	DISPERSAL_POLY_ID Primary unique numeric identifier for a biological dispersal polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the approximate boundary of a biological dispersal. The polygon is generated by applying a 'clouding' algorithm to the actual IAPP DISPERSAL POLY GEOMETRY. The purpose of this is to inform people planning on performing weed control to avoid the area, but distort the polygon enough that the exact location of a biological agent cannot be determined.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
7	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
8	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
9	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

IDCP_IDP_FK

DISPERSAL_POLY_ID = IAPP_DISPERSAL_POLY.DISPERSAL_POLY_ID

Table: IAPP_DISPERSAL_POLY*Description:*

Polygon geometry for a biological dispersal.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	DISPERSAL_POLY_ID Primary unique numeric identifier for a biological dispersal polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the boundary of a biological dispersal. The polygon has two possible sources: it is generated by buffering the point described by the biological dispersal UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	GEOMETRY_GENERATED_IND Indicates that GEOMETRY was generated from the dispersal UTM coordinate. Non generated geometry will take precedence over generated geometry.	NOT NULL	VARCHAR2(1)
7	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
8	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
9	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
10	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
11	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
12	BIOLOGICAL_DISPERSAL_ID Primary unique numeric identifier for a biological dispersal.	NOT NULL	NUMBER(10)

Foreign Keys:

IDP_BD_FK

BIOLOGICAL_DISPERSAL_ID = BIOLOGICAL_DISPERSAL.BIOLOGICAL_DISPERSAL_ID

Indexes:

IDP_BD_FK_I

BIOLOGICAL_DISPERSAL_ID

Table: IAPP_EMPLOYER*Description:*

The employer for participants in Invasive Alien Plant Program activities. May also be an independent contractor.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	EMPLOYER_ID Primary unique numeric identifier for an employer.	NOT NULL	NUMBER(10)
2	NAME The name of the employer.	NOT NULL	VARCHAR2(50)
3	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
4	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
5	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
6	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
7	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Unique Constraints:

IE_IE_N_UK
NAME

Table: IAPP_HERBICIDE_CODE*Description:*

Identifies a herbicide - a pesticide used to kill plants and control vegetation. Examples: Tordon 22K, Round-up. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, <http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf>].

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	HERBICIDE_CODE Unique code identify the herbicide.	NOT NULL	VARCHAR2(1)
20	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
30	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
40	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
50	UPDATE_TIMESTAMP UPDATE_TIMESTAMP contains the time the record was updated.	NOT NULL	DATE

Table: IAPP_IMAGE**Description:**

A photograph, sketch, or other image from the site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	IMAGE_ID Primary unique numeric identifier for an image.	NOT NULL	NUMBER(10)
2	SITE_ID Primary unique numeric identifier for a site.	NULL	NUMBER(10)
3	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NULL	NUMBER(10)
4	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
5	PERSPECTIVE_CODE Unique code identifying the perspective from which the image is represented.	NULL	VARCHAR2(1)
6	IMAGE_DATE The date on which the photograph was taken or the image created.	NOT NULL	DATE
7	REFERENCE_NO An external source reference number.	NOT NULL	VARCHAR2(20)
8	COMMENTS A free-format, user-entered comment on the image.	NULL	VARCHAR2(2000)
9	IMAGE The image stored as a BLOB.	NOT NULL	IMAGE
10	ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCell and IDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
11	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
12	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
13	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
14	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
15	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IIMG_IPAC_FK
INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE

IIMG_IPT_FK
TREATMENT_ID = INVASIVE_PLANT_TREATMENT.TREATMENT_ID

IIMG_ISIT_FK
SITE_ID = INVASIVE_PLANT_SITE.SITE_ID

IIMG_PC_FK
PERSPECTIVE_CODE = PERSPECTIVE_CODE.PERSPECTIVE_CODE

Check Constraints:

IAPP_IMAGE_CONTEXT_ARC_CC
(SITE_ID IS NOT NULL
AND TREATMENT_ID IS NULL)
OR (SITE_ID IS NULL
AND TREATMENT_ID IS NOT NULL)

Indexes:

IIMG_IPAC_FK_I

Table: IAPP_IMAGE (cont'd)*Indexes:*

INVASIVE_PLANT_AGENCY_CODE
IIMG_IPT_FK_I
TREATMENT_ID
IIMG_ISIT_FK_I
SITE_ID
IIMG_PC_FK_I
PERSPECTIVE_CODE

Table: IAPP_INVASIVE_PLANT*Description:*

Invasive plants (also commonly referred to as "weeds") are typically non-native plants that have found their way into British Columbia without the insect predators and/or plant pathogens that help keep them in check in their native habitats. Noxious weeds are weeds that have been designated as noxious by the Ministry of Agriculture and Food's Weed Act. Weeds often exhibit aggressive growth and typically out-compete native plant species in new habitats. As a result, weeds are difficult to control and can adversely affect BC's natural resources. [Source: Invasive Plant Program Home Page, <http://www.for.gov.bc.ca/hfp/noxious/index.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
20	ENTRY_TIMESTAMP ENTRY_TIMESTAMP contains the time the record was entered.	NOT NULL	DATE
30	ENTRY_USERID ENTRY_USERID contains the id of the user who entered the record.	NOT NULL	VARCHAR2(30)
40	UPDATE_TIMESTAMP UPDATE_TIMESTAMP contains the time the record was updated.	NOT NULL	DATE
50	UPDATE_USERID UPDATE_USERID contains the id of the user who updated the record.	NOT NULL	VARCHAR2(30)
60	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
70	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
80	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
90	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)

Indexes:

IAPP_IP_IPSP_FK_I
SITE_ID
IAPP_IP_IPS_FK_I
GENUS_CODE
SPECIES_CODE

Table: IAPP_INVASIVE_PLANT_SITE_POLY**Description:**

An area with confirmed ground sightings of invasive alien plants. Within this inventory area, all roads accessible by a four-wheel drive vehicle that cross potential habitat will be checked for occurrences of invasive plants. Plants on both sides of the road will be identified as far as can be seen from the road, or as defined for specific inventory projects. In addition, all major disturbances including but not limited to landings, log sort yards, burned areas, gravel pits, air strips, landfills, parking lots, construction or maintenance sites and recreational sites and trails within the potential habitat will be checked. [Source: IAPP Inventory Standards - Interim for 2004, <http://www.for.gov.bc.ca/hcp/fia/landbase/MoFIPPIInventoryStandards.pdf>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
20	GEOMETRY A polygon representing the boundary of an Invasive Alien Plant site. The polygon has two possible sources: it is generated by buffering the point described by the Site UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
30	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in hectares.	NOT NULL	NUMBER
40	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
50	SITE_CREATED_DATE Date on which this site was initially created.	NOT NULL	DATE
60	SLOPE Steepness of the ground, in percent.	NULL	NUMBER(3)
70	ASPECT Compass bearing in degrees of the direction in which a slope faces.	NULL	NUMBER(3)
80	ELEVATION Distance above sea-level, in metres.	NULL	NUMBER(5)
90	BGC_LABEL The BGC_LABEL is a concatenation of the BEC attributes Zone, Subzone, Variant and Phase to create a biogeoclimatic label suitable for map labelling. This label may include spaces to buffer each portion to the specified lengths. The first four chars are the zone, next three are the sub zone followed by one character for each of the variant and phase.	NULL	VARCHAR2(9)
130	BEC_SITE_SERIES All sites capable of producing the same mature or climax plant communities within a biogeoclimatic subzone or variant.	NULL	VARCHAR2(4)
140	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	VARCHAR2(40)
150	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	VARCHAR2(40)
160	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	VARCHAR2(40)
170	MAPSHEET The 1:20,000 BCGS (British Columbia Geographic System) Mapsheet Number.	NOT NULL	VARCHAR2(7)
180	RANGE_UNIT_ID Primary unique numeric identifier for a range unit.	NULL	VARCHAR2(10)
200	JURISDICTION The authority or title owner for the parcel of land that a site resides on. Examples: Crown Land, Military, Indian Reserves.	NOT NULL	VARCHAR2(120)
210	MAP_LABEL The concatenation of the map symbols of all the invasive plants on the site.	NULL	VARCHAR2(50)
220	APP_LINK An http link to view the entity represented by the polygon within the IAPP web application	NOT NULL	VARCHAR2(120)
225	OBJECTID	NOT NULL	NUMBER(38)

Table: IAPP_INVASIVE_PLANT_SITE_POLY (cont'd)*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
	OBJECTID		

OBJECTID is a unique surrogate key used to register the layer in ArcSDE.

Unique Constraints:

IAPP_IPSP_OID_UK
OBJECTID

Indexes:

IAPP_IPSP_SP_I
GEOMETRY

Table: IAPP_INVASIVE_PLANT_SPECIES*Description:*

Identifies the species of an invasive alien plant. Examples: Abutilon theophrasti (Velvet leaf), Madia glomerata (Cluster tarweed), Tribulus terrestris (Puncturevine).

