

# **Forest Health Data Model**

**Developed for:**

**Forest Practices Branch  
Ministry of Forests**



**Prepared by:**  
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November 13, 2002

## Oracle Designer

Report : ENTITY DEFINITION

Run by : DESIGNER

Report Date : 13 November 2002

Total Pages : 12

### Parameter Values

Workarea : GLOBAL SHARED WORKAREA  
Container : FORHEA  
Container Version:  
Recurse Sub-Containers : N  
Entity Name : %  
Include Notes : Yes  
ER Diagram :

### Entities Created

On/After :  
On/Before : 13 November 2002  
and

### Entities Changed

On/After :  
On/Before : 13 November 2002

**Entity Definition**

Container: FORHEA      Version:

Entity

Name                   : PEST\_CAPTURE\_METHOD  
 Short Name            : PCM  
 Plural Name           : PEST\_CAPTURE\_METHODS

Description

PEST\_CAPTURE\_METHOD stores the data capture methods.

Attributes

\* - Attributes in primary unique identifier

<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
* CAPTURE_METHOD_CODE		Y	VARCHAR2	3	
CAPTURE_METHOD_DESCR PTION		Y	VARCHAR2	30	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MAY BE      used to capture "capture method" one or    FH\_POLYGONS  
             more

MAY BE      used to capture "capture method" one or    FH\_SPOTS  
             more

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
FCM	Yes	CAPTURE_METHO D_CODE		

**Entity Definition**

Container: FORHEA Version:

Entity

Name : PEST\_DESCRIPTION  
 Short Name : PD  
 Plural Name : PEST\_DESCRIPTIONS

Description

PEST\_DESCRIPTION contains information about a particular pest.

Attributes

\* - Attributes in primary unique identifier

<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
COMMON_NAME		Y	VARCHAR2	255	
DAMAGE		Y	VARCHAR2	4000	
* PEST_SPECIES_CODE		Y	VARCHAR2	3	
RANGE		Y	VARCHAR2	4000	
SCIENTIFIC_NAME		Y	VARCHAR2	255	
SIMILAR_DAMAGE		Y	VARCHAR2	4000	
SYMPTOMS		Y	VARCHAR2	4000	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MAY BE	to one or more	PESTS_IMAGES
MAY BE	used to capture pest one or more	FH_HAZARD_POLYGONS
MAY BE	used to capture pest one or more	FH_POLYGONS
MAY BE	used to capture pest one or more	FH_SPOTS
MAY BE	used to capture pests one or more	FH_HAZARD_POLYGONS
MAY BE	used to capture pests one or more	PESTS_IMAGES

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
HDP	Yes	PEST_SPECIES_CODE		

**Entity Definition**

Container: FORHEA Version:

Entity

Name : PEST\_HAZARD\_METHOD\_CODE  
 Short Name : PHM  
 Plural Name : PEST\_HAZARD\_METHOD\_CODES

Description

FH\_HAZARD\_METHOD store the possible methods (models) by which the hazard was assessed. It is a lookup table.

Attributes

\* - Attributes in primary unique identifier

	<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
*	HAZARD_METHOD_CODE		Y	VARCHAR2	3	
	HAZARD_METHOD_DESCRIPTION		Y	VARCHAR2	30	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MAY BE used to capture hazard method one or more FH\_HAZARD\_POLYGONS

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
FHM	Yes	HAZARD_METHOD_CODE		

### Entity Definition

Container: FORHEA Version:

Entity

Name : PEST\_HAZARD\_POLY  
 Short Name : PHP1  
 Plural Name : PEST\_HAZARD\_POLYS

Description

PEST\_HAZARD\_POLY represents a biohazard as an area (polygon).

Attributes

\* - Attributes in primary unique identifier

<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
AREA_HA		Y	NUMBER	15	,2
CREATION_DATE		Y	DATE		
GEOMETRY		Y	NUMBER	38	
* HAZARD_POLYGON_NUMBER		Y	NUMBER	4	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MAY BE	has pest identify by one or more	FH_PESTS
MUST BE	has hazard method identify by one and only one	PEST_HAZARD_METHOD_CODE
MUST BE	has pest identify by one and only one	PEST_DESCRIPTION
MUST BE	has rating identify by one and only one	PEST_HAZARD_RATING_CODE

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
FHP1	Yes	HAZARD_POLYGON_NUMBER		

**Entity Definition**

Container: FORHEA Version:

Entity

Name : PEST\_HAZARD\_RATING\_CODE  
 Short Name : PHR  
 Plural Name : PEST\_HAZARD\_RATING\_CODES

Description

PEST\_HAZARD\_RATING\_CODE contains biohazard rating values assigned to a biohazard area (polygon). It is a lookup table.

