

***Alien Plant Control and Monitoring Database  
(APCAM)  
Version 4.0  
May 2002  
Data Dictionary for the APCAM  
MasterTables1\_be97.mdb***

**Acronyms**

- **NAWMA – North American Weed Management Association**
- **NAWMA Compliant – Meets NAWMA standards with variation**
- **IMR – Intermountain Region**
- **IMR Compliant – Meets IMR standards with variation**

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## *Data Dictionary for MasterTables1\_be97.mdb*

### **tblAbiotic**

**No description**

**Total Field Size: 653 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EventID	<input checked="" type="checkbox"/>	Text	100	Sampling Event ID code
Climate	<input type="checkbox"/>	Text	100	Climate description (IMR)
GlgcSubstr	<input type="checkbox"/>	Text	3	Geologic Substrate (IMR)
LndFrm	<input type="checkbox"/>	Text	100	Landform description (IMR)
LocationID	<input type="checkbox"/>	Text	200	Location ID code
SoilType	<input type="checkbox"/>	Text	100	Soil Type (IMR)
Water	<input type="checkbox"/>	Text	50	Type of Water in Location

### **tblAccountNumbers**

**No description**

**Total Field Size: 306 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
AccntNum	<input checked="" type="checkbox"/>	Text	50	Account Number
AccntNumDescription	<input type="checkbox"/>	Text	255	Account Number Description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

### **tblActions**

**No description**

**Total Field Size: 20 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Action	<input checked="" type="checkbox"/>	Text	20	Type of Action

### **tblAPCAM**

**Alien Plant Control and Monitoring Data**

**Total Field Size: 1763 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
APCAMURI	<input checked="" type="checkbox"/>	Text	100	Universal Record Identifier
AreaCov	<input type="checkbox"/>	Double	8	Area Covered (NAWMA Compliant)
AreaCovAcr	<input type="checkbox"/>	Double	8	Area Covered Acres (Calculated)
AreaCovUnt	<input type="checkbox"/>	Text	8	Area Covered (Unit) (NAWMA Compliant)
AreaTrt	<input type="checkbox"/>	Double	8	Area treated
AreaTrtAcr	<input type="checkbox"/>	Double	8	Area Treated Acres (Calculated)
AreaTrtUnt	<input type="checkbox"/>	Text	8	Area treated (Unit)

Diluent	<input type="checkbox"/>	Text	20	Chemical used to Dilute the Herbicide
DilUt	<input type="checkbox"/>	Text	8	Volume of Chemical used to Dilute the Herbicide (Unit)
DspstMthd	<input type="checkbox"/>	Text	50	Disposal Method
Dye	<input type="checkbox"/>	Text	20	Dye Use
DyePctVI	<input type="checkbox"/>	Double	8	Percent of Dye in Total Volume of Mix
DyeUt	<input type="checkbox"/>	Text	8	Volume of Dye (Unit)
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID code
ExactLoctn	<input type="checkbox"/>	Text	255	Exact location
Herb1	<input type="checkbox"/>	Text	60	Herbicide1 Type
Herb1Con	<input type="checkbox"/>	Single	4	Herbicide1 Concentration
Herb1ConUt	<input type="checkbox"/>	Text	50	Herbicide1 Concentration (Unit)
Herb2	<input type="checkbox"/>	Text	60	Herbicide2 Type
Herb2Con	<input type="checkbox"/>	Long Integer	4	Herbicide2 Concentration
Herb2ConUt	<input type="checkbox"/>	Text	50	Herbicide2 Concentration (Unit)
Herb3	<input type="checkbox"/>	Text	60	Herbicide3 Type
Herb3Con	<input type="checkbox"/>	Long Integer	4	Herbicide3 Concentration
Herb3ConUt	<input type="checkbox"/>	Text	50	Herbicide3 Concentration (Unit)
HerbUID1	<input type="checkbox"/>	Text	7	Unique ID for Product (from PL_PesticideInfo)
HerbUID2	<input type="checkbox"/>	Text	7	Unique ID for Product (from PL_PesticideInfo)
HerbUID3	<input type="checkbox"/>	Text	7	Unique ID for Product (from PL_PesticideInfo)
InfstAcr	<input type="checkbox"/>	Double	8	Infestation Area (Acres)
InfstArea	<input type="checkbox"/>	Single	4	Infestation Area (NAWMA)
InfstLgth	<input type="checkbox"/>	Long Integer	4	Infestation Length
InfstUnits	<input type="checkbox"/>	Text	50	Infestation Measurement (Unit) (NAWMA)
InfstWdth	<input type="checkbox"/>	Long Integer	4	Infestation Width
LocationID	<input type="checkbox"/>	Text	200	Location ID code
Srfct	<input type="checkbox"/>	Text	20	Surfactant
SrfctPctVI	<input type="checkbox"/>	Double	8	Percent of Surfactant in Total Volume of Mix
SrfctUt	<input type="checkbox"/>	Text	8	Volume of Surfactant (Unit)
Taxon	<input type="checkbox"/>	Text	157	*Genus and Species of Alien Plant (NAWMA Compliant)
TotVICnvt	<input type="checkbox"/>	Double	8	Total Volume of Mixed Solution (Calculated)
TotVICnvtU	<input type="checkbox"/>	Text	8	Total Volume of Mixed Solution (Unit) (Calculated)
TotVIMix	<input type="checkbox"/>	Double	8	Total Volume of Mixed Solution
TotVIMixUt	<input type="checkbox"/>	Text	8	Total Volume of Mixed Solution (Unit)
Treatment	<input type="checkbox"/>	Text	50	Treatment Taken (IMR Compliant)

tsn	<input type="checkbox"/>	Long Integer	4	Taxonomic Serial Number from the Taxonomic Database (IMR)
VolCnvt1	<input type="checkbox"/>	Double	8	Volume Undiluted Herbicide1 Converted (Calculated)
VolCnvt2	<input type="checkbox"/>	Double	8	Volume Undiluted Herbicide2 Converted (Calculated)
VolCnvt3	<input type="checkbox"/>	Double	8	Volume Undiluted Herbicide3 Converted (Calculated)
VolCnvtUt1	<input type="checkbox"/>	Text	50	Volume Undiluted Herbicide1 Used Converted (Unit) (Calculated)
VolCnvtUt2	<input type="checkbox"/>	Text	50	Volume Undiluted Herbicide2 Used Converted (Unit) (Calculated)
VolCnvtUt3	<input type="checkbox"/>	Text	50	Volume Undiluted Herbicide3 Used Converted (Unit) (Calculated)
VolDil	<input type="checkbox"/>	Single	4	Volume of Chemical used to Dilute the Herbicide (Calculated)
VolDye	<input type="checkbox"/>	Single	4	Volume of Dye (Calculated)
VolHerb1	<input type="checkbox"/>	Double	8	REQUIRED Volume Undiluted Herbicide1 Used
VolHerb1Ut	<input type="checkbox"/>	Text	8	REQUIRED Volume Undiluted Herbicide1 Used (Unit)
VolHerb2	<input type="checkbox"/>	Double	8	REQUIRED Volume Undiluted Herbicide2 Used
VolHerb2Ut	<input type="checkbox"/>	Text	8	REQUIRED Volume Undiluted Herbicide2 Used (Unit)
VolHerb3	<input type="checkbox"/>	Double	8	REQUIRED Volume Undiluted Herbicide3 Used
VolHerb3Ut	<input type="checkbox"/>	Text	8	REQUIRED Volume Undiluted Herbicide3 Used (Unit)
VolSrfct	<input type="checkbox"/>	Single	4	Volume of Surfactant (Calculated)

tbiAPCAM-aux

**Alien Plant Control and Monitoring Data (ancillary table)**

**Total Field Size:** 2058 # Memo Fields: 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
APCAMURIfk	<input checked="" type="checkbox"/>	Text	100	Universal Record Identifier (Foreign Key)
Action	<input type="checkbox"/>	Text	20	REQUIRED Type of Action Taken
ActnEndTm	<input type="checkbox"/>	Date/Time	8	Action End Time
ActnStrtTm	<input type="checkbox"/>	Date/Time	8	Action Start Time
BD_10to20	<input type="checkbox"/>	Integer	2	10-20cm (basal diameter)
BD_1to5	<input type="checkbox"/>	Integer	2	1-5cm (basal diameter)
BD_20to40	<input type="checkbox"/>	Integer	2	20-40cm (basal diameter)
BD_40to80	<input type="checkbox"/>	Integer	2	40-80cm (basal diameter)
BD_5to10	<input type="checkbox"/>	Integer	2	5-10cm (basal diameter)
BD_GT80	<input type="checkbox"/>	Integer	2	>80cm (basal diameter)
BD_LT1	<input type="checkbox"/>	Integer	2	<1cm (basal diameter)
BdTotIndvd	<input type="checkbox"/>	Integer	2	Total # Individuals (basal diameter)
BdUnits	<input type="checkbox"/>	Text	50	Units of Basal Diameter Count

CtrlNumNPS	<input type="checkbox"/>	Text	50	NPS Contract #
CtrlNumOth	<input type="checkbox"/>	Text	50	Other Contract #
CtrlNumStt	<input type="checkbox"/>	Text	50	State Contract #
DataCleanUp	<input type="checkbox"/>	Text	255	Cleanup data
DateEdited	<input type="checkbox"/>	Text	50	Date Record Edited
DateEntrd	<input type="checkbox"/>	Text	50	Date Record Entered
DateExprt	<input type="checkbox"/>	Text	50	Date Record Exported for Rollup
DateGISEx	<input type="checkbox"/>	Text	50	Date Record Exported to GIS
DstnToWtrH	<input type="checkbox"/>	Single	4	Distance to Water (Horizontal) (IMR Compliant)
DstnToWtrU	<input type="checkbox"/>	Text	50	Distance to Water (Units) (IMR Compliant)
DstnToWtrV	<input type="checkbox"/>	Single	4	Distance to Water (Vertical) (IMR Compliant)
FlowerFrui	<input type="checkbox"/>	Integer	2	# Flowering or Fruiting
GlnfstAcr	<input type="checkbox"/>	Single	4	Gross Infestation Area (Acres)
GlnfstArea	<input type="checkbox"/>	Single	4	Gross Infestation Area (NAWMA)
GlnfstUnit	<input type="checkbox"/>	Text	50	Gross Infestation Measurement (Unit) (NAWMA)
Hgt_01to05	<input type="checkbox"/>	Integer	2	>=0.1-<0.5m (height)
Hgt_05to1	<input type="checkbox"/>	Integer	2	>=0.5-<1m (height)
Hgt_1to2	<input type="checkbox"/>	Integer	2	>=1-<2m (height)
Hgt_2to3	<input type="checkbox"/>	Integer	2	>=2-<3m (height)
Hgt_3to4	<input type="checkbox"/>	Integer	2	>=3-<4m (height)
Hgt_4to5	<input type="checkbox"/>	Integer	2	>=4-<5m (height)
Hgt_5to6	<input type="checkbox"/>	Integer	2	>=5-<6m (height)
Hgt_GT6	<input type="checkbox"/>	Integer	2	>=6m (height)
Hgt_LT01	<input type="checkbox"/>	Integer	2	0-<0.1m (height)
Hgt_Undetr	<input type="checkbox"/>	Integer	2	Size Class Undetermined
HgTotlIndvd	<input type="checkbox"/>	Integer	2	Total # Individuals (Height)
HgtUnits	<input type="checkbox"/>	Text	50	Units of Height Count
InfstDnsty	<input type="checkbox"/>	Text	10	Infestation Density (IMR Compliant)
InfstDstrn	<input type="checkbox"/>	Text	10	Infestation Distribution
LftHrbLoc	<input type="checkbox"/>	Text	255	Location of Herbicide Leftover
LftHrbUt	<input type="checkbox"/>	Text	8	Volume of Herbicide Leftover (Unit)
LftHrbVol	<input type="checkbox"/>	Single	4	Volume of Herbicide Leftover
LifeStage	<input type="checkbox"/>	Text	50	Life Stage
NeedRetrt	<input type="checkbox"/>	Long Integer	4	# Needing Retreatment
PerPopTrtd	<input type="checkbox"/>	Text	10	Percent of Population Treated (IMR)