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
* 20	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
30	LATIN_NAME Latin name for the invasive plant species. Examples: Abutilon theophrasti, Carduus nutans, Chrysanthemum leucanthemum.	NOT NULL	VARCHAR2(100)
40	COMMON_NAME Common name for the invasive plant species. Examples: Velvet leaf, Nodding thistle, Oxeye daisy.	NOT NULL	VARCHAR2(100)
50	MAP_SYMBOL Used for labeling on maps.	NOT NULL	VARCHAR2(2)
60	ENTRY_TIMESTAMP ENTRY_TIMESTAMP contains the time the record was entered.	NOT NULL	DATE
70	ENTRY_USERID ENTRY_USERID contains the id of the user who entered the record.	NOT NULL	VARCHAR2(30)
80	UPDATE_TIMESTAMP UPDATE_TIMESTAMP contains the time the record was updated.	NOT NULL	DATE
90	UPDATE_USERID UPDATE_USERID contains the id of the user who updated the record.	NOT NULL	VARCHAR2(30)

Table: IAPP_INVASIVE_PLANT_SURVEY*Description:*

An historical record of all surveys done regarding a particular species of invasive plant on the site. Provides a chronological recording of the change in distribution and density of invasive plants on the site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 10	SURVEY_ID Primary unique numeric identifier for an Invasive Plant Survey.	NOT NULL	NUMBER(10)
20	PAPER_FILE_ID The file identification number used to reference the corresponding paperwork for this record.	NULL	VARCHAR2(20)
30	ESTIMATED_AREA Estimated area (hectares) covered by the invasive alien plant.	NOT NULL	NUMBER(15,4)
45	SURVEY_DATE Date on which the presence of this invasive alien plant was recorded.	NOT NULL	DATE
50	PRECISE_SURVEY_IND Indicates that the survey data was collected by precise methods specified in program documentation.	NOT NULL	VARCHAR2(1)
60	FOUND_IND Indicates that the Invasive Plant was found on this survey. If this indicator is false then estimated area must be zero and distribution and density codes must be null.	NOT NULL	VARCHAR2(1)
70	COMMENTS A free-format, user-entered comment on the invasive alien plant.	NULL	VARCHAR2(2000)
80	ENTRY_TIMESTAMP ENTRY_TIMESTAMP contains the time the record was entered.	NOT NULL	DATE
90	ENTRY_USERID ENTRY_USERID contains the id of the user who entered the record.	NOT NULL	VARCHAR2(30)
100	UPDATE_TIMESTAMP UPDATE_TIMESTAMP contains the time the record was updated.	NOT NULL	DATE
110	UPDATE_USERID UPDATE_USERID contains the id of the user who updated the record.	NOT NULL	VARCHAR2(30)
120	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
130	INVASIVE_PLANT_DISTRIB_CODE Unique code identifying the distribution of the plants.	NULL	VARCHAR2(1)
140	INVASIVE_PLANT_DENSITY_CODE Unique code identifying the density of the plants.	NULL	VARCHAR2(1)
150	EMPLOYER_ID Primary unique numeric identifier for an employer.	NULL	NUMBER(10)
160	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
170	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency.	NOT NULL	VARCHAR2(4)

Indexes:

IAPP_SRVY_IP_FK_I
INVASIVE_PLANT_ID

Table: IAPP_MECHANICAL_TREATMENT_POLY**Description:**

An application of a mechanical or cultural control. Mechanical weed control employs various implements and techniques to physically disturb weeds or to interrupt their reproduction by depleting root reserves through repeated defoliation of the plant. Mechanical control includes the mowing, ploughing, chopping, and crushing of weeds.

Cultural control includes selective grazing, irrigation and deliberate flooding, mulching, hand pulling, and burning. Strategies and timing should depend on the weed species and its location in the province.

[Source: Integrated Pest Management, <http://www.for.gov.bc.ca/hfp/noxious/integrat.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 20	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
21	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
30	GEOMETRY A polygon representing the boundary of a treatment. The polygon has two possible sources: it is generated by buffering the point described by the treatment UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
31	FEATURE_AREA FEATURE AREA is the area of the GEOMETRY polygon measured in hectares.	NOT NULL	NUMBER
40	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
50	INVASIVE_PLANT The 4 character code for the Invasive Plant Species genus concatenated with the 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(8)
60	TREATMENT_DATE Date on which the control was applied.	NOT NULL	DATE
70	AREA_TREATED Area (hectares) over which the mechanical control was applied.	NULL	NUMBER(15,4)
80	MECHANICAL_METHOD MECHANICAL_METHOD is a term describing the mechanical control method used.	NOT NULL	VARCHAR2(120)
130	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	VARCHAR2(40)
140	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	VARCHAR2(40)
145	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	VARCHAR2(40)
160	APP_LINK An http link to view the entity represented by the polygon within the IAPP web application	NOT NULL	VARCHAR2(120)
225	OBJECTID OBJECTID is a unique surrogate key used to register the layer in ArcSDE.	NOT NULL	NUMBER(38)

Unique Constraints:

IAPP_MTP_OID_UK
OBJECTID

Indexes:

IAPP_MTP_DT_I
TREATMENT_DATE
IAPP_MTP_IPSP_FK_I
SITE_ID
IAPP_MTP_SP_I
GEOMETRY

Table: IAPP_MONITORING_CLOUDED_POLY*Description:*

Abstracted polygon geometry for a biological monitoring activity.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	MONITORING_POLY_ID Primary unique numeric identifier for a biological monitoring activity polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the approximate boundary of a biological monitoring activity. The polygon is generated by applying a 'clouding' algorithm to the actual IAPP MONITORING POLY GEOMETRY. The purpose of this is to inform people planning on performing weed control to avoid the area, but distort the polygon enough that the exact location of a biological agent cannot be determined.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
7	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
8	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
9	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

IMCP_IMP_FK

MONITORING_POLY_ID = IAPP_MONITORING_POLY.MONITORING_POLY_ID

Table: IAPP_MONITORING_POLY*Description:*

Polygon geometry for a biological monitoring activity.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	MONITORING_POLY_ID Primary unique numeric identifier for a biological monitoring activity polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the boundary of a biological monitoring activity. The polygon has two possible sources: it is generated by buffering the point described by the biological monitoring UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	GEOMETRY_GENERATED_IND Indicates that GEOMETRY was generated from the monitoring UTM coordinate. Non generated geometry will take precedence over generated geometry.	NOT NULL	VARCHAR2(1)
7	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
8	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
9	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
10	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
11	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
12	MONITORING_ID Primary unique numeric identifier for a monitoring.	NOT NULL	NUMBER(10)

Foreign Keys:

IMP_MN_FK
MONITORING_ID = INVASIVE_PLANT_MONITORING.MONITORING_ID

Indexes:

IMP_BM_FK_I
MONITORING_ID

Table: IAPP_MONITORING_TYPE_CODE*Description:*

Specifies the monitoring type (Biological, Chemical or Mechanical). This is a subset of the IAPP Activiy Code list.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	IAPP_MONITORING_TYPE_CODE Unique code identifying the monitoring type (Biological, Chemical or Mechanical)	NOT NULL	VARCHAR2(2)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: IAPP_PARTICIPANT*Description:*

A participant in the Invasive Alien Plant Program. Can be a surveyor of plants, dispersals and control monitorings or an applicator of a control.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	PARTICIPANT_ID Primary unique numeric identifier for an applicator.	NOT NULL	NUMBER(10)
2	LAST_NAME Last name or surname of the participant.	NOT NULL	VARCHAR2(50)
3	FIRST_NAME First or given name of the participant.	NOT NULL	VARCHAR2(50)
4	MIDDLE_INITIAL The middle initial of the participant.	NULL	VARCHAR2(1)
5	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
6	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
7	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
8	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
9	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Unique Constraints:

PART_PP_N_UK
FIRST_NAME
LAST_NAME
MIDDLE_INITIAL

Table: IAPP_SITE_BIO_TRTMT_VW*Description:*

Used for the Highlight Biological Treatment custom query in the IAPP - Map Display IMF application. Returns all invasive plants. Includes the corresponding Site ID for the plant and indicates if the invasive plant has been treated biologically. If the BIOLOGICAL_AGENT column is null then the invasive plant has not been treated biologically. If the BIOLOGICAL_AGENT column contains either the biological agent or 'UNKNOWN' the invasive plant has been treated biologically.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
10	SITE_ID	NULL	VARCHAR2(240)
	Primary unique numeric identifier for an invasive plant site.		
20	INVASIVE_PLANT	NULL	VARCHAR2(240)
	The 4 character code for the Invasive Plant genus and the 3 character code for the invasive plant species concatenated together with a separating space. Invasive plants (also commonly referred to as "weeds") are typically non-native plants that have found their way into British Columbia without the insect predators and/or plant pathogens that help keep them in check in their native habitats.		
30	BIOLOGICAL_AGENT	NULL	VARCHAR2(240)
	Identifies an organism used to control an invasive alien plant, if that plant has been treated biologically and the agent is known. If the BIOLOGICAL_AGENT column is null then the invasive plant has not been treated biologically. If the BIOLOGICAL_AGENT column contains either the biological agent or 'UNKNOWN' the invasive plant has been treated biologically.		

Table: IAPP_SITE_CHEM_TRTMT_VW*Description:*

Used for the Highlight Chemical Treatment custom query in the IAPP - Map Display IMF application. Returns all invasive plants. Includes the corresponding Site ID for the plant and indicates if the invasive plant has been treated chemically. If the HERBICIDE_CODE column is null then the invasive plant has not been treated chemically. If the HERBICIDE_CODE column contains the herbicide code then the invasive plant has been treated chemically with that herbicide.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
10	SITE_ID	NULL	VARCHAR2(240)
	Primary unique numeric identifier for an invasive plant site.		
20	INVASIVE_PLANT	NULL	VARCHAR2(240)
	The 4 character code for the Invasive Plant genus and the 3 character code for the invasive plant species concatenated together with a separating space. Invasive plants (also commonly referred to as "weeds") are typically non-native plants that have found their way into British Columbia without the insect predators and/or plant pathogens that help keep them in check in their native habitats.		
30	HERBICIDE_CODE	NULL	VARCHAR2(240)
	Identifies the herbicide used to treat the invasive plant, if that plant has been treated chemically. If the HERBICIDE_CODE column is null then the invasive plant has not been treated chemically. If the HERBICIDE_CODE column contains the herbicide code then the invasive plant has been treated chemically with that herbicide.		