Attributes

\* - Attributes in primary unique identifier

	<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
*	RATING_CODE		Y	VARCHAR2	1	
	RATING_DESCRIPTION		Y	VARCHAR2	20	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MAY BE used to capture hazard rating one or more FH\_HAZARD\_POLYGONS

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
FHR	Yes	RATING_CODE		



**Entity Definition**

Container: FORHEA Version:

Entity

Name : PEST\_INFESTATION\_POINT  
 Short Name : PIO  
 Plural Name : PEST\_INFESTATION\_POINTS

Description

PEST\_INFESTATION\_POINT is the Provincial Spots Table. A Spot represents a site infestation as point data.

Attributes

\* - Attributes in primary unique identifier

<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
CAPTURE_DATE		N	NUMBER	4	
* SPOT_NUMBER		N	NUMBER	5	
AREA_HA		Y	NUMBER	2	
GEOMETRY		Y	NUMBER	38	
NUM_TREES		Y	NUMBER	11	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MUST BE	has capture method identify by one and only one	PEST_CAPTURE_METHOD
MUST BE	has district identify by one and only one	ORG UNIT
MUST BE	has pest identify by one and only one	PEST_DESCRIPTION
MUST BE	has severity identify by one and only one	PEST_SEVERITY_CODE

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
HS	Yes	SPOT_NUMBER		

### Entity Definition

Container: FORHEA      Version:

Entity

Name                   : PEST\_INFESTATION\_POLY  
 Short Name           : PIP  
 Plural Name          : PEST\_INFESTATION\_POLYS

Description

FH\_POLYGON represents a site infestation as an area (polygon).

Attributes

\* - Attributes in primary unique identifier

<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
CAPTURE_DATE		N	NUMBER	4	
* POLYGON_NUMBER		N	NUMBER	5	
AREA_HA		Y	NUMBER	22	,2
GEOMETRY		Y	NUMBER	38	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MUST BE	has capture method identify by one and only one	PEST_CAPTURE_METHOD
MUST BE	has districts identify by one and only one	ORG UNIT
MUST BE	has pest identify by one and only one	PEST_DESCRIPTION
MUST BE	has severity identify by one and only one	PEST_SEVERITY_CODE

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
HPP	Yes	POLYGON_NUMBE R		

**Entity Definition**

Container: FORHEA      Version:

Entity

Name                   : PEST\_SEVERITY\_CODE  
 Short Name            : PSC  
 Plural Name           : PEST\_SEVERITY\_CODES

Description

A code describing the severity of a pests (insect or disease) attack on the stand.

Attributes

\* - Attributes in primary unique identifier

	<u>Name</u>	<u>Domain</u>	<u>Opt</u>	<u>Format</u>	<u>Length</u>	<u>Scale</u>
*	SEVERITY_CODE		Y	VARCHAR2	1	
	SEVERITY_NAME		Y	VARCHAR2	10	

Relationships

\* - Relationships in primary unique identifier

Each Occurrence Of This Entity :

MAY BE	show severity for one or more	FH_POLYGONS
MAY BE	show severity for one or more	FH_SPOTS

Unique Identifiers

<u>Name</u>	<u>Primary?</u>	<u>Attrib.Name</u>	<u>Relationship</u>	<u>To Entity Name</u>
FS	Yes	SEVERITY_CODE		

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ENTITY DEFINITION REPORT

End of Report

## Oracle Designer

Report : ENTITIES AND THEIR ATTRIBUTES

Run by : DESIGNER

Report Date : 13 November 2002

Total Pages : 6

### Parameter values

Workarea : GLOBAL SHARED WORKAREA  
Container : FORHEA  
Container Version :  
Recurse Sub-Containers : N  
Entity Name : %  
Diagram :

### Entities Created

On/After :  
On/Before : 13 November 2002

and

### Entities Changed

On/After :  
On/Before : 13 November 2002

Container : FORHEA Version :