## **The Alien Plant Control and Monitoring Database Overview**

### **Description:**

The Alien Plant Control and Monitoring database (APCAM) allows for the collection of data related to the inventory, monitoring and controlling of exotic plants. In addition, data regarding weather, collected plant material, digital photographs, and spatial relationships can be stored by APCAM. These additional components of APCAM contribute to monitoring and data analyses. Furthermore, these components, in conjunction with the budgetary tracking spreadsheet, allow for correct and concise reporting to congressional officials.

The following are examples of the reports that APCAM can generate.

- Acres Treated per Species
- Acres Monitored per Species
- Acres Restored
- Eradicated Species
- Acres Covered per Species
- Person Hours per Team

### **Purpose:**

The Alien Plant Control and Monitoring Database (APCAM) was designed in collaboration with the Exotic Plant Management Teams (EPMT) for the purpose of inventory and monitoring of exotic plants. This standardization allows for easy data transfer between the teams and drastically simplifies the reporting process to the Biological Resources Management Division.

The APCAM database was designed using the National Park Service (NPS) Natural Resources Inventory & Monitoring Division's Database Template. The data dictionary is designed to be compliant with the fields outlined by North American Weed Management Association (NAWMA), in conjunction with the *Weed Mapping and Database Development Guidelines for the National Park Service, Intermountain Region (IMR)* prepared by Pamela K. Benjamin, Vegetation Ecologist NPS, Intermountain Support Office – Denver, CO. The APCAM database satisfies the minimum Federal Geographic Data Committee's (FGDC) standards for geospatial metadata collection. Furthermore, the APCAM database utilizes the taxonomic naming standards used by NPSpecies and the NPS Taxonomic Database. Also, the APCAM database is designed to utilize the pesticide/herbicide naming conventions and reporting protocols established by NPS's Pesticide Use Proposals (PUP's) database.

**Future Goals:**

- APCAM, in conjunction with GIS (Geographic Information Systems) tools, will assist in the spatial analysis of habitat recovery over time.
- Distribution of APCAM to the 17 Exotic Plant Management Teams (4 currently working and 13 more by 2003), which will cover 157 National Parks. The goal is to distribute APCAM to the remaining 228 National Parks. Thus, all 385 parks in the National Park Service (comprising 83 millions acres) have access to APCAM.
- Data mining and sharing between the EPMT's will enhance productivity.

Phenology	<input type="checkbox"/>	Text	20	Most Advanced Phenology Present (IMR Compliant)
PotForSprd	<input type="checkbox"/>	Text	50	Potential for Spread
RainfallHr	<input type="checkbox"/>	Text	50	Rainfall # Hours Post-Treatment
Remarks	<input type="checkbox"/>	Text	255	General Control Remarks
Retreated	<input type="checkbox"/>	Long Integer	4	# Retreated
RsprtFrm	<input type="checkbox"/>	Text	20	Resprout From
RtrtTicklr	<input type="checkbox"/>	Text	50	Retreatment Tickler Date
SiteMngmnt	<input type="checkbox"/>	Text	10	Site Management Type (IMR)
SSMF	<input type="checkbox"/>	Text	50	Small Size Miconia Fruiting
SurveyType	<input type="checkbox"/>	Text	20	Survey Type (NAWMA)
Team	<input type="checkbox"/>	Text	20	Team Name
Temp	<input type="checkbox"/>	Text	100	Temperature
TotPerHrs	<input type="checkbox"/>	Single	4	Total Person Hours
TotStems	<input type="checkbox"/>	Integer	2	Total # of Stems
TxnCvrPerc	<input type="checkbox"/>	Text	50	Taxon Cover (NAWMA Compliant)
WtrDpth	<input type="checkbox"/>	Single	4	Water Depth (Inches)
WtrPrsnt	<input type="checkbox"/>	Boolean	1	Is Water Present (in waterway)?

**tblAreaUnits**                      **No description**

**Total Field Size:**            **58 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Area covered (unit)	<input checked="" type="checkbox"/>	Text	8	Area Covered (units) during for a sweep (Can be calculated using GIS)
Area covered (unit) desc	<input type="checkbox"/>	Text	50	Area covered (units) description

**tblAssociatedSpecies**                      **No description**

**Total Field Size:**            **511 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Taxon	<input checked="" type="checkbox"/>	Text	157	Associated Species Taxon (Genus and Species) (IMR)
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID code
LocationID	<input type="checkbox"/>	Text	200	Location ID code
Nativity	<input type="checkbox"/>	Text	50	Native to Location
tsn	<input type="checkbox"/>	Long Integer	4	Taxonomic Serial Number from Taxonomic Database

**tblBiocontrolAgents**                      **No description**

**Total Field Size:** 201 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
BiocontrolAgent	<input checked="" type="checkbox"/>	Text	50	Biological Agent
BiocontrolAgentDescription	<input type="checkbox"/>	Text	150	Biological Agent Control
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblBiocontrolMonitor** **No description**

**Total Field Size:** 670 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
apcamURI	<input checked="" type="checkbox"/>	Text	100	URI from APCAM (foreign key)
AgentVigor	<input type="checkbox"/>	Text	50	Vigor of Agent
BCMURI	<input type="checkbox"/>	Text	100	Universal Recorder Identifier
BcntrlAgnt	<input type="checkbox"/>	Text	50	Agent Used for Biocontrol
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID code (foreign key)
LocationID	<input type="checkbox"/>	Text	200	Location ID code (foreign key)
Team	<input type="checkbox"/>	Text	20	Project Team
TrgtVigor	<input type="checkbox"/>	Text	50	Vigor of Target

**tblBiocontrolRelease** **No description**

**Total Field Size:** 624 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
apcamURI	<input checked="" type="checkbox"/>	Text	100	URI from APCAM (foreign key)
BcntrlAgnt	<input type="checkbox"/>	Text	50	Agent Used for Biocontrol
BCRURI	<input type="checkbox"/>	Text	100	Universal Recorder Identifier
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID code (foreign key)
LocationID	<input type="checkbox"/>	Text	200	Location ID code(foreign key)
QntyRlsd	<input type="checkbox"/>	Long Integer	4	Quantity of Agent Released
QntyRlsdUt	<input type="checkbox"/>	Text	50	Quantity of Agent Released (Units)
Team	<input type="checkbox"/>	Text	20	Project Team

**tblBiotic** **No description**

**Total Field Size:** 557 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EventID	<input checked="" type="checkbox"/>	Text	100	Sampling Event ID code
Community	<input type="checkbox"/>	Text	50	Ecological Community Type (IMR)
CoverType	<input type="checkbox"/>	Text	50	Cover Type (IMR)
EcoStatus	<input type="checkbox"/>	Text	50	Ecological Status (IMR)

HbttType	<input type="checkbox"/>	Text	5	Habitat Type (IMR)
LocationID	<input type="checkbox"/>	Text	200	Location ID code
SereIStage	<input type="checkbox"/>	Text	2	SereI (Succession) Stage (IMR)
VegClass	<input type="checkbox"/>	Text	100	Vegetation Classification (IMR)

**tblCameraManufacturers**      **No description**

**Total Field Size:**      **51 # Memo Fields:**    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CameraManufacturers	<input checked="" type="checkbox"/>	Text	50	Camera Manufacturers
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblCameras**      **No description**

**Total Field Size:**      **151 # Memo Fields:**    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CameraName	<input checked="" type="checkbox"/>	Text	50	Camera Name
CameraManufacturer	<input type="checkbox"/>	Text	50	Camera Manufacturer
CameraModel	<input type="checkbox"/>	Text	50	Camera Model
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblCities\_US**      **No description**

**Total Field Size:**      **73 # Memo Fields:**    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Capital	<input type="checkbox"/>	Text	5	Capital Yes/No
City	<input type="checkbox"/>	Text	40	City
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
State	<input type="checkbox"/>	Text	2	State
Type	<input type="checkbox"/>	Text	25	Type

**tblCityTypes**      **No description**

**Total Field Size:**      **25 # Memo Fields:**    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Type	<input type="checkbox"/>	Text	25	City types

**tblClients**      **No description**

**Total Field Size:**      **306 # Memo Fields:**    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Client	<input checked="" type="checkbox"/>	Text	50	Client

ClientDescription	<input type="checkbox"/>	Text	255	Client Description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblClimates** **No description**

**Total Field Size:** 51 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Climate	<input checked="" type="checkbox"/>	Text	50	Climate
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblCloudCover** **No description**

**Total Field Size:** 27 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CloudCoverCode	<input checked="" type="checkbox"/>	Integer	2	Cloud cover code
CloudCoverDescription	<input type="checkbox"/>	Text	25	Cloud cover description

**tblCommunities** **No description**

**Total Field Size:** 51 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Community	<input checked="" type="checkbox"/>	Text	50	Community
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblCompanies** **No description**