Table: IAPP_SITE_CLOUDED_POLY*Description:*

Abstracted polygon geometry for an Invasive Alien Plant site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SITE_POLY_ID Primary unique numeric identifier for a site polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the approximate boundary of an Invasive Alien Plant site. The polygon is generated by applying a 'clouding' algorithm to the actual IAPP SITE POLY GEOMETRY. The purpose of this is to inform people planning on performing weed control to avoid the area, but distort the polygon enough that the exact location of a biological agent cannot be determined.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
7	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
8	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
9	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

ISCP_SPOL_FK
SITE_POLY_ID = IAPP_SITE_POLY.SITE_POLY_ID

Table: IAPP_SITE_POLY*Description:*

Polygon geometry for a site. A site may have many polygons, each representing the site at a point in time. Each time new spatial data is submitted for a site the previous version will be flagged as retired but will remain in the database for historical purposes. Only one (non-retired) polygon for each site will represent the current extent of the site. The polygons represent the area of the site. This is often defined by the extent of the invasive plant on the site, if only one exists, but not always. Includes meta data concerning the capture and accuracy of the data.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SITE_POLY_ID Primary unique numeric identifier for a site polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the boundary of an Invasive Alien Plant site. The polygon has two possible sources: it is generated by buffering the point described by the Site UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	GEOMETRY_GENERATED_IND Indicates that GEOMETRY was generated from the Site UTM coordinate. Non generated geometry will take precedence over generated geometry.	NOT NULL	VARCHAR2(1)
7	RETIREMENT_DATE The date a version of the data representing the site was replaced by another feature. The current IAPP_SITE_POLY will have NULL Retirement Date.	NULL	DATE
8	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
9	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
10	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
11	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
12	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
13	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)

Foreign Keys:

SPOL_ISIT_FK
SITE_ID = INVASIVE_PLANT_SITE.SITE_ID

Indexes:

SPOL_ISIT_FK_I
SITE_ID

Table: IAPP_SITE_PRIORITY_CODE*Description:*

A description of the site's priority level for treatment depending on the level of risk associated with the invasive plant on that site at the time. Range is 1 (High Priority/Risk) to 4 (Other)

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	IAPP_SITE_PRIORITY_CODE Numerical code representing the priority level. 1 is High.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: IAPP_SUBMISSION_STATUS_CODE**Description:**

The Submission Status notes the stage and final determination of the submission. For example, the submission may start with a status of Pending then move to Under Review until the MoFR reviewer has decided if the occurrence will be added to the IAPP inventory, at which time, the status may be Added to Inventory. The full list of status codes and their explanation is below:

PENDING

The submission has been submitted and is waiting to be "picked up" for review.

UNDER REVIEW

The submission has been "picked up" for review by a reviewer.

SITE VISIT REQUIRED

The reviewer has determined that an on-site investigation is required to determine the outcome of the submission.

ADDED TO NEW SITE

The reviewer has determined that the invasive plant occurrence does not already exist in the IAPP inventory and has created a new site and added the plant occurrence to it.

ADDED TO EXISTING SITE

The reviewer has determined that the invasive plant occurrence does not already exist in the IAPP inventory and has added it to an existing site.

DUPLICATE

The reviewer has determined that the invasive plant occurrence already exists in the IAPP inventory and has associated the submission with the existing occurrence.

REJECTED

The reviewer has determined that the invasive plant occurrence does not belong in the IAPP inventory and has rejected the submission.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	IAPP_SUBMISSION_STATUS_CODE The IAPP SUBMISSION STATUS CODE is the unique identifier for a type of survey. Examples: PND Pending; URV Under Review; SVR Site Visit Required; ADD Added to Inventory; AEI Already Exists in Inventory; REJ Rejected.	NOT NULL	VARCHAR2(3)
2	DESCRIPTION Description is the expanded text that describes the the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE The Effective Date is the date that the code became active and available for use.	NOT NULL	DATE
4	EXPIRY_DATE The Expiry Date is the date that the code will/did become inactive and no longer available for use.	NOT NULL	DATE
5	UPDATE_TIMESTAMP The Update Timestamp is the date and time that the record was last updated.	NOT NULL	DATE

Table: IAPP_SURVEY_TYPE_CODE*Description:*

The IAPP Survey Type Code is an indication of the standard to which survey data has been collected in the field. There are three standards to which surveys may be conducted, depending on the level of detail required and the purpose to which the data will be used in the future: Cursory, Operational and Precise. More detail on each type is below:

CURSORY

These are surveys conducted during an initial visit to a site where the surveyor may or may not be fully aware of the prescribed control activities in that area. The data collection standard is not as great as with operational or precise surveys. Only the minimum mandatory fields are required for a cursory survey. Data collected from cursory surveys may be used to orientate others to a given site, but cannot be used for analysis or research purposes.

OPERATIONAL

This survey standard provides a systematic process for acquiring accurate inventory data for the following activities:

- Containment and control activities;
- Compliance and Enforcement needs;
- Unit-based contract prescriptions; and,
- Pest Management Plan reporting requirements.

The required mandatory fields for an operational survey are the minimum mandatory fields required by the application, plus Site Location, Jurisdiction, Distribution Code and Density Code. Data that is collected to this standard can be used for analyses such as determining invasive plant spread rates or control program effectiveness.

PRECISE

This survey standard is designed for use in research and analysis where a high level of detail is required for analytical and statistical analyses. Some examples of use for this data in the future are in:

- determining rate of spread, risk determination and potential impacts of invasive plant populations; and,
- evaluating impacts of biological control agents on invasive plant populations.

The required mandatory fields are the same as those required by the application, plus Site Location, Distribution Code, Density Code, Biogeoclimatic characteristics and soil texture.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	IAPP_SURVEY_TYPE_CODE The IAPP SURVEY TYPE CODE is the unique identifier for a type of survey. Examples: C Cursory; O Operational; P Precise.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description is the expanded text that describes the the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE The Effective Date is the date that the code became active and available for use.	NOT NULL	DATE
4	EXPIRY_DATE The Expiry Date is the date that the code will/did become inactive and no longer available for use.	NOT NULL	DATE
5	UPDATE_TIMESTAMP The Update Timestamp is the date and time that the record was last updated.	NOT NULL	DATE

Table: IAPP_TREATMENT_CLOUDED_POLY*Description:*

Abstracted polygon geometry for a Treatment.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	TREATMENT_POLY_ID Primary unique numeric identifier for a treatment polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the approximate boundary of a treatment. The polygon is generated by applying a 'clouding' algorithm to the actual IAPP TREATMENT POLY. The purpose of this is to inform people planning on performing weed control to avoid the area, but distort the polygon enough that the exact location of a biological agent cannot be determined.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
7	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
8	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
9	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

ITCP_ITP_FK

TREATMENT_POLY_ID = IAPP_TREATMENT_POLY.TREATMENT_POLY_ID

Table: IAPP_TREATMENT_POLY*Description:*

Polygon geometry for a treatment.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	TREATMENT_POLY_ID Primary unique numeric identifier for a treatment polygon.	NOT NULL	NUMBER(38)
2	GEOMETRY A polygon representing the boundary of a treatment. The polygon has two possible sources: it is generated by buffering the point described by the treatment UTM Coordinate; it is captured through digitized geometry that is loaded from external sources.	NOT NULL	
3	FEATURE_CODE An alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
4	FEATURE_AREA The area of the polygon measured in square meters.	NOT NULL	NUMBER
5	FEATURE_LENGTH The length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
6	GEOMETRY_GENERATED_IND Indicates that GEOMETRY was generated from the treatment UTM coordinate. (Only biological treatments have UTM coordinates) Non generated geometry will take precedence over generated geometry.	NOT NULL	VARCHAR2(1)
7	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
8	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
9	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
10	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
11	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
12	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)

Foreign Keys:

ITP_IPT_FK

TREATMENT_ID = INVASIVE_PLANT_TREATMENT.TREATMENT_ID

Indexes:

ITP_IPT_FK_I

TREATMENT_ID

Table: INVASIVE_PLANT*Description:*

Invasive plants (also commonly referred to as "weeds") are typically non-native plants that have found their way into British Columbia without the insect predators and/or plant pathogens that help keep them in check in their native habitats. Noxious weeds are weeds that have been designated as noxious by the Ministry of Agriculture and Food's Weed Act. Weeds often exhibit aggressive growth and typically out-compete native plant species in new habitats. As a result, weeds are difficult to control and can adversely affect BC's natural resources. [Source: Invasive Plant Program Home Page, <http://www.for.gov.bc.ca/hfp/noxious/index.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
2	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
3	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
4	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
5	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
6	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
7	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
8	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
9	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)

Unique Constraints:

IP_IPSS_UK
SITE_ID
GENUS_CODE
SPECIES_CODE

Foreign Keys:

IP_IPS_FK
GENUS_CODE = INVASIVE_PLANT_SPECIES.GENUS_CODE
SPECIES_CODE = INVASIVE_PLANT_SPECIES.SPECIES_CODE
IP_ISIT_FK
SITE_ID = INVASIVE_PLANT_SITE.SITE_ID

Indexes:

IP_IPS_FK_I
GENUS_CODE
SPECIES_CODE
IP_ISIT_FK_I
SITE_ID

Table: INVASIVE_PLANT_AGENCY_CODE*Description:*

The Agency that oversees a particular activity concerning the Invasive Alien Plant Program. It is the originating agency that data belongs to or the agency that funded the activity.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: INVASIVE_PLANT_DENSITY_CODE*Description:*

Indicates the number of plants per square metre. Examples: 2-5 plants/m2, 6-10 plants/m2.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	INVASIVE_PLANT_DENSITY_CODE Unique code identifying the density of the plants.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: INVASIVE_PLANT_DISCOUNT_POLY**Description:**

An Invasive Plant Discount Poly is an area where a particular species of invasive plant is not considered a concern; or, where recording new occurrences of the species is not considered worthwhile due to pervasive infestation.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	DISCOUNT_POLY_ID The Discount Poly ID is a unique, system generated primary key for Invasive Plant Discount Poly.	NOT NULL	NUMBER(10)
2	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
3	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
4	GEOMETRY The Geometry is a closed polygon which delineates a discount area for an invasive plant species. The polygon is captured through digitized geometry that is loaded from external sources.	NULL	
5	FEATURE_CODE The Feature Code is an alphanumeric code used to identify a feature component. All CCSM feature codes are generated according to the Canadian Council on Survey and Mapping (CCSM) Draft Standard on feature code classification.	NOT NULL	VARCHAR2(10)
6	FEATURE_AREA The Feature Area is the calculated area of the polygon measured in square meters.	NOT NULL	NUMBER
7	FEATURE_LENGTH The Feature Length is the calculated length of the perimeter of the polygon measured in meters.	NOT NULL	NUMBER
8	ENTRY_TIMESTAMP The Entry Timestamp is the date and time that the record was entered.	NOT NULL	DATE
9	ENTRY_USERID The Entry UserID identifies the inserter of the record.	NOT NULL	VARCHAR2(30)

Foreign Keys:

IAPP_IPDP_IPS_FK
 GENUS_CODE = INVASIVE_PLANT_SPECIES.GENUS_CODE
 SPECIES_CODE = INVASIVE_PLANT_SPECIES.SPECIES_CODE

Indexes:

IAPP_IPDP_IPS_FK_I
 GENUS_CODE
 SPECIES_CODE

Notes:

Being able to filter out Invasive Plant Submissions for invasive plant occurrences in the discounted polygons reduces time spent by the zone specialists? in dealing with submissions that have no concern to them.

Table: INVASIVE_PLANT_DISTRIB_CODE*Description:*

Identifies the geographic distribution of individuals of each species. Example: several well-spaced patches or clumps.
[Source: Vegetation Description Form, <http://srmwww.gov.bc.ca/risc/pubs/teecolo/habitat/chap-4-05.html>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	INVASIVE_PLANT_DISTRIB_CODE Unique code identifying the distribution of the plants.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: INVASIVE_PLANT_LEGACY_SITE*Description:*

Site fields from the original Microsoft Access implementation of IAPP that are no longer used.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
2	GIS_KEY The identifier used to relate to the site's legacy spatial data.	NULL	VARCHAR2(20)
3	SITE_NO Site Number is a subset of mapsheet and is incremented by 1 for each site within a mapsheet. Once the mapsheet is set, the system populates the Site Number field by looking at the maximum Site Number for the current mapsheet and increments this value by 1.	NOT NULL	NUMBER(10)
4	SPATIAL_DATA_PRESENT_IND Indicates whether spatial data exists for this record. TODO: Clarify with client [KF 2004-09-02]	NOT NULL	VARCHAR2(1)
5	DATASET A reference to the original system that housed this record. The legacy Access system was populated with data from several source systems.	NULL	VARCHAR2(300)
6	INCLUDE_IN_REPORTS_IND Indicates if record should be included on certain reports. TODO: Clarify with client [KF 2004-09-02]	NOT NULL	VARCHAR2(1)
7	BIO_FLAG_IND Indicates if record should be included on certain reports. TODO: Clarify with client [KF 2004-09-02]	NOT NULL	VARCHAR2(1)
8	BIO_CONTROL_IND Indicates if record should be included on certain reports. TODO: Clarify with client [KF 2004-09-02]	NOT NULL	VARCHAR2(1)
9	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
10	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
11	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
12	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

ILS_ISIT_FK
SITE_ID = INVASIVE_PLANT_SITE.SITE_ID

Table: INVASIVE_PLANT_MONITORING**Description:**

An inspection of a chemical treatment to determine its effectiveness.

The effectiveness of each chemical treatment varies. Therefore, the monitoring of sites and the capture of monitoring information can be helpful to the long term successful treatment of a site. Chemical treatment monitoring information is recorded on the ?Chemical or Mechanical Monitoring Record? field form.

An inspection of a mechanical treatment to determine its effectiveness.

The effectiveness of each mechanical treatment varies. Therefore, the monitoring of sites and the capture of monitoring information can be helpful to the long term successful treatment of a site. Mechanical treatment monitoring information is recorded on the ?Chemical or Mechanical Monitoring Record? field form.

An inspection of a biocontrol treatment to determine presence at a given location, density per plant or area, amount and type of damage per plant or area, and direction, distance, and rate of movement from release point.

For most operational biological control programs, checking for presence will be the only monitoring function. If there is doubt as to whether a release has been made in an area before, or if it is possible that agents have naturally distributed themselves into an area, monitoring of the weed stand should be conducted before a new release is made. Biological control releases can fail at a given site during establishment for various reasons. New releases should therefore be monitored for establishment within 1-2 years to determine if a supplementary release is necessary.

[Source: Field Guide to the Biological Control of Weeds in British Columbia,
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh27-3.pdf>
 An inspection of a treatment to determine its effectiveness and/or persistence.

The effectiveness of each treatment varies. Therefore, the monitoring of sites and the capture of monitoring information can be helpful to the long term successful treatment of a site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	MONITORING_ID Primary unique numeric identifier for a monitoring.	NOT NULL	NUMBER(10)
2	IAPP_MONITORING_TYPE_CODE Unique code identifying the monitoring type (Biological, Chemical or Mechanical)	NOT NULL	VARCHAR2(2)
3	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
4	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
5	EFFICACY_RATING_CODE Unique numerical code identifying level of control achieved on a site.	NULL	VARCHAR2(2)
6	PAPER_FILE_ID The file identification number used to reference the corresponding paperwork for this record.	NULL	VARCHAR2(20)
7	INSPECTION_DATE Date on which the inspection was made.	NOT NULL	DATE
8	COMMENTS A free-format, user-entered comment on the monitoring.	NULL	VARCHAR2(2000)
9	PLANT_COUNT The number of plants sampled to determine bioagent density.	NULL	NUMBER(4)
10	AGENT_COUNT The number of bioagents found in the sample to determine bioagent density.	NULL	NUMBER(4)
11	COUNT_DURATION Number of minutes required for collection and inspection.	NULL	NUMBER(4)
12	AGENT_DESTROYED_IND Indicates that the agent was destroyed by some external influence.	NULL	VARCHAR2(1)

Table: INVASIVE_PLANT_MONITORING (cont'd)**Columns:**

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
13	LEGACY_PRESENCE_IND Indicates whether the bioagent was found.	NULL	VARCHAR2(1)
14	FOLIAR_FEEDING_DAMAGE_IND Indicates the presence of bioagent damage to leaves.	NULL	VARCHAR2(1)
15	ROOT_FEEDING_DAMAGE_IND Indicates the presence of bioagent damage to roots.	NULL	VARCHAR2(1)
16	SEED_FEEDING_DAMAGE_IND Indicates the presence of bioagent damage to seeds.	NULL	VARCHAR2(1)
17	OVIPOSITION_MARKS_IND Indicates the presence of oviposition marks -- slits that the insect makes in the vegetation for depositing its eggs.	NULL	VARCHAR2(1)
18	EGGS_PRESENT_IND Indicates the presence of biological agent eggs.	NULL	VARCHAR2(1)
19	LARVAE_PRESENT_IND Indicates the presence of larvae -- the immature, second life stage of an insect; a larva hatches from an egg. Most are wormlike, such as caterpillars, maggots and grubs. Many pest insects cause the most damage in the larval stage, particularly those that eat plants. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf]	NULL	VARCHAR2(1)
20	PUPAE_PRESENT_IND Indicates the presence of pupae -- the stage between the larva stage and the adult in insects that undergo complete metamorphosis; a nonfeeding and usually an inactive stage. [Source: Integrated Pest Management Manual for Landscape Pests in British Columbia, http://wlapwww.gov.bc.ca/epd/epdpa/eripm/landspdf/glosary.pdf]	NULL	VARCHAR2(1)
21	ADULTS_PRESENT_IND Indicates the presence of the adult stage of the bioagent.	NULL	VARCHAR2(1)
22	TUNNELS_PRESENT_IND Indicates the presence of exit holes or tunnels.	NULL	VARCHAR2(1)
23	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone).	NULL	NUMBER(6)
24	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator).	NULL	NUMBER(7)
25	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NULL	NUMBER(2)
26	ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCeID and iDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
27	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
28	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
29	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
30	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
31	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IAPP_MN_ERC_FK

EFFICACY_RATING_CODE = EFFICACY_RATING_CODE.EFFICACY_RATING_CODE

MN_IMTC_FK

IAPP_MONITORING_TYPE_CODE = IAPP_MONITORING_TYPE_CODE.IAPP_MONITORING_TYPE_CODE

Table: INVASIVE_PLANT_MONITORING (cont'd)*Foreign Keys:*

MN_IPAC_FK
 INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE
 MN_IPT_FK
 TREATMENT_ID = INVASIVE_PLANT_TREATMENT.TREATMENT_ID