<u>Entity Name</u>	<u>Attribute Name</u>	<u>Seq.</u>	<u>Opt. Format</u>	<u>Length</u>	<u>Dec Pl</u>	<u>Attribute Description</u>	<u>Attribute Notes</u>
PEST_CAPTURE_METHOD	CAPTURE_METHOD_CODE		Y VARCHAR2	3		The code for capture method	
	CAPTURE_METHOD_DESCRIPTION		Y VARCHAR2	30		The data capture method must be one of: orthoPhotography, differentialGPS, unknown, nondifferentialGPS, satelliteImagery, rubberSheeting, scanning, photogrammetric, coordinateGeometryWithControl, monoRestitution, tableDigitizing, aerialOverview, detailsketchMap, detailGPSMapping. These values are case sensitive.	

Container : FORHEA Version :

<u>Entity Name</u>	<u>Attribute Name</u>	<u>Seq.</u>	<u>Opt. Format</u>	<u>Length</u>	<u>Dec Pl</u>	<u>Attribute Description</u>	<u>Attribute Notes</u>
PEST_DESCRIPTION	COMMON_NAME	Y	VARCHAR2	255		The common name of the pest.	
	DAMAGE	Y	VARCHAR2	4000		The description of the type of damage caused by this particular pest.	
	PEST_SPECIES_CODE	Y	VARCHAR2	3		The code used to identify the pest for which a specified silviculture treatment is required (eg. insects, root disease, dwarf mistletoe, etc).	
	RANGE	Y	VARCHAR2	4000		The pest's characteristics and the locations of the pest within the province.	
	SCIENTIFIC_NAME	Y	VARCHAR2	255		The scientific name for the disease.	
	SIMILAR_DAMAGE	Y	VARCHAR2	4000		Similar damage that may be mistakenly associated with this pest.	
	SYMPTOMS	Y	VARCHAR2	4000		The description of the pest and/or damage symptoms.	
	PEST_HAZARD_METHOD_CODE	HAZARD_METHOD_CODE	Y	VARCHAR2	3		The method (model) by which the hazard was assessed.
	HAZARD_METHOD_DESCRIPTION	Y	VARCHAR2	30		The description of the respective Hazard Method	

Container : FORHEA Version :

<u>Entity Name</u>	<u>Attribute Name</u>	<u>Seq.</u>	<u>Opt.</u>	<u>Format</u>	<u>Length</u>	<u>Dec Pl</u>	<u>Attribute Description</u>	<u>Attribute Notes</u>
PEST_HAZARD_POLY	AREA_HA	Y		NUMBER	15	2	The area of the biohazard polygon in Hectares.	
	CREATION_DATE	Y		DATE			The date when the biohazard data was created.	
	GEOMETRY	Y		NUMBER	38		Geometry	
	HAZARD_POLYGON_NUMBER	Y		NUMBER	4		The unique polygon number.	
PEST_HAZARD_RATING_CODE	RATING_CODE	Y		VARCHAR2	1		A (H)igh, (M)edium, (L)ow or (N)ill rating for the hazard area (polygon).	
	RATING_DESCRIPTION	Y		VARCHAR2	20		The description of the respective acronym for each hazard rating (H)igh, (M)edium, (L)ow or (N)ill for the hazard area (polygon).	
PEST_IMAGE	DESCRIPTION	Y		VARCHAR2	255		The description of the image.	
	FILENAME	Y		VARCHAR2	255		The name of the image file.	
	IMAGE_ID	N		NUMBER	5		The unique ID of the image.	
	LOCATION	Y		VARCHAR2	255		The location of the image (URL).	
	SOURCE	Y		VARCHAR2	255		The source /author.	
	TITLE	Y		VARCHAR2	255		The title for the image.	