**Total Field Size:** 1393 **# Memo Fields:** 1

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CompanyName	<input checked="" type="checkbox"/>	Text	100	Company Name
Address1	<input type="checkbox"/>	Text	255	Address #1
Address2	<input type="checkbox"/>	Text	255	Address #2
City	<input type="checkbox"/>	Text	255	City
Comment	<input type="checkbox"/>	Text	255	Comments
Fax	<input type="checkbox"/>	Text	50	Fax
Island	<input type="checkbox"/>	Text	50	Island
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
Phone1	<input type="checkbox"/>	Text	50	Phone # 1
Phone2	<input type="checkbox"/>	Text	50	Phone # 2
State	<input type="checkbox"/>	Text	2	State
StrtName	<input type="checkbox"/>	Text	30	Street Name
StrtNum	<input type="checkbox"/>	Text	10	Street Number

WebPage	<input type="checkbox"/>	Memo	0	URL of WebPage
ZipCode	<input type="checkbox"/>	Text	30	Zip Code

**tblConcentrationUnits**      **No description**

**Total Field Size:**      **60 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ConcentratioUnit	<input checked="" type="checkbox"/>	Text	10	Units of concentration
ConcentratioUnitDescription	<input type="checkbox"/>	Text	50	Description of concentration units

**tblContact**      **No description**

**Total Field Size:**      **777 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ContactID	<input checked="" type="checkbox"/>	Long Integer	4	Record ID that is an auto number from access
address	<input type="checkbox"/>	Text	100	Contact Mailing Address (FGDC 10.4.2)
addrtype	<input type="checkbox"/>	Text	20	Contact Address Type (FGDC 10.4.1, "mailing" or "physical" or "mailing and physical")
city	<input type="checkbox"/>	Text	50	Contact City of Address (FGDC 10.4.3)
CNT_PRIME	<input type="checkbox"/>	Text	50	Denotes primary contact as a person or organization (FGDC 10.1-10.2, cntperp or cntorgp compound data type)
cntemail	<input type="checkbox"/>	Text	50	Contact E-mail Address (FGDC 10.8)
cntfax	<input type="checkbox"/>	Text	20	Contact Fax Number (FGDC 10.7)
cntinst	<input type="checkbox"/>	Text	50	Contact Instructions - Supplemental info. on how or when to reach contact (FGDC 10.10)
cntorg	<input type="checkbox"/>	Text	100	Contact Organization (FGDC 10.2.1 or 10.1.2)
cntper	<input type="checkbox"/>	Text	50	Contact Person (FGDC 10.1.1 or 10.2.2)
cntpos	<input type="checkbox"/>	Text	100	Contact Person's Position or Job Title (FGDC 10.3)
cntvoice	<input type="checkbox"/>	Text	20	Contact Phone Number (FGDC 10.5)
country	<input type="checkbox"/>	Text	50	Contact Country of Address (FGDC 10.4.6)
hours	<input type="checkbox"/>	Text	50	Hours of Service - Time period when contact may be reached (FGDC 10.9)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
ParkCode	<input type="checkbox"/>	Text	50	Four Character Park Code
postal	<input type="checkbox"/>	Text	10	Contact Zip or Other Postal Code of Address(FGDC 10.4.5)
state	<input type="checkbox"/>	Text	2	Contact State of Address (FGDC 10.4.4)

**tblContractNumbers**      **No description**

LocationID	<input type="checkbox"/>	Text	200	Location ID code
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblDataSourceScales**                      **No description**

**Total Field Size:**                      **21 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Scale	<input checked="" type="checkbox"/>	Text	20	Data source scale
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblDatums**                                      **No description**

**Total Field Size:**                      **276 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Datum	<input checked="" type="checkbox"/>	Text	20	Datum of source data
DatumDescription	<input type="checkbox"/>	Text	255	Datam description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblDefaults**                                      **No description**

**Total Field Size:**                      **348 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ID	<input checked="" type="checkbox"/>	Long Integer	4	Auto number ID field
AssocNP	<input type="checkbox"/>	Text	8	Associated National Park
Cntry	<input type="checkbox"/>	Text	50	Country
Cnty	<input type="checkbox"/>	Text	50	County
Datum	<input type="checkbox"/>	Text	50	Datum (Reference System)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
Ownrshp	<input type="checkbox"/>	Text	4	Ownership
State	<input type="checkbox"/>	Text	5	State or Province (2-Letter Code)
Team	<input type="checkbox"/>	Text	20	Team Name
TeamDescription	<input type="checkbox"/>	Text	150	Team Description
UTMDrctn	<input type="checkbox"/>	Text	2	UTMZone Direction
UTMZone	<input type="checkbox"/>	Long Integer	4	UTMZone Number

**tblDensities**                                      **No description**

**Total Field Size:**                      **12 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Density	<input checked="" type="checkbox"/>	Text	10	Density description
Order	<input type="checkbox"/>	Integer	2	Order - numerical value associated with density

**tblDevelopmentChanges**      **No description****Total Field Size:**      **413 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Change	<input type="checkbox"/>	Text	255	Change Made
Date	<input type="checkbox"/>	Date/Time	8	Date of Change
Name	<input type="checkbox"/>	Text	50	Who Made Change?
ObjectChanged	<input type="checkbox"/>	Text	50	What was Changed? (Form, Report, Query, Table, Relationships)
ToVersion	<input type="checkbox"/>	Text	50	What Version was Changed?

**tblDiluents**      **No description****Total Field Size:**      **1191 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ProductCode	<input checked="" type="checkbox"/>	Text	50	Diluent Product Code
AutoNumber	<input type="checkbox"/>	Long Integer	4	Auto Number
Comment	<input type="checkbox"/>	Text	255	Comments
Date of Label	<input type="checkbox"/>	Date/Time	8	Date of Diluent Label
DateOfMSDS	<input type="checkbox"/>	Date/Time	8	Date of Material Data Safety Sheet (MSDS)
EPA#	<input type="checkbox"/>	Text	50	Diluent Assigned EPA Number
Manufacturer	<input type="checkbox"/>	Text	255	Diluent Manufacture
MSDSOnFile?	<input type="checkbox"/>	Text	255	Material Data Safety Sheet (MSDS) on File? (Yes/No)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
ProductDescription	<input type="checkbox"/>	Text	255	Diluent Product Description
ProductID	<input type="checkbox"/>	Text	50	Diluent Product ID Code

**tblDirections**      **No description****Total Field Size:**      **5 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Directions	<input checked="" type="checkbox"/>	Text	2	Geographic Bearing (Direction)
BasicFour	<input type="checkbox"/>	Boolean	1	Basic four directions display on
Order	<input type="checkbox"/>	Integer	2	Order of geographic bearing (Direction)

**tblDisposalMethods**      **No description****Total Field Size:**      **51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
DisposalMethod	<input checked="" type="checkbox"/>	Text	50	Disposal Method of species controlled
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tbIDistributions**                      **No description****Total Field Size:**            100 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Distributions	<input checked="" type="checkbox"/>	Text	50	SpeciesDistribution Code
DistributionsDescription	<input type="checkbox"/>	Text	50	Species Distribution Code Description

**tbIDisturbances**                      **No description****Total Field Size:**            48 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Disturbance	<input checked="" type="checkbox"/>	Text	7	Disturbance Code (IMR)
DisturbanceDescription	<input type="checkbox"/>	Text	40	Disturbance Code Description (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tbIDisturbancesLocationID**                      **No description****Total Field Size:**            330 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Dstrbncs	<input checked="" type="checkbox"/>	Text	10	Disturbances (IMR)
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
LocationID	<input type="checkbox"/>	Text	200	Location ID Code
Type	<input type="checkbox"/>	Text	20	Type of Disturbances - Historic &/or Current

**tbIDyes**                                      **No description****Total Field Size:**            1446 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ProductCode	<input checked="" type="checkbox"/>	Text	50	Dye Product Code
AutoNumber	<input type="checkbox"/>	Long Integer	4	Auto Number
Comments	<input type="checkbox"/>	Text	255	Comments
Date of Label	<input type="checkbox"/>	Date/Time	8	Date of Dye Lable
DateOfMSDS	<input type="checkbox"/>	Date/Time	8	Date of Material Safety Data Sheet (MSDS)
EPA#	<input type="checkbox"/>	Text	50	Dye assigned EPA Number
Formulation	<input type="checkbox"/>	Text	255	Dye Formulation
Manufacturer	<input type="checkbox"/>	Text	255	Dye Manufacturer
MSDSOnFile?	<input type="checkbox"/>	Text	255	Material Safety Data Sheet (MSDS) on File
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
ProductDescription	<input type="checkbox"/>	Text	255	Dye Product Description
ProductID	<input type="checkbox"/>	Text	50	Dye Product ID

**tblEcoStatus**                      **No description****Total Field Size:**            **51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EcoStatus	<input checked="" type="checkbox"/>	Text	50	Ecosystem Status
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblEquipment**                      **No description****Total Field Size:**            **51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EquipmentUsed	<input checked="" type="checkbox"/>	Text	50	Equipment Name
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblEquipmentUsed**                **No description****Total Field Size:**            **156 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EquipmentUsed	<input checked="" type="checkbox"/>	Text	50	Type of Equipment by Name
APCAMURI	<input type="checkbox"/>	Text	100	Foreign Key
PersonHours	<input type="checkbox"/>	Single	4	Number of Person Hours the Equipment was used
Quantity	<input type="checkbox"/>	Integer	2	Quantity of the specified Equipment used

**tblEradicatedSpecies**            **No description****Total Field Size:**            **461 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Taxon	<input checked="" type="checkbox"/>	Text	157	Taxon of Plant Eradicated Genus and Species
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
LocationID	<input type="checkbox"/>	Text	200	Location ID Code
tsn	<input type="checkbox"/>	Long Integer	4	Taxonomic Serial Number

**tblEventIDs**                      **Sampling Event Data****Total Field Size:**            **419 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EventID	<input checked="" type="checkbox"/>	Text	100	Sampling Event ID Code
DateEdited	<input type="checkbox"/>	Text	50	Date Record Edited
DateEntrd	<input type="checkbox"/>	Text	50	Date Record Entered
DateExprtd	<input type="checkbox"/>	Text	50	Date Record Exported
EndDate	<input type="checkbox"/>	Date/Time	8	Date sampling/work was ended (NAWMA Compliant)
EndTime	<input type="checkbox"/>	Date/Time	8	Time of day sampling/work was ended

EventIDURI	<input type="checkbox"/>	Text	100	Universal Record Identifier
PrepTime	<input type="checkbox"/>	Single	4	Preparation Time Person Hours
Recorder	<input type="checkbox"/>	Text	5	REQUIRED 3-Initials Recorder of Data (who wrote the data on the Field Form) (NAWMA Compliant)
StartDate	<input type="checkbox"/>	Date/Time	8	Date sampling/work was started (NAWMA Compliant)
StartTime	<input type="checkbox"/>	Date/Time	8	Time of day sampling/work was started
Team	<input type="checkbox"/>	Text	20	Team Name
TotPerHrs	<input type="checkbox"/>	Single	4	Total Person Hours
TrvlTime	<input type="checkbox"/>	Single	4	Travel Time Person Hours