Check Constraints:

IAPP_MONITORING_TYPE_CC
 (IAPP_MONITORING_TYPE_CODE = 'BM'
 AND AGENT_DESTROYED_IND IS NOT NULL
 AND LEGACY_PRESENCE_IND IS NOT NULL
 AND FOLIAR_FEEDING_DAMAGE_IND IS NOT NULL
 AND ROOT_FEEDING_DAMAGE_IND IS NOT NULL
 AND SEED_FEEDING_DAMAGE_IND IS NOT NULL
 AND OVIPOSITION_MARKS_IND IS NOT NULL
 AND EGGS_PRESENT_IND IS NOT NULL
 AND LARVAE_PRESENT_IND IS NOT NULL
 AND PUPAE_PRESENT_IND IS NOT NULL
 AND ADULTS_PRESENT_IND IS NOT NULL
 AND TUNNELS_PRESENT_IND IS NOT NULL
 AND UTM_EASTING IS NOT NULL
 AND UTM_NORTHING IS NOT NULL
 AND UTM_ZONE IS NOT NULL
 AND EFFICACY_RATING_CODE IS NULL)
 OR ((IAPP_MONITORING_TYPE_CODE = 'CM'
 OR IAPP_MONITORING_TYPE_CODE = 'MM')
 AND AGENT_DESTROYED_IND IS NULL
 AND LEGACY_PRESENCE_IND IS NULL
 AND FOLIAR_FEEDING_DAMAGE_IND IS NULL
 AND ROOT_FEEDING_DAMAGE_IND IS NULL
 AND SEED_FEEDING_DAMAGE_IND IS NULL
 AND OVIPOSITION_MARKS_IND IS NULL
 AND EGGS_PRESENT_IND IS NULL
 AND LARVAE_PRESENT_IND IS NULL
 AND PUPAE_PRESENT_IND IS NULL
 AND ADULTS_PRESENT_IND IS NULL
 AND TUNNELS_PRESENT_IND IS NULL
 AND UTM_EASTING IS NULL
 AND UTM_NORTHING IS NULL
 AND UTM_ZONE IS NULL
 AND EFFICACY_RATING_CODE IS NOT NULL)

Indexes:

IAPP_MN_ERC_FK_I
 EFFICACY_RATING_CODE
 MN_IMTC_FK_I
 IAPP_MONITORING_TYPE_CODE
 MN_IPAC_FK_I
 INVASIVE_PLANT_AGENCY_CODE
 MN_IPT_FK_I
 TREATMENT_ID

Table: INVASIVE_PLANT_PLAN**Description:**

A plan for controlling invasive alien plants based on knowledge of potential damage, cost of control method and environmental impact of the weed and control decision. May include a combination of methods to reduce the weed population to an acceptable level. [Source: Integrated Weed Management: An Introductory Manual, <http://www.agf.gov.bc.ca/cropprot/weedman.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	PLAN_ID Primary unique numeric identifier for a treatment plan.	NOT NULL	NUMBER(10)
2	IAPP_SITE_PRIORITY_CODE Numerical code representing the priority level. 1 is High.	NULL	VARCHAR2(1)
3	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
4	PLAN_DATE The date on which the plan was approved.	NOT NULL	DATE
5	PROPOSED_ACTIVITY_DATE The proposed month and year for applying the controls.	NULL	DATE
6	COMMENTS A free-format, user-entered comment on the approved plan e.g. which herbicide or biocontrol.	NULL	VARCHAR2(2000)
7	ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCellID and IDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
8	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
9	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
10	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
11	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
12	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IPP_IPAC_FK
INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE
IPP_SRC_FK
IAPP_SITE_PRIORITY_CODE = IAPP_SITE_PRIORITY_CODE.IAPP_SITE_PRIORITY_CODE

Indexes:

IPP_IPAC_FK_I
INVASIVE_PLANT_AGENCY_CODE
IPP_SRC_FK_I
IAPP_SITE_PRIORITY_CODE

Table: INVASIVE_PLANT_PLAN_BATCH*Description:*

Often a planner will want to plan the same activity or activities for multiple occurrences of a plant at once. This could be due to a large initiative being planned for a particular area and a particular plant.

The batch maps all the occurrences of a particular invasive plant to a particular plan. This means that each plan can apply to 1 or more invasive plant occurrences.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
* 3	PLAN_ID Primary unique numeric identifier for a treatment plan.	NOT NULL	NUMBER(10)
4	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
5	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
6	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
7	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

IPPB_IPP_FK
PLAN_ID = INVASIVE_PLANT_PLAN.PLAN_ID
IPPB_IP_FK
INVASIVE_PLANT_ID = INVASIVE_PLANT.INVASIVE_PLANT_ID

Indexes:

IPPB_IPP_FK_I
PLAN_ID
IPPB_IP_FK_I
INVASIVE_PLANT_ID

Table: INVASIVE_PLANT_SITE**Description:**

An area with confirmed ground sightings of invasive alien plants. Within this inventory area, all roads accessible by a four-wheel drive vehicle that cross potential habitat will be checked for occurrences of invasive plants. Plants on both sides of the road will be identified as far as can be seen from the road, or as defined for specific inventory projects. In addition, all major disturbances including but not limited to landings, log sort yards, burned areas, gravel pits, air strips, landfills, parking lots, construction or maintenance sites and recreational sites and trails within the potential habitat will be checked. [Source: IAPP Inventory Standards - Interim for 2004, <http://www.for.gov.bc.ca/hcp/fia/landbase/MoFIPPIInventoryStandards.pdf>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
3	RANGE_UNIT_ID Primary unique numeric identifier for a Range Unit.	NULL	VARCHAR2(10)
4	PAPER_FILE_ID The file identification number used to reference the corresponding paperwork for this record.	NULL	VARCHAR2(20)
5	SITE_CREATED_DATE Date on which this site was initially created.	NOT NULL	DATE
6	SLOPE Steepness of the ground, in percent. <i>In Access app, Validation Text is "Value must not exceed 100%; record to nearest whole percent. Enter 999 if no data is available". [Jon Aquino 2004-08-31]</i>	NULL	NUMBER(3)
7	ASPECT Compass bearing in degrees of the direction in which a slope faces. <i>In Access app, Validation Text is "Only values between 0 and 360 degrees accepted. If no data available enter 999" [Jon Aquino 2004-08-31]</i>	NULL	NUMBER(3)
8	ELEVATION Distance above sea-level, in metres. <i>Elevation ranges from 0 to 9690 [Jon Aquino 2004-08-31]</i>	NULL	NUMBER(5)
9	BIOGEOCLIMATIC_CATALOGUE_ID Assigned numeric identifier for a biogeoclimatic catalog entry unique within a biogeoclimatic unit.	NOT NULL	NUMBER(10)
10	BIOGEOCLIMATIC_OVERRIDE_IND BIOGEOCLIMATIC OVERRIDE IND indicates if the user has chosen to override the spatially derived BIOGEOCLIMATIC CATALOGUE related record.	NOT NULL	VARCHAR2(1)
11	SITE_SERIES A number from 01 to 99 representing the soil moisture regime and soil nutrient regime of a site series, relative to other site series within a subzone or variant.	NULL	VARCHAR2(4)
12	UTM_EASTING The Universal Transverse Mercator location reference. This is the Easting reference (metres east of the Central Meridian of the zone). <i>In the Access app, Validation Text is "UTM Eastings Require 6 Numbers" [Jon Aquino 2004-09-01]</i>	NOT NULL	NUMBER(6)
13	UTM_NORTHING The Universal Transverse Mercator location reference. This is the Northing reference (metres north of the Equator). <i>In the Access app, Validation Text is "UTM Northings Require 7 Numbers" [Jon Aquino 2004-09-01]</i>	NOT NULL	NUMBER(7)
14	UTM_ZONE The Universal Transverse Mercator location reference known as the Zone reference. Ranges from 8 to 11 for British Columbia.	NOT NULL	NUMBER(2)
15	MAPSHEET The 1:20,000 BCGS (British Columbia Geographic System) Mapsheet Number.	NOT NULL	VARCHAR2(7)
16	DISTRICT_LOT_NUMBER The DISTRICT LOT NUMBER is the legal identifier for a surveyed parcel of land, assigned during its initial survey.	NULL	VARCHAR2(6)
17	LOCATION General description of the location of this site. Examples: "Wynndel 3.3km south", "TLANA BAY, LEFT HAND CORNER PAST CLIFFS", "Camp Busk".	NULL	VARCHAR2(2000)
18	COMMENTS A free-format, user-entered comment on the site.	NULL	VARCHAR2(2000)
19	SENSITIVE_DATA_IND	NOT NULL	VARCHAR2(1)

Table: INVASIVE_PLANT_SITE (cont'd)*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
	Indicates the site contains sensitive data that may have to be protected from some users. Data is considered sensitive if a primary biological agent or an area classification code of Research or Collection is identified on any child record of that site.		
20	ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCeID and IDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
21	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
22	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
23	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
24	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
25	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IAPP_ISIT_BEC_BC_FK
 BIOGEOCLIMATIC_CATALOGUE_ID = BIOGEOCLIMATIC_CATALOGUE.BIOGEOCLIMATIC_CATALOGUE_ID
 ISIT_RU_FK
 RANGE_UNIT_ID = RANGE_UNIT.RANGE_UNIT_ID

Indexes:

IAPP_ISIT_BEC_BC_FK_I
 BIOGEOCLIMATIC_CATALOGUE_ID
 ISIT_MAP_I
 MAPSHEET
 ISIT_PFID_I
 PAPER_FILE_ID
 ISIT_RU_FK_I
 RANGE_UNIT_ID

Table: INVASIVE_PLANT_SITE_JURISDCTN*Description:*

The jurisdictions for an INVASIVE PLANT SITE. Sometimes more than one jurisdiction has an interest in a site, in which case they often split funding and want recognition of their contributions towards dealing with the invasive plants on the site.