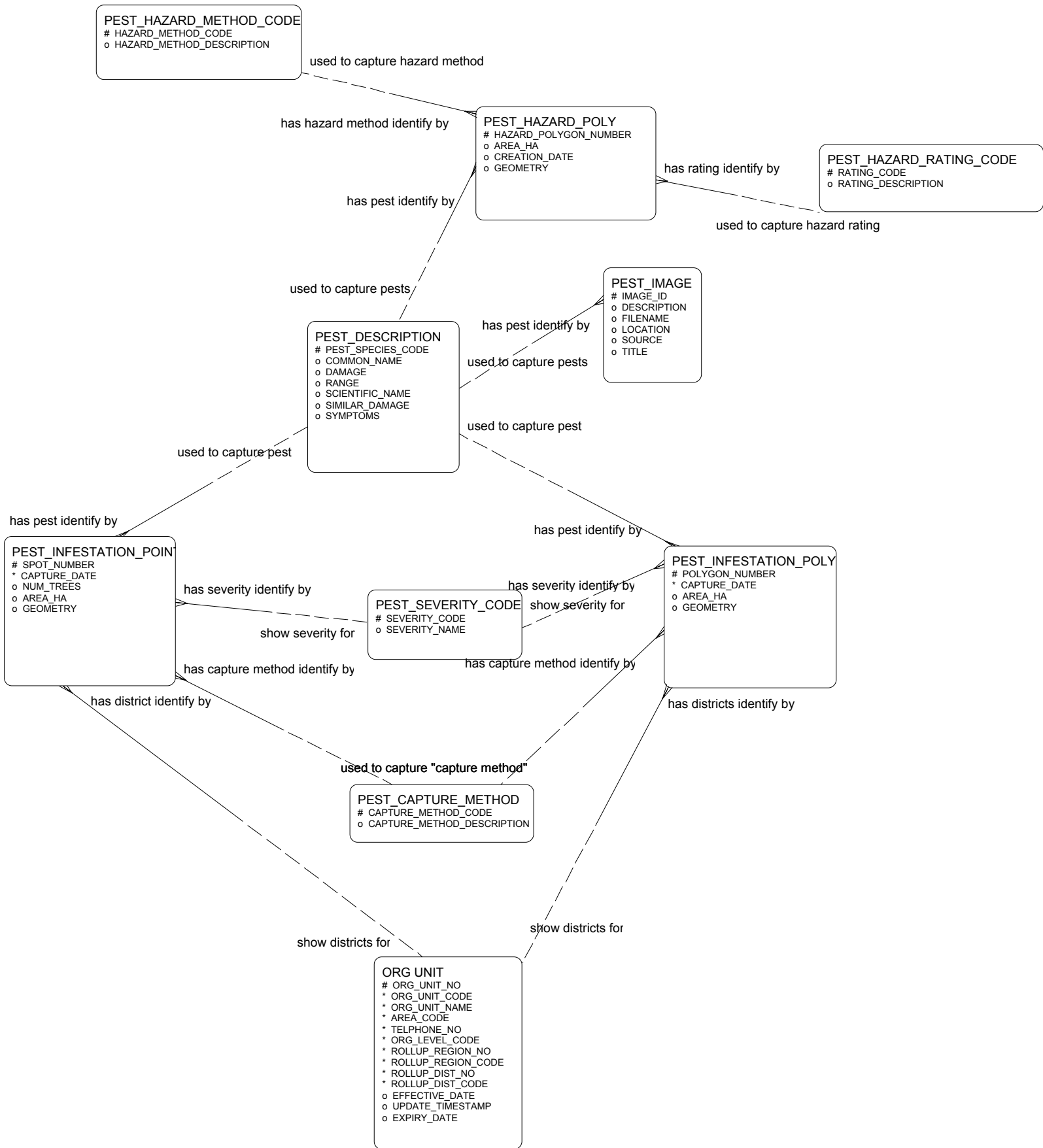
Container : FORHEA Version :