**tblFilmSpeeds**                      **No description**

**Total Field Size:**            **12 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
FilmSpeed	<input checked="" type="checkbox"/>	Text	10	Film Speed
Order	<input type="checkbox"/>	Integer	2	Ranking Order of Film Speed

**tblFormulations**                      **No description**

**Total Field Size:**            **51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Formulation	<input checked="" type="checkbox"/>	Text	50	Type of Formulation
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblGeneral1LU**                      **No description**

**Total Field Size:**            **50 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
General	<input type="checkbox"/>	Text	50	General Choices Look Up Table

**tblGeneralLocations**                      **No description**

**Total Field Size:**            **55 # Memo Fields: 1**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
GeneralLocation	<input checked="" type="checkbox"/>	Text	50	General Location Name
AssocNP	<input type="checkbox"/>	Text	4	Associated National Park
GeneralLocationDescription	<input type="checkbox"/>	Memo	0	General Location Name Description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblGeneralLU**                      **No description**

**Total Field Size:** 50 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
General	<input type="checkbox"/>	Text	50	General Choices Look Up Table

**tblGeoHow**

**No description**

**Total Field Size:** 367 **# Memo Fields:** 3

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
GeoHow	<input checked="" type="checkbox"/>	Text	8	Name of the Geographic Conversion Procedure
Comments	<input type="checkbox"/>	Text	50	Brief Comments
CurrentForOrg	<input type="checkbox"/>	Boolean	1	Is this a Current Option for the Organization? (Yes/No)
Edit	<input type="checkbox"/>	Boolean	1	Click this to Indicate is a New Record or Changes are Needed/Desired
Flag	<input type="checkbox"/>	Boolean	1	For Temporary Use
GeoConvertMethod	<input type="checkbox"/>	Boolean	1	Is this a Method for Exporting Data to a GIS? (Yes/No)
GeoHowDescription	<input type="checkbox"/>	Text	250	Description of the Geographic-Referencing Procedure
GeoHowDesired	<input type="checkbox"/>	Boolean	1	Is this a Geographical Desired Value? (Yes/No)
GeoIDType	<input type="checkbox"/>	Boolean	1	Is this an ID for a Type of Geographic Referencing? (Yes/No)
Notes	<input type="checkbox"/>	Memo	0	Detailed Notes
OnFieldForm	<input type="checkbox"/>	Boolean	1	Is this on the Field Form? (Yes/No)
OnFieldForm-Desired	<input type="checkbox"/>	Boolean	1	Is this on the Field Form the desired format? (Yes/No)
ReviewHistory	<input type="checkbox"/>	Memo	0	CONSOLIDATOR ONLY -- Information about the review process to share with all reviewers
ReviewNotes	<input type="checkbox"/>	Memo	0	Put your Ideas here about Changes Needed/Desired
Revised	<input type="checkbox"/>	Boolean	1	CONSOLIDATOR ONLY -- Indicates this record has been Revised, and Review is Not Completed (Yes/No)
Temp	<input type="checkbox"/>	Text	50	For Temporary Use

**tblGeologicSubstrates**

**No description**

**Total Field Size:** 69 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Substrate	<input checked="" type="checkbox"/>	Text	3	Geologic Substrate Code (IMR)
Examples	<input type="checkbox"/>	Text	50	Example Types (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
SubstrateDescription	<input type="checkbox"/>	Text	15	Geologic Substrate Code Description (IMR)

**tblHabitatTypes**

**No description**

**Total Field Size:** 44 **# Memo Fields:** 0

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<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
HabitatType	<input checked="" type="checkbox"/>	Text	3	Habitat Type Code (IMR)
HabitatTypeDescription	<input type="checkbox"/>	Text	40	Habitat Type Code Description (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblHeightClasses** No description

**Total Field Size:** 305 **# Memo Fields:** 0

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<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
FieldName	<input checked="" type="checkbox"/>	Text	255	Height Classes Abbreviation
FullName	<input type="checkbox"/>	Text	50	Height Classes Full Description

**tblHerbicideCategories** No description

**Total Field Size:** 15 **# Memo Fields:** 0

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<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
HerbCategory	<input checked="" type="checkbox"/>	Text	15	Herbicide Categories (Ezject and Herbicide)

**tblHistoricCurrent** No description

**Total Field Size:** 20 **# Memo Fields:** 0

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<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Type	<input checked="" type="checkbox"/>	Text	20	Type description (Historic, Current, Historic & Current)

**tblInfestSizeLU** No description

**Total Field Size:** 50 **# Memo Fields:** 0

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<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
InfestSize	<input type="checkbox"/>	Text	50	Infestation Size Look Up table (IMR)

**tblInitials** No description

**Total Field Size:** 126 **# Memo Fields:** 0

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<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Initials	<input checked="" type="checkbox"/>	Text	5	Initials (3 letters)
FullName	<input type="checkbox"/>	Text	100	Individuals Full Name
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
Team	<input type="checkbox"/>	Text	20	Team Name

**tblLandForms** No description

**Total Field Size:** 25 # **Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
LandForm	<input checked="" type="checkbox"/>	Text	4	Land Form Code (IMR)
LandFormDescription	<input type="checkbox"/>	Text	20	Land Form Code Description (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblLandOwners** No description

**Total Field Size:** 65 # **Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Ownership	<input checked="" type="checkbox"/>	Text	4	Land Ownership Code (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
OwnershipDescription	<input type="checkbox"/>	Text	60	Land Ownership Code Description (IMR)

**tblLanduses** No description

**Total Field Size:** 51 # **Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Use	<input checked="" type="checkbox"/>	Text	50	Land Use description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblLifeStages** No description

**Total Field Size:** 203 # **Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
LifesStage	<input checked="" type="checkbox"/>	Text	50	Life Stage
Description	<input type="checkbox"/>	Text	150	Life Stage Description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
Order	<input type="checkbox"/>	Integer	2	Rank Order

**tblLocationEvents\_Link** Links LocationID & EventID to Data Tables

**Total Field Size:** 300 # **Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EventIDck	<input checked="" type="checkbox"/>	Text	100	Sampling Event ID code (combination key)
LocationIDck	<input type="checkbox"/>	Text	200	Location ID code (combination key)

**tblLocationID** Location Data

**Total Field Size:** 1117 # **Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
LocationID	<input checked="" type="checkbox"/>	Text	200	REQUIRED Location ID Code (IMR Compliant)
AssocNP	<input type="checkbox"/>	Text	8	REQUIRED Associated National Park (IMR)

ContactID	<input type="checkbox"/>	Long Integer	4	Required FGDC ContactID (NAWMA Compliant)
Date	<input type="checkbox"/>	Date/Time	8	Date LocationID Created
DateEdited	<input type="checkbox"/>	Text	50	Date Record Edited
DateEntrd	<input type="checkbox"/>	Text	50	Date Record Entered
DateExprtd	<input type="checkbox"/>	Text	50	Date Record Exported
GenLctn	<input type="checkbox"/>	Text	30	General Location
GeoHowCurrent	<input type="checkbox"/>	Text	30	REQUIRED Current Geographic Referencing Method
GeoHowDesired	<input type="checkbox"/>	Text	50	Desired Geographic Referencing Method
Initials	<input type="checkbox"/>	Text	12	REQUIRED Initials of Person Who Created the LocationID
InPark	<input type="checkbox"/>	Text	5	LocationID In Associated National Park?
LctnDscript	<input type="checkbox"/>	Text	200	Detailed Description of Location/Flag Location
LocationIDFull	<input type="checkbox"/>	Text	200	REQUIRED Location ID Code Full Description
LocIDURI	<input type="checkbox"/>	Text	100	Universal Record Identifier
LocMarked	<input type="checkbox"/>	Text	50	Location flagged/marked in the field?
Team	<input type="checkbox"/>	Text	20	Team Name
Temp	<input type="checkbox"/>	Text	50	Temporary Use -- Info Subject to Deletion AT ANY TIME

**tblLocationID-aux**

**Location Data (ancillary table)**

**Total Field Size:** 1692 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
LocationIDfk	<input checked="" type="checkbox"/>	Text	200	Location ID Code (foreign key)
AccNotes	<input type="checkbox"/>	Text	255	Accuracy Notes
AcctNum	<input type="checkbox"/>	Text	50	Account# Associated with this Location/Work Done
Aspect8	<input type="checkbox"/>	Text	2	Aspect (IMR Compliant)
Cell01	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell02	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell03	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell04	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell05	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell06	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell07	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell08	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell09	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell10	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell11	<input type="checkbox"/>	Text	12	Grid Cell Address

Cell12	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell13	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell14	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell15	<input type="checkbox"/>	Text	12	Grid Cell Address
Cell16	<input type="checkbox"/>	Text	12	Grid Cell Address
Client	<input type="checkbox"/>	Text	50	Client of Work Done
Cntry	<input type="checkbox"/>	Text	50	Country (NAWMA)
Cnty	<input type="checkbox"/>	Text	50	County (NAWMA)
Datum	<input type="checkbox"/>	Text	50	Datum (Reference System) (NAWMA)
EstHError	<input type="checkbox"/>	Double	8	Estimated Horizontal Error (meters) for Coordinates
EstVError	<input type="checkbox"/>	Double	8	Estimated Vertical Error (meters) for Coordinates
HUCNum	<input type="checkbox"/>	Text	50	Hydrologic Unit Code for Watershed (NAWMA)
Landuse1	<input type="checkbox"/>	Text	50	Landuse of Location
Landuse2	<input type="checkbox"/>	Text	50	Landuse of Location
Landuse3	<input type="checkbox"/>	Text	50	Landuse of Location
LglDscrtn	<input type="checkbox"/>	Text	255	Legal Description (NAWMA)
MaxElevFt	<input type="checkbox"/>	Integer	2	Maximum Elevation (ft) (IMR)
MinElevFt	<input type="checkbox"/>	Integer	2	Minimum Elevation (ft) (IMR)
MthdlyUsed	<input type="checkbox"/>	Text	50	Methodology Used (IMR)
Ownrshp	<input type="checkbox"/>	Text	4	Ownership (NAWMA Compliant)
QdName	<input type="checkbox"/>	Text	50	USGS 7.5 Quad Name (NAWMA)
QdNum	<input type="checkbox"/>	Text	50	USGS 7.5 Quad Number (NAWMA)
QltyCntrlA	<input type="checkbox"/>	Text	5	Quality Control Assessment (IMR)
ScIDataSrc	<input type="checkbox"/>	Text	20	Scale of Data Source
SlopeDeg	<input type="checkbox"/>	Single	4	Slope (degrees)
SlopePer	<input type="checkbox"/>	Single	4	Slope (Percent) (IMR)
SlopePos	<input type="checkbox"/>	Text	50	Slope (Position) (IMR)
StartLat	<input type="checkbox"/>	Double	8	Start Latitude (X-Coordinate) for Line or Center of Plot (NAWMA)
StartLong	<input type="checkbox"/>	Double	8	Start Longitude (Y-Coordinate) for Line or Center of Plot (NAWMA)
StartUTMX	<input type="checkbox"/>	Double	8	Start UTM Easting (X-Coordinate) for Line or Center of Plot (NAWMA)
StartUTMY	<input type="checkbox"/>	Double	8	Start UTM Easting (Y-Coordinate) for Line or Center of Plot (NAWMA)
State	<input type="checkbox"/>	Text	5	State or Province (2-Letter Code) (NAWMA)
StopLat	<input type="checkbox"/>	Double	8	Stop Latitude (X-Coordinate) for Line or Center of Plot (NAWMA)