An example might be a long swath of land beside a highway in which both MOT and BC Hydro have an interest.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SITE_JURISDICTION_ID Primary unique numeric identifier for an INVASIVE PLANT SITE JURISDCTN.	NOT NULL	NUMBER(10,0)
5	SITE_ID Primary unique numeric identifier for a site.	NOT NULL	NUMBER(10)
10	JURISDICTION_CODE Unique code identifying the jurisdiction.	NOT NULL	VARCHAR2(4)
15	JURISDICTION_PERCENT The percentage which the jurisdiction is responsible for the site.	NOT NULL	NUMBER(3,0)
100	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
110	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
120	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE
130	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

IPSJ_ISIT_FK
SITE_ID = INVASIVE_PLANT_SITE.SITE_ID
IPSJ_JC_FK
JURISDICTION_CODE = JURISDICTION_CODE.JURISDICTION_CODE

Indexes:

IPSJ_ISIT_FK_I
SITE_ID
IPSJ_JC_FK_I
JURISDICTION_CODE

Notes:

Table: INVASIVE_PLANT_SITE_POLY_SVW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
5	SITE_ID	NULL	VARCHAR2(240)
10	GEOMETRY	NULL	VARCHAR2(240)
20	FEATURE_AREA	NULL	VARCHAR2(240)
30	FEATURE_CODE	NULL	VARCHAR2(240)
40	SITE_CREATED_DATE	NULL	VARCHAR2(240)
50	SLOPE	NULL	VARCHAR2(240)
60	ASPECT	NULL	VARCHAR2(240)
70	ELEVATION	NULL	VARCHAR2(240)
110	BGC_LABEL	NULL	VARCHAR2(240)
120	BEC_SITE_SERIES	NULL	VARCHAR2(240)
130	UTM_EASTING	NULL	VARCHAR2(240)
140	UTM_NORTHING	NULL	VARCHAR2(240)
150	UTM_ZONE	NULL	VARCHAR2(240)
160	MAPSHEET	NULL	VARCHAR2(240)
170	RANGE_UNIT_ID	NULL	VARCHAR2(240)
180	JURISDICTION	NULL	VARCHAR2(240)
<i>In an effort to contain the scope of changes for version 1.7.0, this column will show the main jurisdiction of a site. Not many people use IAPP's mapping module and most sites will only have one jurisdiction.</i>			
200	MAP_LABEL	NULL	VARCHAR2(240)
210	APP_LINK	NULL	VARCHAR2(240)
220	OBJECTID	NULL	VARCHAR2(240)

Table: INVASIVE_PLANT_SPECIES*Description:*

Identifies the species of an invasive alien plant. Examples: Abutilon theophrasti (Velvet leaf), Madia glomerata (Cluster tarweed), Tribulus terrestris (Puncturevine).

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
* 2	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
3	LATIN_NAME Latin name for the invasive plant species. Examples: Abutilon theophrasti, Carduus nutans, Chrysanthemum leucanthemum.	NOT NULL	VARCHAR2(100)
4	COMMON_NAME Common name for the invasive plant species. Examples: Velvet leaf, Nodding thistle, Oxeye daisy.	NOT NULL	VARCHAR2(100)
5	MAP_SYMBOL Used for labeling on maps.	NOT NULL	VARCHAR2(2)
6	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
7	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
8	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE
9	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Unique Constraints:

IAPP_IPS_CN_UK
COMMON_NAME
IPS_IPS_UK
MAP_SYMBOL

Table: INVASIVE_PLANT_SUBMISSION*Description:*

An Invasive Plant Submission is a report, by a member of the public, of a potential new occurrence of an invasive plant. It is used to stage the information until an invasive plant specialist can review the submission and determine if it is legitimate and should be added to the IAPP inventory.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SUBMISSION_ID The Submission ID is a unique, system generated primary key for Invasive Plant Submission.	NOT NULL	NUMBER(10)
2	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NULL	NUMBER(10)
3	ORG_UNIT_NO The organizational unit number of the user who added this record or who last updated the information.	NOT NULL	NUMBER(10,0)
4	IAPP_SUBMISSION_STATUS_CODE The IAPP SUBMISSION STATUS CODE is the unique identifier for a type of survey. Examples: PND Pending; URV Under Review; SVR Site Visit Required; ADD Added to Inventory; AEI Already Exists in Inventory; REJ Rejected.	NOT NULL	VARCHAR2(3)
5	GENUS_CODE The 4 character code for the Invasive Plant Species genus.	NOT NULL	VARCHAR2(4)
6	SPECIES_CODE The 3 character code for the Invasive Plant Species species.	NOT NULL	VARCHAR2(3)
7	SURVEY_DATE The Survey Date is the date that the invasive plant occurrence was observed by the submitter.	NOT NULL	DATE
8	GEOMETRY The Geometry is an object that describes the location, topology and spatial context of the Invasive Plant occurrence.	NOT NULL	
9	UTM_EASTING The UTM Easting is a component of a Universal Transverse Mercator coordinate that describes the location of the Invasive Plant occurrence. The Easting describes the ?x-axis? component of the coordinate as the number of meters east of the central meridian for the UTM Zone.	NOT NULL	NUMBER(6)
10	UTM_NORTHING The UTM Northing is a component of a Universal Transverse Mercator coordinate that describes the location of the Invasive Plant occurrence. The Northing describes the ?y-axis? component of the coordinate as the number of meters north of the Equator.	NOT NULL	NUMBER(7)
11	UTM_ZONE The UTM Zone is a component of a Universal Transverse Mercator coordinate that describes the location of the Invasive Plant occurrence. The Zone describes the particular longitudinal segment that is the context for the UTM coordinate. British Columbia spans UTM Zones 8 to 11.	NOT NULL	NUMBER(2)
12	LOCATION_DESCRIPTION The Location Description provides details to assist in locating the Invasive Plant occurrence when in proximity and may also provide other descriptive details. For example: ?Located approximately 5 meters east of rock outcropping. A small stream is nearby.?	NOT NULL	VARCHAR2(2000)
13	ESTIMATED_AREA The Estimated Area is the approximate area that the Invasive Plant was observed to occupy, measured in square metres.	NOT NULL	NUMBER(15,4)
14	SUBMITTER_LAST_NAME The Submitter Last Name is the surname of the person making the Invasive Plant Submission.	NOT NULL	VARCHAR2(50)
15	SUBMITTER_FIRST_NAME The Submitter First Name is the given name of the person making the Invasive Plant Submission.	NOT NULL	VARCHAR2(50)
16	SUBMITTER_MIDDLE_INITIAL The Submitter Middle Initial is the middle initial of the person making the Invasive Plant Submission.	NULL	VARCHAR2(1)
17	SUBMITTER_PHONE_NUMBER The Submitter Phone Number is the telephone number (including area code) for the person making the Invasive Plant Submission. Either Submitter Phone Number or Submitter Email Address must be supplied.	NULL	NUMBER(10)
18	SUBMITTER_EMAIL_ADDRESS The Submitter Email Address is the Email address for the person making the Invasive Plant Submission. Either Submitter Phone Number or Submitter Email Address must be supplied.	NULL	VARCHAR2(128)
19	SUBMITTER_COMMENTS The Submitter Comments are free-format additional text that the submitter may add to the Invasive Plant Submission.	NULL	VARCHAR2(2000)

Table: INVASIVE_PLANT_SUBMISSION (cont'd)*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
20	REVIEWER_COMMENTS The Reviewer Comments are free-format additional text that the reviewer may add to the Invasive Plant Submission.	NULL	VARCHAR2(2000)
21	ENTRY_TIMESTAMP The Entry Timestamp is the date and time that the record was entered.	NOT NULL	DATE
22	ENTRY_USERID The Entry UserID identifies the inserter of the record.	NOT NULL	VARCHAR2(30)
23	UPDATE_TIMESTAMP The Update Timestamp is the date and time that the record was last updated.	NOT NULL	DATE
24	UPDATE_USERID The Update UserID identifies the most recent updater of the record.	NOT NULL	VARCHAR2(30)
25	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IAPP_IPSB_IAPP_SSC_FK
 IAPP_SUBMISSION_STATUS_CODE = IAPP_SUBMISSION_STATUS_CODE.IAPP_SUBMISSION_STATUS_CODE
 IAPP_IPSB_IPS_FK
 GENUS_CODE = INVASIVE_PLANT_SPECIES.GENUS_CODE
 SPECIES_CODE = INVASIVE_PLANT_SPECIES.SPECIES_CODE
 IAPP_IPSB_IP_FK
 INVASIVE_PLANT_ID = INVASIVE_PLANT.INVASIVE_PLANT_ID
 IAPP_IPSB_OU_FK
 ORG_UNIT_NO = ORG_UNIT.ORG_UNIT_NO

Check Constraints:

IAPP_IPSB_SUBMITTER_CONTACT_CC
 NOT (SUBMITTER_PHONE_NUMBER IS NULL AND SUBMITTER_EMAIL_ADDRESS IS NULL)

Indexes:

IAPP_IPSB_IAPP_SSC_FK_I
 IAPP_SUBMISSION_STATUS_CODE
 IAPP_IPSB_IPS_FK_I
 GENUS_CODE
 SPECIES_CODE
 IAPP_IPSB_IP_FK_I
 INVASIVE_PLANT_ID
 IAPP_IPSB_OU_FK_I
 ORG_UNIT_NO

Notes:

The entity is required to ensure the data is captured in a reliable format and can be re-purposed as necessary. Simply emailing the contents of the reports and not storing them to the database is a far simpler approach; but, it relies solely on email to convey the data and this is known to be an unreliable conveyance.