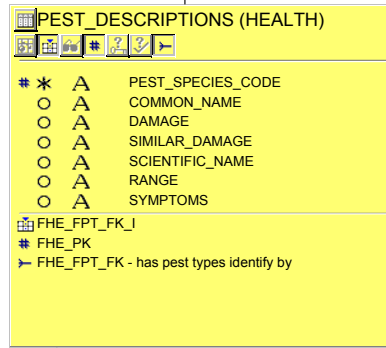
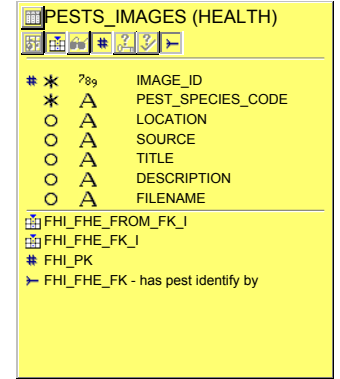
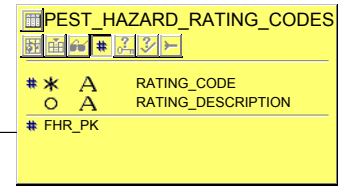
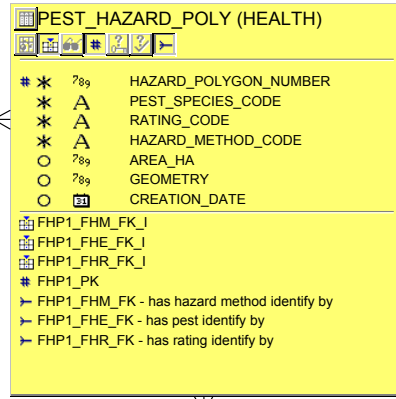
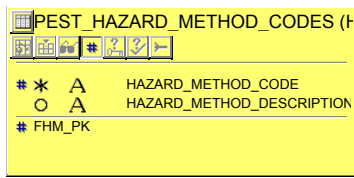
<u>Entity Name</u>	<u>Attribute Name</u>	<u>Seq.</u>	<u>Opt.</u>	<u>Format</u>	<u>Length</u>	<u>Dec Pl</u>	<u>Attribute Description</u>	<u>Attribute Notes</u>
PEST_INFESTATION_PO INT	SPOT_NUMBER	10	N	NUMBER	5		The unique spot number.	
	CAPTURE_DATE	40	N	NUMBER	4		The year when the data was captured.	
	NUM_TREES	100	Y	NUMBER	11		The number of trees represented by the spot infestation.	
	AREA_HA	110	Y	NUMBER	2		The area of the spot, assigned based upon num_trees.	
PEST_INFESTATION_PO POLYGON_NUMBER LY	GEOMETRY	120	Y	NUMBER	38		Geometry	
	POLYGON_NUMBER	10	N	NUMBER	5		The unique polygon number.	
	CAPTURE_DATE	40	N	NUMBER	4		The year when the data was captured.	
	AREA_HA	80	Y	NUMBER	22	2	The polygon's area in Hectares.	
PEST_SEVERITY_CODE	SEVERITY_CODE		Y	VARCHAR2	1		The acronym used to identify severity name. i.e. (L)ight, (M)oderate, (S)evere.	
	SEVERITY_NAME		Y	VARCHAR2	10		The complete name of the severity factor. i.e. Light, Moderate, Severe.	

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ENTITIES AND THEIR ATTRIBUTES

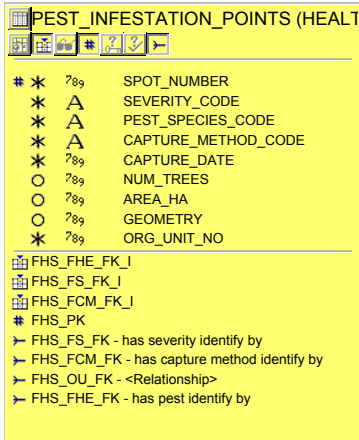
End of Report





FHI\_FHE\_FK

PIP\_FHE\_FK

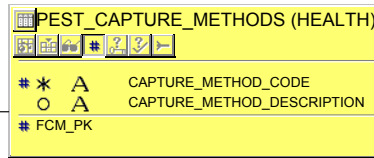


FHS\_FHE\_FK

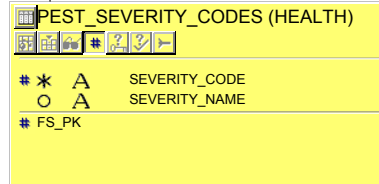
FHS\_FCM\_FK

FHS\_FS\_FK

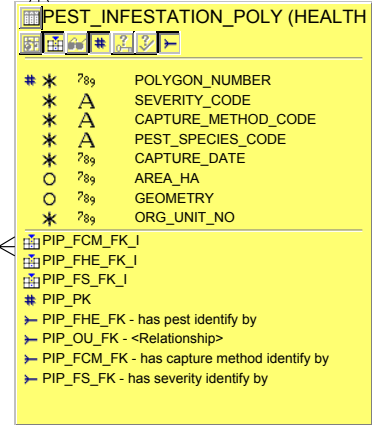
FHS\_OU\_FK



PIP\_FCM\_FK



PIP\_FS\_FK



PIP\_OU\_FK