StopLong	<input type="checkbox"/>	Double	8	Stop Longitude (Y-Coordinate) for Line or Center of Plot (NAWMA)
StopUTMX	<input type="checkbox"/>	Double	8	Stop UTM Easting (X-Coordinate) for Line or Center of Plot (NAWMA)
StopUTMY	<input type="checkbox"/>	Double	8	Stop UTM Easting (Y-Coordinate) for Line or Center of Plot (NAWMA)
TMK	<input type="checkbox"/>	Double	8	Tax Map Key #
UTMDrctn	<input type="checkbox"/>	Text	2	UTMZone Direction (NAWMA)
UTMZone	<input type="checkbox"/>	Integer	2	UTMZone Number (NAWMA)

**tblManagementTypes**                      **No description**

**Total Field Size:**                      **10 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ManagementType	<input checked="" type="checkbox"/>	Text	10	Management Types (Active and Inactive) (IMR)

**tblMethodologies**                      **No description**

**Total Field Size:**                      **21 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Methodology	<input checked="" type="checkbox"/>	Text	20	Methodology (Casual Observation, Formal Survey, Remote Sensing) (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblModuleNames**                      **No description**

**Total Field Size:**                      **254 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ModuleName	<input checked="" type="checkbox"/>	Text	50	Display name of module
Count	<input type="checkbox"/>	Integer	2	Count Field used for Summary and NOT Data Entry
FormName	<input type="checkbox"/>	Text	50	Name of form
HerbToolbar	<input type="checkbox"/>	Text	50	Does this Module Require the Herbicide Toolbar?
Priority	<input type="checkbox"/>	Integer	2	Priority for sorting of list
TableName	<input type="checkbox"/>	Text	50	Name of Table
TaxonToolbar	<input type="checkbox"/>	Text	50	Does this Module Require the Taxon Toolbar?

**tblNativity\_LU**                      **No description**

**Total Field Size:**                      **11 # Memo Fields: 1**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Nativity	<input checked="" type="checkbox"/>	Text	10	Nativity classification
NativityID	<input type="checkbox"/>	Byte	1	Unique nativity lookup-record ID
NativityText	<input type="checkbox"/>	Memo	0	Nativity definition

**tblNaturalLU**                      **No description****Total Field Size:**            **50 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
NaturalProcess	<input type="checkbox"/>	Text	50	Natural Process Look Up Table (IMR)

**tblParentOrganizations**                      **No description****Total Field Size:**            **61 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ParentOrgCode	<input checked="" type="checkbox"/>	Text	10	Parent Organization Code
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
ParentOrgDescription	<input type="checkbox"/>	Text	50	Parent Organization Code Description

**tblPercentPopulationClasses**                      **No description****Total Field Size:**            **10 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PercentClass	<input checked="" type="checkbox"/>	Text	10	Percentage Classes from 1 -100 (IMR)

**tblPermissionTypes**                      **No description****Total Field Size:**            **150 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PermissionTypes	<input checked="" type="checkbox"/>	Text	50	Permission Types (Always and One Time)
PermissionTypesDescription	<input type="checkbox"/>	Text	100	Permission Types Description

**tblPersonHours**                      **No description****Total Field Size:**            **327 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Team	<input checked="" type="checkbox"/>	Text	20	Team Name
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
LocationID	<input type="checkbox"/>	Text	200	Location ID Code
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
NumIndvds	<input type="checkbox"/>	Integer	2	Number of Individuals per Team
PerHrs	<input type="checkbox"/>	Single	4	Person Hours

**tblPesticideManufacturers**                      **No description**

**Total Field Size:** 2242 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Manufacturer	<input checked="" type="checkbox"/>	Text	255	Pesticide Manufacturers
Address1	<input type="checkbox"/>	Text	255	Address 1
Address2	<input type="checkbox"/>	Text	255	Address 2
City	<input type="checkbox"/>	Text	255	City
ContactEmail	<input type="checkbox"/>	Text	255	Contact Email address
ContactName	<input type="checkbox"/>	Text	255	Contact Name
ContactNameExtension	<input type="checkbox"/>	Text	50	Contact Name Extension
Fax	<input type="checkbox"/>	Text	50	Contact Fax Number
ManufacturerDescription	<input type="checkbox"/>	Text	255	Pesticide Manufactureres Description
Phone#	<input type="checkbox"/>	Text	50	Contact Phone Number
State	<input type="checkbox"/>	Text	2	State
WebPageAddress	<input type="checkbox"/>	Text	255	Web Page Address (URL)
ZipCode	<input type="checkbox"/>	Text	50	Zip Code

**tblPhenology** **No description**

**Total Field Size:** 24 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Phenology	<input checked="" type="checkbox"/>	Text	20	Phenology Description
Order	<input type="checkbox"/>	Long Integer	4	Ranking in Order

**tblPhotos** **No description**

**Total Field Size:** 1540 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PhotoID	<input checked="" type="checkbox"/>	Long Integer	4	Photo ID Code
CameraName	<input type="checkbox"/>	Text	50	Camera Name
Comments	<input type="checkbox"/>	Text	255	Comments
Compass Bearing(degrees)	<input type="checkbox"/>	Long Integer	4	Compass Bearing (degrees)
DateTaken	<input type="checkbox"/>	Date/Time	8	Date Photo was Taken
DigitalPhotoFileName	<input type="checkbox"/>	Text	255	File Path/Name of the Digital Photos Taken
EventID	<input type="checkbox"/>	Text	50	Sampling Event ID Code
FilmSpeed	<input type="checkbox"/>	Text	10	Film Speed
ForgnKey	<input type="checkbox"/>	Text	255	Foreign Key
GPS Location(Easting)	<input type="checkbox"/>	Double	8	Global Positioning System (GPS) Location (Easting)
GPS Location(Northing)	<input type="checkbox"/>	Double	8	Global Positioning System (GPS) Location (Northing)

LocationID	<input type="checkbox"/>	Text	200	Location ID Code
ParkCode	<input type="checkbox"/>	Text	50	4 Letter Park Code
PhotoTypes	<input type="checkbox"/>	Text	50	Photo Types
PlaceTaken	<input type="checkbox"/>	Text	255	Place Photo was taken
TakenBy	<input type="checkbox"/>	Text	50	Photo Taken By (Name)
Team	<input type="checkbox"/>	Text	20	Team Name
Thumbnail	<input type="checkbox"/>	Other	0	Thumbnail of Image
TimeTaken	<input type="checkbox"/>	Date/Time	8	Time Photo was Taken

**tblPhotoTypes**                      **No description**

**Total Field Size:**            51 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PhotoType	<input checked="" type="checkbox"/>	Text	50	Photo Type Description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblPlantsCollected**                      **No description**

**Total Field Size:**            515 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Taxon	<input checked="" type="checkbox"/>	Text	157	Taxon of Plant Collected
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
LocationID	<input type="checkbox"/>	Text	200	Location ID Code
PropaguleType	<input type="checkbox"/>	Text	50	Type of Propagule Collected
Qty	<input type="checkbox"/>	Single	4	Quantity of Propagule Collected
tsn	<input type="checkbox"/>	Long Integer	4	Taxonomic Serial Number

**tblPopulationCountTypes**                      **No description**

**Total Field Size:**            20 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CountType	<input checked="" type="checkbox"/>	Text	20	Population Count Type (Acre or Individual)

**tblPotentialSpread**                      **No description**

**Total Field Size:**            50 # Memo Fields:    0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PotentSpread	<input checked="" type="checkbox"/>	Text	50	Potential to Spread (Limited, None, Select Edge, Vigorous)

**tblPrecipitation**                      **No description**

**Total Field Size:** 27 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PrecipitationCode	<input checked="" type="checkbox"/>	Integer	2	Precipitation Code
PrecipitationDescription	<input type="checkbox"/>	Text	25	Precipitation Code Description

**tblPrecipitationLU** No description

**Total Field Size:** 50 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PrecipitationLevels	<input type="checkbox"/>	Text	50	Precipitation Level Look Up Table (IMR)

**tblPropaguleTypes** No description

**Total Field Size:** 305 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
PropaguleType	<input checked="" type="checkbox"/>	Text	50	Propagule Types
PropaguleDescription	<input type="checkbox"/>	Text	255	Propagule Types Description

**tblRainfallPostTreatment** No description

**Total Field Size:** 14 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
RainfallPostTreatment	<input checked="" type="checkbox"/>	Text	10	Rain Fall Post Treatment (<1 hr - >6hrs)
Order	<input type="checkbox"/>	Long Integer	4	Ranking Order

**tblResproutTypes** No description

**Total Field Size:** 21 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ResproutType	<input checked="" type="checkbox"/>	Text	20	Resprout Type (Stump Cut, Fire, N/A, Sheer, Shredder, Unknown)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblRestoration** No description

**Total Field Size:** 1753 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
RECID	<input checked="" type="checkbox"/>	Long Integer	4	*Primary Key - Auto Number
AnnualPrecip	<input type="checkbox"/>	Text	50	Annual Precipitation (IMR)
AreaRst	<input type="checkbox"/>	Double	8	Area Restored (IMR)
AreaRstAcr	<input type="checkbox"/>	Double	8	Area Restored Acres (Calculated) (IMR)
AreaRstUnt	<input type="checkbox"/>	Text	8	Area Restored (Unit) (IMR)