Table: INVASIVE_PLANT_SURVEY**Description:**

An historical record of all surveys done regarding a particular species of invasive plant on the site. Provides a chronological recording of the change in distribution and density of invasive plants on the site.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 2	SURVEY_ID Primary unique numeric identifier for an Invasive Plant Survey.	NOT NULL	NUMBER(10)
3	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
4	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
5	EMPLOYER_ID Primary unique numeric identifier for an employer.	NULL	NUMBER(10)
6	INVASIVE_PLANT_DENSITY_CODE Unique code identifying the density of the plants.	NULL	VARCHAR2(1)
7	INVASIVE_PLANT_DISTRIB_CODE Unique code identifying the distribution of the plants.	NULL	VARCHAR2(1)
12	IAPP_SURVEY_TYPE_CODE The IAPP SURVEY TYPE CODE is the unique identifier for a type of survey. Examples: C Cursory; O Operational; P Precise.	NOT NULL	VARCHAR2(1)
14	PAPER_FILE_ID The file identification number used to reference the corresponding paperwork for this record.	NULL	VARCHAR2(20)
20	SURVEY_DATE Date on which the presence of this invasive alien plant was recorded.	NOT NULL	DATE
21	ESTIMATED_AREA Estimated area (hectares) covered by the invasive alien plant. <i>In the data, the most number of decimal places is 4 (0.0125). And the largest value is 150284341. Hence my choices for length and decimal places. [Jon Aquino 2004-08-31]</i>	NOT NULL	NUMBER(15,4)
22	FOUND_IND Indicates that the Invasive Plant was found on this survey. If this indicator is false then estimated area must be zero and distribution and density codes must be null.	NOT NULL	VARCHAR2(1)
23	COMMENTS A free-format, user-entered comment on the invasive alien plant.	NULL	VARCHAR2(2000)
24	ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCeID and IDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
25	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
27	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
28	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
29	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
30	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IAPP_SRVS_STC_FK
IAPP_SURVEY_TYPE_CODE = IAPP_SURVEY_TYPE_CODE.IAPP_SURVEY_TYPE_CODE

SRVY_I_E_FK
EMPLOYER_ID = IAPP_EMPLOYER.EMPLOYER_ID

SRVY_IPAC_FK
INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE

SRVY_IPDB_FK

Table: INVASIVE_PLANT_SURVEY (cont'd)*Foreign Keys:*

INVASIVE_PLANT_DISTRIB_CODE = INVASIVE_PLANT_DISTRIB_CODE.INVASIVE_PLANT_DISTRIB_CODE
SRVY_IPDN_FK
INVASIVE_PLANT_DENSITY_CODE = INVASIVE_PLANT_DENSITY_CODE.INVASIVE_PLANT_DENSITY_CODE
SRVY_IP_FK
INVASIVE_PLANT_ID = INVASIVE_PLANT.INVASIVE_PLANT_ID

Indexes:

IAPP_SRVY_STC_FK_I
IAPP_SURVEY_TYPE_CODE
SRVY_IE_FK_I
EMPLOYER_ID
SRVY_IPAC_FK_I
INVASIVE_PLANT_AGENCY_CODE
SRVY_IPDB_FK_I
INVASIVE_PLANT_DISTRIB_CODE
SRVY_IPDN_FK_I
INVASIVE_PLANT_DENSITY_CODE
SRVY_IP_FK_I
INVASIVE_PLANT_ID

Table: INVASIVE_PLANT_SURVEYOR*Description:*

The IAPP participants that acted as surveyors for a particular Invasive Plant Survey.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	PARTICIPANT_ID Primary unique numeric identifier for an applicator.	NOT NULL	NUMBER(10)
* 2	SURVEY_ID Primary unique numeric identifier for an Invasive Plant Survey.	NOT NULL	NUMBER(10)
3	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
4	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
5	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
6	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

IPSV_PART_FK
PARTICIPANT_ID = IAPP_PARTICIPANT.PARTICIPANT_ID
IPSV_SRVY_FK
SURVEY_ID = INVASIVE_PLANT_SURVEY.SURVEY_ID

Indexes:

IPSV_PART_FK_I
PARTICIPANT_ID
IPSV_SRVY_FK_I
SURVEY_ID

Table: INVASIVE_PLANT_TREATMENT**Description:**

Application of a technique for eliminating or reducing the presence of invasive alien plants. Controls are categorized as being mechanical/cultural, chemical, or biological.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
2	INVASIVE_PLANT_ID Primary unique numeric identifier for an invasive plant.	NOT NULL	NUMBER(10)
3	BIOLOGICAL_TREATMENT_ID Primary unique numeric identifier for a biological control.	NULL	NUMBER(10)
4	CHEMICAL_TREATMENT_ID Primary unique numeric identifier for a chemical control.	NULL	NUMBER(10)
5	MECHANICAL_TREATMENT_ID Primary unique numeric identifier for a mechanical control.	NULL	NUMBER(10)
6	INVASIVE_PLANT_AGENCY_CODE Unique code identifying the agency. <i>In the Access App, Validation Text is "Code must be ten characters or less". [Jon Aquino 2004-09-01]</i>	NOT NULL	VARCHAR2(4)
7	EMPLOYER_ID Primary unique numeric identifier for an employer.	NULL	NUMBER(10)
8	PAPER_FILE_ID The file identification number used to reference the corresponding paperwork for this record.	NULL	VARCHAR2(20)
9	TREATMENT_DATE Date on which the control was applied.	NOT NULL	DATE
10	COMMENTS A free-format, user-entered comment on the control.	NULL	VARCHAR2(2000)
11	ENTRY_GUID The Globally Unique ID (GUID) of the user that initially entered (created) the record. <i>The GUID is the unique identifier assigned to a user account within the Active Directories that house BCellID and IDir. The GUID must be used as the identifier for security purposes because it is possible for a user account to change their account name but the GUID will always remain the same.</i>	NOT NULL	VARCHAR2(32)
12	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
13	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
14	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
15	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
16	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)

Foreign Keys:

IPT_BT_FK
 BIOLOGICAL_TREATMENT_ID = BIOLOGICAL_TREATMENT.BIOLOGICAL_TREATMENT_ID
 IPT_CT_FK
 CHEMICAL_TREATMENT_ID = CHEMICAL_TREATMENT.CHEMICAL_TREATMENT_ID
 IPT_IE_FK
 EMPLOYER_ID = IAPP_EMPLOYER.EMPLOYER_ID
 IPT_IPAC_FK
 INVASIVE_PLANT_AGENCY_CODE = INVASIVE_PLANT_AGENCY_CODE.INVASIVE_PLANT_AGENCY_CODE
 IPT_IP_FK
 INVASIVE_PLANT_ID = INVASIVE_PLANT.INVASIVE_PLANT_ID
 IPT_MT_FK
 MECHANICAL_TREATMENT_ID = MECHANICAL_TREATMENT.MECHANICAL_TREATMENT_ID

Check Constraints:

TREATMENT_TYPE_ARC_CC

Table: INVASIVE_PLANT_TREATMENT (cont'd)*Check Constraints:*

(BIOLOGICAL_TREATMENT_ID IS NOT NULL
AND CHEMICAL_TREATMENT_ID IS NULL
AND MECHANICAL_TREATMENT_ID IS NULL)
OR (BIOLOGICAL_TREATMENT_ID IS NULL
AND CHEMICAL_TREATMENT_ID IS NOT NULL
AND MECHANICAL_TREATMENT_ID IS NULL)
OR (BIOLOGICAL_TREATMENT_ID IS NULL
AND CHEMICAL_TREATMENT_ID IS NULL
AND MECHANICAL_TREATMENT_ID IS NOT NULL)

Indexes:

IPT_BT_FK_I
BIOLOGICAL_TREATMENT_ID
IPT_CT_FK_I
CHEMICAL_TREATMENT_ID
IPT_IE_FK_I
EMPLOYER_ID
IPT_IPAC_FK_I
INVASIVE_PLANT_AGENCY_CODE
IPT_IP_FK_I
INVASIVE_PLANT_ID
IPT_MT_FK_I
MECHANICAL_TREATMENT_ID

Table: JURISDICTION_CODE*Description:*

The authority or title owner for the parcel of land that a site resides on. Examples: Crown Land, Military, Indian Reserves.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	JURISDICTION_CODE Unique code identifying the jurisdiction.	NOT NULL	VARCHAR2(4)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: MECHANICAL_METHOD_CODE*Description:*

Indicates the method of mechanical or cultural control. Examples: mulching, burning, mowing.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	MECHANICAL_METHOD_CODE Unique code identifying the mechanical control method.	NOT NULL	VARCHAR2(3)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Table: MECHANICAL_TREATMENT*Description:*

An application of a mechanical or cultural control. Mechanical weed control employs various implements and techniques to physically disturb weeds or to interrupt their reproduction by depleting root reserves through repeated defoliation of the plant. Mechanical control includes the mowing, ploughing, chopping, and crushing of weeds.