BiologyAlteration	<input type="checkbox"/>	Text	50	Degree of alteration to soil biology (low/mod/high/unknown) (IMR)
ChemistryAlteration	<input type="checkbox"/>	Text	50	Degree of alteration to soil chemical (low/mod/high/unknown) (IMR)
Comments	<input type="checkbox"/>	Text	255	Comments
CoverRatio	<input type="checkbox"/>	Text	50	Ratio of native plants to exotic cover (IMR)
CulturalImpacts	<input type="checkbox"/>	Text	50	Invasive species impact to cultural resources/landscape (low/mod/high) (IMR)
DesiredNativeVeg	<input type="checkbox"/>	Text	50	Sufficient desired native vegetation immediately adjacent to allow for native migration (yes/no) (IMR)
ErosionPotential	<input type="checkbox"/>	Text	50	Erosion Potential (low/mod/high) (IMR)
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
FireRegime	<input type="checkbox"/>	Text	50	Natural Fire Regime altered by (weed spp/other disturbance/both) (IMR)
HorzAbsentorMixed	<input type="checkbox"/>	Text	50	Horizon Absent or Mixed (Yes/No) (IMR)
HydrologyAlteration	<input type="checkbox"/>	Text	50	Hydrology altered by (weed spp/other disturbance/both) (IMR)
InfestSize	<input type="checkbox"/>	Text	50	Infestation Size (IMR)
LocationID	<input type="checkbox"/>	Text	200	Location ID Code
NaturalPlantAlteration	<input type="checkbox"/>	Text	50	Degree of alteration to native plant community structure and function (low/mod/high) (IMR)
NutrientCycling	<input type="checkbox"/>	Text	50	Nutrient Cycling altered by (weed spp/other disturbance/both) (IMR)
PlantCommunityType	<input type="checkbox"/>	Text	50	Plant Community Type (IMR)
SedimentationRate	<input type="checkbox"/>	Text	50	Natural Sedimentation Rate altered by (weed spp/other disturbance/both) (IMR)
SoilType	<input type="checkbox"/>	Text	50	Soils Type (IMR)
T&E/RareSpeciesControl	<input type="checkbox"/>	Text	50	Level of impact on T&E/Rare species during control/restoration actions (low/mod/high/unknown) (IMR)
T&E/RareSpeciesHabitat	<input type="checkbox"/>	Text	50	Invasive has no immediate impact on T&E but threatens critical habitat (Yes/No) (IMR)
T&E/RareSpeciesImpact	<input type="checkbox"/>	Text	50	Level of impact or risk to a T&E/Rare species (low/mod/high/unknown) (IMR)
Team	<input type="checkbox"/>	Text	20	Team Name
VisitorExperience	<input type="checkbox"/>	Text	50	Level of impact of infestation on visitor experience (low/mod/high) (IMR)
VisitorUseInfestation	<input type="checkbox"/>	Text	50	Infestation located in an area of (low/mod/high) visitor use (IMR)
WildlifeImpact	<input type="checkbox"/>	Text	50	Level of impact to wildlife habitat (low/mod/high/unknown) (IMR)
WildlifeVectors	<input type="checkbox"/>	Text	50	Degree wildlife serves as invasive seed vector (low/mod/high/unknown) (IMR)

**tbiSereIStages**

**No description**

**Total Field Size:** 24 # Memo Fields: 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
SerelStage	<input checked="" type="checkbox"/>	Text	2	Serel Stage Code (IMR)
Order	<input type="checkbox"/>	Integer	2	Ranking Order (IMR)
SerelStageDescription	<input type="checkbox"/>	Text	20	Serel Stage Code Description (IMR)

**tblSlopePositions** No description

**Total Field Size:** 12 # Memo Fields: 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
SlopePosition	<input checked="" type="checkbox"/>	Text	10	Slope Position (Low 1/3, Mid 1/3, Top 1/3) (IMR)
Order	<input type="checkbox"/>	Integer	2	Ranking Order (IMR)

**tblStates\_US** No description

**Total Field Size:** 37 # Memo Fields: 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
State	<input checked="" type="checkbox"/>	Text	2	State by 2 letter
StateName	<input type="checkbox"/>	Text	35	State Name in Full

**tblStructure-APCAM** No description

**Total Field Size:** 1687 # Memo Fields: 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CheatSheetDescription	<input type="checkbox"/>	Text	255	Abbreviated Description
Description	<input type="checkbox"/>	Text	255	Field Name Description
FieldName	<input type="checkbox"/>	Text	255	Field Name
FullName	<input type="checkbox"/>	Text	50	Field Full Name
Key	<input type="checkbox"/>	Boolean	1	Primary Key Fields
LookupTableName	<input type="checkbox"/>	Text	50	Lookup Table Name
Order	<input type="checkbox"/>	Long Integer	4	Ranking Order
Required	<input type="checkbox"/>	Boolean	1	Field Required
Size	<input type="checkbox"/>	Text	255	Field Size
TableName	<input type="checkbox"/>	Text	50	Table Name
temp	<input type="checkbox"/>	Boolean	1	Temporary Fields
Type	<input type="checkbox"/>	Text	255	Field Type
Values	<input type="checkbox"/>	Text	255	Field Values

**tblStructure-EventID** No description

**Total Field Size:** 1381 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Description	<input type="checkbox"/>	Text	255	Field Name Description
FieldName	<input type="checkbox"/>	Text	255	Field Name
FullName	<input type="checkbox"/>	Text	50	Field Full Name
Key	<input type="checkbox"/>	Boolean	1	Primary Key Fields
LookupTableName	<input type="checkbox"/>	Text	50	Lookup Table Name
Order	<input type="checkbox"/>	Long Integer	4	Ranking Order
Required	<input type="checkbox"/>	Boolean	1	Required Fields
Size	<input type="checkbox"/>	Text	255	Field Size
Type	<input type="checkbox"/>	Text	255	Field Type
Values	<input type="checkbox"/>	Text	255	Field Values

**tblStructure-LocationID** No description

**Total Field Size:** 1381 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Description	<input type="checkbox"/>	Text	255	Field Name Description
FieldName	<input type="checkbox"/>	Text	255	Field Name
FullName	<input type="checkbox"/>	Text	50	Field Full Name
Key	<input type="checkbox"/>	Boolean	1	Primary Key Fields
LookupTableName	<input type="checkbox"/>	Text	50	Lookup Table Name
Order	<input type="checkbox"/>	Long Integer	4	Ranking Order
Required	<input type="checkbox"/>	Boolean	1	Fields Required
Size	<input type="checkbox"/>	Text	255	Field Size
Type	<input type="checkbox"/>	Text	255	Field Type
Values	<input type="checkbox"/>	Text	255	Field Values

**tblSurfactants** No description

**Total Field Size:** 1446 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ProductCode	<input checked="" type="checkbox"/>	Text	50	Surfactants Product Code
AutoNumber	<input type="checkbox"/>	Long Integer	4	Auto Number
Comment	<input type="checkbox"/>	Text	255	Comments
Date of Label	<input type="checkbox"/>	Date/Time	8	Date of Surfactants Label
DateOfMSDS	<input type="checkbox"/>	Date/Time	8	Date of Material Safety Data Sheet (MSDS)
EPA#	<input type="checkbox"/>	Text	50	Assigned EPA Number

Formulation	<input type="checkbox"/>	Text	255	Surfactants Product Formulation
Manufacturer	<input type="checkbox"/>	Text	255	Surfactants Product Manufacturer
MSDSOnFile?	<input type="checkbox"/>	Text	255	Materials Safety Data Sheet (MSDS) on file?
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
ProductDescription	<input type="checkbox"/>	Text	255	Surfactants Product ID Code Description
ProductID	<input type="checkbox"/>	Text	50	Surfactants Product ID Code

**tblSurveyTypes**                      **No description**

**Total Field Size:**            **30 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
SurveyType	<input checked="" type="checkbox"/>	Text	30	Survey Type (Observed (Casual Sighting), Observed (Mapped), Remote Sensing) (IMR)

**tblTaxonCovers**                      **No description**

**Total Field Size:**            **82 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
CoverClassCode	<input checked="" type="checkbox"/>	Text	50	Daubenmire Cover Class Code (NAWMA)
MidPoint	<input type="checkbox"/>	Text	10	Daubenmire Mid Point (NAWMA)
Order	<input type="checkbox"/>	Integer	2	Ordering for Lookup List
RangeOfCover	<input type="checkbox"/>	Text	20	Daubenmire Range of Cover (NAWMA)

**tblTeams**                                **No description**

**Total Field Size:**            **211 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
TeamCode	<input checked="" type="checkbox"/>	Text	50	Team Code Acronym
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
ParentOrg	<input type="checkbox"/>	Text	10	Parent Organization
TeamDescription	<input type="checkbox"/>	Text	150	Team Code Acronym Description

**tblTitles**                                **No description**

**Total Field Size:**            **51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Title	<input checked="" type="checkbox"/>	Text	50	Person Title (Mr. Mrs. Ms. Dr. Rev.)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblTreatments**                      **No description**

**Total Field Size:** 202 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Treatment	<input checked="" type="checkbox"/>	Text	50	Treatment Type
Category	<input type="checkbox"/>	Text	50	Category (Ezject, Herbicide, None)
CurrentForOrg	<input type="checkbox"/>	Boolean	1	Current For Organization
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
TreatmentDescription	<input type="checkbox"/>	Text	100	Treatment Type Description

**tblTripReports** No description

**Total Field Size:** 555 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
TripReport	<input checked="" type="checkbox"/>	Text	255	Path to Word.doc
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
LocationID	<input type="checkbox"/>	Text	200	Location ID Code

**tblUTMZones** No description

**Total Field Size:** 2 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
UTMZone	<input checked="" type="checkbox"/>	Integer	2	Geographic Universal Transverse Mercator (UTM) Zone

**tblValuesAtRisk** No description

**Total Field Size:** 56 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Code	<input checked="" type="checkbox"/>	Text	5	Values At Risk Code (IMR)
Description	<input type="checkbox"/>	Text	50	Values At Risk Code Description (IMR)
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblValuesAtRiskLocationID** No description

**Total Field Size:** 325 **# Memo Fields:** 0

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
ValueAtRsk	<input checked="" type="checkbox"/>	Text	5	Values At Risk (IMR)
EventID	<input type="checkbox"/>	Text	100	Sampling Event ID Code
LocationID	<input type="checkbox"/>	Text	200	Location ID Code
Type	<input type="checkbox"/>	Text	20	Historic &/or Current

**tblVegetationClasses** No description

**Total Field Size: 51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
VegClass	<input checked="" type="checkbox"/>	Text	50	Vegetation Classes
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblVigor No description**

**Total Field Size: 20 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Type	<input checked="" type="checkbox"/>	Text	20	Type Description (Dead, Dying, Feeble, Normal, Vigorous) Dead Dying Feeble Normal Dead, Dying, Feeble, Vigorous