Cultural control includes selective grazing, irrigation and deliberate flooding, mulching, hand pulling, and burning. Strategies and timing should depend on the weed species and its location in the province.

[Source: Integrated Pest Management, <http://www.for.gov.bc.ca/hfp/noxious/integrat.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	MECHANICAL_TREATMENT_ID Primary unique numeric identifier for a mechanical control.	NOT NULL	NUMBER(10)
2	MECHANICAL_METHOD_CODE Unique code identifying the mechanical control method.	NOT NULL	VARCHAR2(3)
3	AREA_TREATED Area (hectares) over which the mechanical control was applied. <i>In the data, the most number of decimal places is 5 (0.00001). And the largest value is 10000. Hence my choices for length and decimal places. [Jon Aquino 2004-08-31]</i>	NOT NULL	NUMBER(15,4)

Foreign Keys:

MT_MMCD_FK
MECHANICAL_METHOD_CODE = MECHANICAL_METHOD_CODE.MECHANICAL_METHOD_CODE

Indexes:

MT_MMCD_FK_I
MECHANICAL_METHOD_CODE

Table: MECHANICAL_TREATMENT_POLY_SVW*Columns:*

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
20	TREATMENT_ID	NULL	VARCHAR2(240)
30	SITE_ID	NULL	VARCHAR2(240)
40	GEOMETRY	NULL	VARCHAR2(240)
50	FEATURE_AREA	NULL	VARCHAR2(240)
60	FEATURE_CODE	NULL	VARCHAR2(240)
70	INVASIVE_PLANT	NULL	VARCHAR2(240)
80	TREATMENT_DATE	NULL	VARCHAR2(240)
90	AREA_TREATED	NULL	VARCHAR2(240)
100	MECHANICAL_METHOD	NULL	VARCHAR2(240)
110	UTM_EASTING	NULL	VARCHAR2(240)
120	UTM_NORTHING	NULL	VARCHAR2(240)
130	UTM_ZONE	NULL	VARCHAR2(240)
140	APP_LINK	NULL	VARCHAR2(240)
145	OBJECTID	NULL	VARCHAR2(240)

Table: MONITORING_SURVEYOR*Description:*

The IAPP participants that acted as surveyors for a particular Treatment Monitoring Record.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	MONITORING_ID Primary unique numeric identifier for a monitoring.	NOT NULL	NUMBER(10)
* 2	PARTICIPANT_ID Primary unique numeric identifier for an applicator.	NOT NULL	NUMBER(10)
3	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
4	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
5	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
6	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

MS_MN_FK
MONITORING_ID = INVASIVE_PLANT_MONITORING.MONITORING_ID
MS_PART_FK
PARTICIPANT_ID = IAPP_PARTICIPANT.PARTICIPANT_ID

Indexes:

MS_MN_FK_I
MONITORING_ID
MS_PART_FK_I
PARTICIPANT_ID

Table: ORG_UNIT*Description:*

Records codes for ministry Organizational Units (offices), such as Branch, Region, or District office. Codes are currently defined to the office, section/program, and subsection level. [Source: Integrated Data Dictionary, http://www.for.gov.bc.ca/pScripts/isb/idd/IDD_srch.asp]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	ORG_UNIT_NO	NOT NULL	NUMBER(10,0)
	The organizational unit number of the user who added this record or who last updated the information.		

Table: PERSPECTIVE_CODE*Description:*

Identifies the perspective from which the image is represented: Overview, North, South, East, or West.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	PERSPECTIVE_CODE Unique code identifying the perspective from which the image is represented.	NOT NULL	VARCHAR2(1)
2	DESCRIPTION Description of the code.	NOT NULL	VARCHAR2(120)
3	EFFECTIVE_DATE Effective date/time	NOT NULL	DATE
4	EXPIRY_DATE Expiry date/time	NOT NULL	DATE
5	UPDATE_TIMESTAMP Update date/time	NOT NULL	DATE

Notes:

Changed name from "Image Type Code" to "Perspective Code" [Jon Aquino 2004-08-24]

Table: PROPOSED_IAPP_ACTIVITY**Description:**

A recommended plan for controlling invasive alien plants based on knowledge of potential damage, cost of control method and environmental impact of the weed and control decision. May include a combination of methods to reduce the weed population to an acceptable level. [Source: Integrated Weed Management: An Introductory Manual, <http://www.agf.gov.bc.ca/cropprot/weedman.htm>]

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	PROPOSED_ACTIVITY_ID Primary unique numeric identifier for a proposed IAPP activity record.	NOT NULL	NUMBER(10)
2	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
3	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
4	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
5	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)
6	REVISION_COUNT Used to ensure data consistency during updates to entities. The revision count will be checked before performing the update to ensure the update is being applied to the version it started with.	NOT NULL	NUMBER(10,0)
7	BIOLOGICAL_AGENT_CODE Unique code identifying the bioagent. <i>Increased length from 12 to 20 to allow flexibility for future codes. [Jon Aquino 2004-09-01]</i>	NULL	VARCHAR2(7)
8	SURVEY_ID Primary unique numeric identifier for an Invasive Plant Survey.	NULL	NUMBER(10)
9	HERBICIDE_CODE Unique code identify the herbicide.	NULL	VARCHAR2(1)
10	PLAN_ID Primary unique numeric identifier for a treatment plan.	NULL	NUMBER(10)
11	IAPP_ACTIVITY_CODE Unique code identifying the activity.	NOT NULL	VARCHAR2(2)

Foreign Keys:

PA_AC_FK
IAPP_ACTIVITY_CODE = IAPP_ACTIVITY_CODE.IAPP_ACTIVITY_CODE

PA_BAC_FK
BIOLOGICAL_AGENT_CODE = BIOLOGICAL_AGENT_CODE.BIOLOGICAL_AGENT_CODE

PA_HC_FK
HERBICIDE_CODE = HERBICIDE_CODE.HERBICIDE_CODE

PA_IPP_FK
PLAN_ID = INVASIVE_PLANT_PLAN.PLAN_ID

PA_SRVY_FK
SURVEY_ID = INVASIVE_PLANT_SURVEY.SURVEY_ID

Check Constraints:

PIA_AGENT_ARC_CC
(HERBICIDE_CODE IS NOT NULL
AND BIOLOGICAL_AGENT_CODE IS NULL)
OR (HERBICIDE_CODE IS NULL
AND BIOLOGICAL_AGENT_CODE IS NOT NULL)
OR (HERBICIDE_CODE IS NULL
AND BIOLOGICAL_AGENT_CODE IS NULL)

PIA_CONTEXT_ARC_CC
(SURVEY_ID IS NOT NULL
AND PLAN_ID IS NULL)
OR (SURVEY_ID IS NULL
AND PLAN_ID IS NOT NULL)

Indexes:

Table: PROPOSED_IAPP_ACTIVITY (cont'd)*Indexes:*

PA_AC_FK_I
IAPP_ACTIVITY_CODE
PA_BAC_FK_I
BIOLOGICAL_AGENT_CODE
PA_HC_FK_I
HERBICIDE_CODE
PA_IPP_FK_I
PLAN_ID
PA_SRVY_FK_I
SURVEY_ID

Table: RANGE_UNIT*Description:*

A range management area used to prescribe the numbers and kinds of livestock that the land can support.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	RANGE_UNIT_ID Primary unique numeric identifier for a Range Unit.	NOT NULL	VARCHAR2(10)

Table: SITE_SERIES_CATALOGUE*Description:*

Within the BEC system, all sites capable of producing the same mature or climax plant communities within a biogeoclimatic subzone or variant. BEC Site Series is defined within a Region, Zone, Subzone, Variant and Phase, and therefore all parts help define the Site Series. As well, if there are more than one phase per site series, there will be a separate row to represent each Site Series Phase.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	SITE_SERIES_CATALOGUE_ID Assigned numeric identifier for a site series unique within a biogeoclimatic unit.	NOT NULL	NUMBER(5)
2	SITE_SERIES A number from 01 to 99 representing the soil moisture regime and soil nutrient regime of a site series, relative to other site series within a subzone or variant.	NOT NULL	VARCHAR2(4)

Notes:

Stub of BEC.SITE SERIES CATALOGUE.

Table: TREATMENT_APPLICATOR*Description:*

The IAPP participants that acted as applicators for a particular Invasive Plant Control.

Columns:

<u>Seq.</u>	<u>Column</u>	<u>Nulls?</u>	<u>Type</u>
* 1	TREATMENT_ID Primary unique numeric identifier for an invasive plant control.	NOT NULL	NUMBER(10)
* 2	PARTICIPANT_ID Primary unique numeric identifier for an applicator.	NOT NULL	NUMBER(10)
3	CERTIFICATE_NO The applicator's certificate or license number that authorizes them to work with herbicides.	NULL	VARCHAR2(6)
4	ENTRY_TIMESTAMP Entered date/time	NOT NULL	DATE
5	ENTRY_USERID Entered by	NOT NULL	VARCHAR2(30)
6	UPDATE_TIMESTAMP Updated date/time	NOT NULL	DATE
7	UPDATE_USERID Updated by	NOT NULL	VARCHAR2(30)

Foreign Keys:

TA_IPT_FK
TREATMENT_ID = INVASIVE_PLANT_TREATMENT.TREATMENT_ID

TA_PART_FK
PARTICIPANT_ID = IAPP_PARTICIPANT.PARTICIPANT_ID

Indexes:

TA_IPT_FK_I
TREATMENT_ID

TA_PART_FK_I
PARTICIPANT_ID