**tblVolumeUnits No description**

**Total Field Size: 158 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
VolumeUnits	<input checked="" type="checkbox"/>	Text	8	Volume in Units
VolumeUnitsComments	<input type="checkbox"/>	Text	150	Volume in Units Description/Comments

**tblVolumeUnits-BioControl No description**

**Total Field Size: 9 # Memo Fields: 1**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
VolumeUnits	<input checked="" type="checkbox"/>	Text	8	Biological Control - Volume in Units
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value
VolumeUnitsDescription	<input type="checkbox"/>	Memo	0	Biological Control - Volume in Units Description

**tblWaterTypes No description**

**Total Field Size: 51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Water	<input checked="" type="checkbox"/>	Text	50	Water Types Description
NewValue	<input type="checkbox"/>	Boolean	1	Flag for New Value

**tblWeather No description**

**Total Field Size: 327 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
EventID	<input checked="" type="checkbox"/>	Text	100	Sampling Event ID Code
CldCvr4	<input type="checkbox"/>	Integer	2	Cloud Cover Classes
LocationID	<input type="checkbox"/>	Text	200	Location ID Code

Precip5	<input type="checkbox"/>	Integer	2	Precipitation Classes
RH	<input type="checkbox"/>	Long Integer	4	Relative Humidity
TempF	<input type="checkbox"/>	Integer	2	Air temperature in Farenheit
WndDrctn9	<input type="checkbox"/>	Text	5	Wind Direction
WndSpdAMPH	<input type="checkbox"/>	Long Integer	4	Average Wind Speed in mph
WndSpdHMPH	<input type="checkbox"/>	Long Integer	4	Highest Wind Speed in mph
WndSpdLMPH	<input type="checkbox"/>	Long Integer	4	Lowest Wind Speed in mph

**tblWindDirections**                      **No description**

**Total Field Size:**                      **9 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
WindDirection	<input checked="" type="checkbox"/>	Text	5	Wind Direction (N, E, S, W, NW, NE, SE,SW, Calm)
Order	<input type="checkbox"/>	Long Integer	4	Ranking in order

**tblYears**                                      **No description**

**Total Field Size:**                      **2 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
Years	<input checked="" type="checkbox"/>	Integer	2	List of Years

**tblYesOrNo**                                  **No description**

**Total Field Size:**                      **51 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
YorN	<input checked="" type="checkbox"/>	Text	50	Yes or No
Marker	<input type="checkbox"/>	Boolean	1	Marker indicated by a check box

**tblZipCodes\_US**                              **No description**

**Total Field Size:**                      **91 # Memo Fields: 0**

<u>Field Name</u>	<u>Primary?</u>	<u>Field Type</u>	<u>Field Size</u>	<u>Field Description</u>
State	<input checked="" type="checkbox"/>	Text	2	State Name
ENC_Zip	<input type="checkbox"/>	Text	5	ENC_Zip
NameType	<input type="checkbox"/>	Text	30	Name Type
PO_Name	<input type="checkbox"/>	Text	28	PO_Name
RPO_Flag	<input type="checkbox"/>	Text	1	RPO_Flag
Zip	<input type="checkbox"/>	Text	5	Zip Code
Zip_Type	<input type="checkbox"/>	Text	20	Zip_Type

## APCAM

### The Alien Plant Control & Monitoring Database

A new Acronym brought to you by....



**Aaron Kogan**  
Haleakala National Park  
Maui, HI



**Judy Daniels**  
Biological Resources Management Division (BRMD)  
Natural Resources Information Division (NRID)  
Fort Collins, CO

## Purpose of APCAM

So many weeds... So little time...

Provide a uniform platform for:

- Recording
- Analyzing
- Mapping
- Reporting
- Exchanging weed inventory, monitoring and control data

## Mahalo nui loa to....

- Haleakala National Park: **Dan McNulty-Huffman, Steve Anderson, Patti Welton and Bill Haus**
- Natural Resource Information Division/Biological Resources Management Division: **Judy Daniels**
- The NPS Exotic Plant Management Teams (EPMT's): **Curt Deuser, Tony Pernas, Todd Neel, Lisa Jameson, Luis Florez, Jeremy Gooding and Kyle Moyer**
- The NPS Biological Resources Management Division: **Linda Drees and Terry Cacek**
- Intermountain Region Support Office: **Pamela K. Benjamin**
- USGS/BRD @ Haleakala National Park: ~**Phillip Thomas**

## Products

- Consistent data and maps for Inventory & Monitoring of Weeds
- Standardized Reporting for EPMT's, Parks & Cooperators
- Facilitated Pesticide-Use Reporting
- Simplified Input into NPSpecies and the Taxonomic Module (TM)

- Recording
- Analyzing
- Mapping
- Reporting
- Exchanging weed inventory, monitoring and control data

Provide a uniform platform for:

So many weeds... So little time...

## Purpose of APCAM

## Overview

- Designed/Managed in a collaboration between HALE, the EPMT's and NRID (I&M)
- Front End in Access 2000 (uh oh!!!!)
- Back End in Access 97
- Based on Database Template
- Federal Geographic Data Committee (FGDC) compliant
- Jives with the Integrated Pest Management System (IPMS) & NPSpecies/TM

## Who are these Exotic Plant Management Teams anyway?

"SWAT" Teams hired specifically to control weeds in (or near) a group of specific parks.

- + 4 Teams Currently
  - + 4 More To Start this Year (~FY2002)
  - + 9 More To Start next Year (~FY2003)
- 17

## Guilty Parties



## From Paradox to Present (an abridged History of APCAM)

- Originally a ~Paradox (v. 5) database with limited Spatial capabilities
- Ported into Access at HALE
- Applied Database Template; i.e. Added "LocationID" "EventID" elements at HALE
- Added new fields from other EPMT's
- EPMT's agreed on 'Core'/Extra Fields at APCAM Workshop
- Currently beta-testing with EPMT's

## Workshops are Fun!!!!



## APCAM Workshop

- Held January 29-31, 2002 in Fort Collins, CO

### Purpose:

- To bring together the EPMT's in order to agree on what information is needed to "go into and come out of" the database
- Agree on 'Core Fields' (aka Required Fields)
- An excuse to Party, Ski and Snowboard!

## Why we used an Access 2000 Front End? (...as opposed to Access 97)

- All EPMT's are using Office 2000
- Can use >2 subforms
- Easier to Use and Develop
- Why not move ahead 3 years to 2 years ago?????

## Why we used an Access 97 Back End?

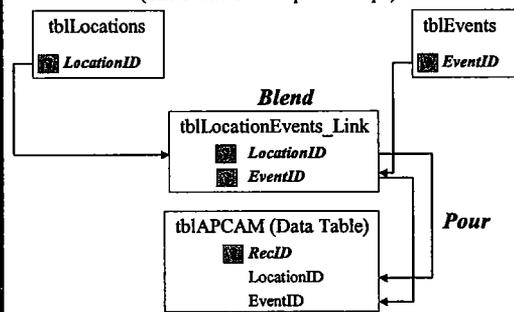
- Still the NPS standard
- Access 2000 Front End can seamlessly link to data in Access 97 Back End
- Assisting parks and cooperators still using Access 97 can still access the Access data
- Low in Fat, High in Protein!!!

## Is it FGDC compliant?

... Why Yes, thanks for asking!!!

- Meets the minimum FDGC standards (Sections 1 & 7)

## Table Relationships (The Database Template Recipe)



## Data Dictionary

### Compliant with the fields:

- ... outlined by the North American Weed Management Association (NAWMA )
- ... outlined in the *Weed Mapping and Database Development Guidelines for the National Park Service, Intermountain Region (IMR)* by Pamela K. Benjamin, Intermountain Support Office
- ... used by the Maui Invasive Species Committee and (soon to be) other Hawaii Cooperators

We recommend serving with a chilled full-body red wine

## Species Lookup Table

List of Species from the (static but updateable) Access version of the Taxonomic Module (TM)

Table Name: **tblTaxonomicUnits**

Linking Field: **TSN** (Taxonomic Serial Number)

Field with Pick List Values: **FullLatinName**

\*APCAM stores both **FullLatinName** and **TSN** in Table

### Why link to the TM?

- NPSpecies also links to the TM
- Additions, updates, splits, lumps, synonyms, and other fun Nomenclature acrobatics are easily updated
- Ability to Add New Taxonomic Units
- It is lots of FUN!!!

### Distinguish between LocationID's (& Species) that are...

- In the Park
- Out of the Park  
(but Encroaching/Threatening)

### Why **not** link directly to NPSpecies? (...with all due respect to Simon/Mark)

- TM is the 'Master List' for NPSpecies
- Removes an extra 'layer' of linking
- As EPMT's move to different parks, no need to 'relink' to a new NPSpecies

### Another Consideration/Decision...

### A Consideration/Decision...

### Identify Georeferencing Types & Methods...

### Georeferencing Types (the anatomy of 'GeoHow')

- **Current**

How is the LocationID  
Currently Georeferenced?

Field Name: **GeoHowCurrent**

- **Desired**

(if Current is not so good...)  
How would you like the LocationID  
to be Georeferenced?

Field Name: **GeoHowDesired**

Confused???????

How about an example or 2.....

### Georeferencing Methods

- **Digitized From Paper**
- **Digitized On Screen**
- **GPS**
- **Grid System (62.5 m)**
- **Tax Map Key**
- **None**

### Example 1:

The LocationID is GPS'ed and that is good enough

Thus....

**GeoHowCurrent = GPS**

**GeoHowDesired = None**

### Why Distinguish Between Georeferencing Types & Methods?

- There is Implied &/or Explicit **Accuracy** associated with each Method
- There is Implied &/or Explicit **Metadata** associated with each Method
- Can Generate a '**Laundry List**' of LocationID's that need Better Georeferencing (from **GeoHowDesired** field)
- Can Georeference '**Retro-Data**' that has not been Georeferenced

### Example 2:

You accidentally left the GPS in the office or the GPS gets no reception. Later, back in the office, you Digitize the LocationID in ArcView. However, you want to try again the next time you visit the LocationID.

Thus....

**GeoHowCurrent = DOS (Digitized On Screen)**

**GeoHowDesired = GPS**

### What we would like to see....

- Change the NPS standard to Office 2000
- ArcView-to-Access Link for Access 2000
- Establish Protocols/Data Dictionaries for Plant (Native/Non-Native) Data Collection
- Establish Protocols/Data Dictionaries in all subject-matter areas on Data Collection

### Any Questions/Demo?

Download at:

<ftp://ftp.nps.gov/incoming/APCAM3.0>

### Contact Info



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# MS Access Natural Resource Database Template

## Data Dictionary for Phase 2 Example

The following Data Dictionary describes each field and shows which fields are required for use with the GIS Theme Manager and which ones are presented only as an example of a relational database structure. Primary Keys are noted in **bold** type (see Figure 1 for examples of the relationships among tables). Fields that are REQUIRED for use with the GIS Theme Manager or because of relationships with other tables are noted with an asterisk (\*). All other fields are optional, but we include recommended field names and data types for them.

### **tblLocations**

**\*LocationID:** This is a 1-255 character code that uniquely identifies a sampling location or sampling unit (e.g., a plot, transect, stream segment, or sampling station). To allow different parks and PIs to work independently, a good schema is to use a key that includes the 4-character park code (to later allow data from multiple parks in a network to be merged), the Project Code that identifies the project and/or component (to allow Principal Investigators to work independently), and some identifier (such as a four-digit interger counter) assigned by the Principal Investigator that makes sense to them. In the example database, an example of the LocationID for a bird sampling station at Tallgrass Prairie is TAPRTweety101. Another example would be ACAD\_HERPS\_ACC0001 to identify Amphibian Call Count station number 1 for the HERPS project at Acadia NP, or ACAD\_BVCP\_T029S001 is the LocationID for Transect 29, Station 01 for the Bird VCP Counts at Acadia NP. A standard format for this code should be documented by each park or network. Each originator will be responsible for keeping their LocationID plus EventID data unique as primary keys.

**\*ParkCode:** Identify the four-character NPS unit code. This code is necessary because many of the databases will be managed at the network level, and it is important to identify which data were collected in which parks. It will also make it possible in the future to do rollups of data for network, regional or Servicewide needs. A table of NPS 4 digit alpha codes for NPS units and USGS quadrangles is available from the national I&M Program.

**\*Project:** This is a 1-10 character code, developed by the park or network, that describes which component of the overall inventory and monitoring program the data pertain to such as

water quality monitoring, vegetation plots, bird monitoring, bat monitoring, soil erosion, etc. (e.g. VEGPLOT for vegetation plots, BVCP for bird VCP counts). There are no National Park Service standards or naming conventions for developing this code. The use of a standard number of characters for ParkCode and Program in the LocationID field, such as 4 characters for ParkCode and 5 characters for Program, would allow the use of character functions to extract information about the park and program from the LocationID field. The Prairie Cluster prototype program uses 6-character project codes.

Description: This is an optional field that provides a brief description of the unique sampling location identified by the LocationID fields (up to 255 characters in length).

\*StartUTMX: Identify the UTMX (easting) coordinate for the center of the plot OR the starting point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto. Double precision to 15 significant digits should be maintained. This is extremely important to maintain millimeter accuracy anywhere on the globe. *Note that in order to preserve the integrity and accuracy of the original data, coordinate information for each project should be entered in either UTM's or latitude/longitude, but not both. The data can later be converted, if required.*

\*StartUTMY: Identify the UTM Y (northing) coordinate for the center of the plot OR the starting point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto. Double precision to 15 significant digits should be maintained to allow millimeter accuracy anywhere on the globe. *Note that in order to preserve the integrity and accuracy of the original data, coordinate information for each project should be entered in either UTM's or latitude/longitude, but not both. The data can later be converted, if required.*

StopUTMX: Identify the UTMX (easting) coordinate for the ending point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto.

StopUTMY: Identify the UTM Y (northing) coordinate for the ending point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto.

**\*StartLat:** Identify the latitude in decimal degrees of the coordinate for the center of the plot OR the starting point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto. Double precision to 15 significant digits should be maintained. This is extremely important when converting coordinates to UTM to avoid truncation or rounding off of fractional values, and to maintain millimeter accuracy anywhere on the globe. *Note that in order to preserve the integrity and accuracy of the original data, coordinate information for each project should be entered in either UTM's or latitude/longitude, but not both. The data can later be converted, if required.*

**\*UTMZone:** Identify the UTM zone (zones 1-52). This information is required if coordinates are specified with the UTM grid coordinate system. UTMZone is defined as a Text field to accommodate data collected by PLUGR GPS units that record zone as 15T.

**\*StartLon:** Identify the longitude in decimal degrees of the coordinate for the center of the plot OR the starting point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto. Double precision to 15 significant digits should be maintained. This is extremely important when converting coordinates to UTM to avoid truncation or rounding off of fractional values, and to maintain millimeter accuracy anywhere on the globe. *Note that in order to preserve the integrity and accuracy of the original data, coordinate information for each project should be entered in either UTM's or latitude/longitude, but not both. The data can later be converted, if required.*

**StopLat:** Identify the latitude in decimal degrees of the coordinate for the ending point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto. Double precision to 15 significant digits should be maintained.

**StopLon:** Identify the longitude in decimal degrees of the coordinate for the ending point of a line or polygon. The field should represent the data in the following manner: data type = number; field size = double (double precision floating point, 15 significant figures); decimal places = auto. Double precision to 15 significant digits should be maintained.

**\*Datum:** Identify the reference system used for defining the coordinates of points (i.e. North American Datum of 1927 or North American Datum of 1983 (NAD27 or NAD83)).

DataType: Point, Line, Polygon (bounding rectangle).

\*EstHError: (Estimated Horizontal Error) Calculate the “error buffer” associated with the x,y coordinates for the location. This metadata value makes it possible with a GIS to show the uncertainty associated with a location, depending on how the coordinates for that location were obtained. Report error in meters (or some fraction of a meter if available) for both UTM and latitude/longitude coordinates. The required Federal reporting standard in the horizontal component is the radius of a circle of uncertainty, such that the true or theoretical location of the point falls within that circle 95% of the time.

*Determining error from maps*: If using standard mapping sources to determine the spatial coordinates (e.g. USGS 1:24,000 quadrangle topographic map), the following are the standard values for errors inherent in the source data, as determined by the National Mapping Accuracy Standards:

1:2,500 = 6.94 feet or 2.12 meters

1:5,000 = 13.88 feet or 4.23 meters

1:12,000 = 33.33 feet or 10.15 meters

1:20,000 = 55.50 feet or 16.91 meters

1:24,000 = 40 feet or 12.19 meters

1:62,500 = 104.17 feet or 31.75 meters

1:100,000 = 166.67 feet or 50.80 meters

*Determining error from GPS data*: If using a Global Positioning System (GPS) to determine the spatial coordinates, accuracy varies and is dependent on a number of values (e.g., maximum PDOP and minimum number of satellites). For point data, when you export a file from Pathfinder Office (PFO), point features have an instantaneous attribute value for Vertical Precision, Horizontal Precision and Standard Deviation. Use the Standard Deviation to determine the value of Estimated Horizontal Error. For line and polygon data, accuracy cannot be clearly determined (according to Trimble), and we recommend that you enter the horizontal error for the starting point as an approximation of the positional error associated with the line.

EstVError: (Estimated Vertical Error) This is the vertical error (in meters) associated with the elevation for the location.

AccNotes: This memo field may be used for any notes related to the positional accuracy of the coordinates. Identify the source data (map, date of map and scale, or GPS unit, or other)

used to determine positional coordinates. Another option is to make this a text field with a list of choices of how the coordinates were determined.

Elevation (optional): Identify the elevation of the data point, line, or polygon (in meters).

Aspect (optional): Identify the aspect of the data point, line, or polygon as one of the following: N, NW, NE, S, SW, SE, E, W or 0-360 degrees clockwise from true north.

Slope (optional): Identify the slope of the data point, line, or polygon (in degrees).

Notes: This memo field may be used for any additional notes related to the conditions under which the data is being collected.

## **tblEvents**

**\*EventID**: This code, in conjunction with the LocationID field, provides a unique identifier for the starting time of a particular sampling event. The duration of a sampling event may be minutes, hours, or days, depending on what is being sampled. We recommend a code that includes the Project Code, the date in a format of YYYYMMDD for cases where only one sampling event can occur each day, or YYYYMMDDhhmm (24 hour clock) where a field crew may conduct many sampling events in the same day for a particular component. For example, a code of BVCP\_20000711\_0730 might be entered for a 5-minute sampling period for Bird VCP Counts that began at 7:30 am on July 11, 2000.

**\*Project**: This is a 1-10 character code, developed by the park or network, that describes which component of the overall inventory and monitoring program the data pertain to such as water quality monitoring, vegetation plots, bird monitoring, bat monitoring, soil erosion, etc. (e.g. VEGPLOT for vegetation plots, BVCP for bird VCP counts). There are no National Park Service standards or naming conventions for developing this code. The use of a standard number of characters for ParkCode and Program in the LocationID field, such as 4 characters for ParkCode and 5 characters for Program, would allow the use of character functions to extract information about the park and program from the LocationID field.

**\*StartDate**: Identify the date (mm/dd/yy in short date format) when sampling began.

**\*EndDate**: For sampling that occurs over more than one day at a location, identify the date (mm/dd/yy) when sampling ended.

**\*StartTime**: Identify the time of day when sampling began (hh:mm, 24-hour clock).

**\*EndTime**: Identify the time of day when sampling ended (hh:mm, 24-hour clock).

TripReport: A short trip report in MS Word could be made part of the database to describe any special circumstances that future users of the data need to be aware of for proper use and analysis of the data. For example, the trip report might describe who did the sampling, which sampling protocol was used, any deviations from the standard protocol, weather conditions, and any problems with finding sampling locations. The trip report can be embedded into the Access database or can be linked to it using a hyperlink field.

Protocol: A field could be included that documents which version of a sampling protocol was used during this particular sampling event, or the protocol could be listed in the TripReport field if it is consistently used.

### **tblProjectEvents**

Event information that is specific to a sampling protocol (i.e., not shared by all protocols) can be stored in a table such as tblBirdVCPEvents that is linked one-to-one with the **tblEvents** table. Each monitoring protocol and sample population will determine what site conditions needed to be recorded for each sampling event. In the bird VCP count example, certain information such as ambient air temperature, wind, rain and background noise levels are collected for each 5-minute count, but other protocols do not record this information. The example database includes the table tblBirdVCPEvents that includes the following fields:

**\*EventID**: see description under **tblEvents** above.

**ObsInits**: initials of the person making the observations or doing the sampling

**TempC**: the air temperature at time of sampling event as defined in the protocol

**Wind**: wind strength at the time of sampling (0-6, Beaufort Scale)

**Rain**: precipitation conditions at time of sampling event (e.g., clear, cloudy, fog, mist, rain, snow, etc.)

**Clouds**: Percent Cloud Cover (0-100, rounded to nearest 10%)

**Noise**: noise conditions at time of sampling event (e.g., natural quiet, low noise, high noise, etc.)

Other fields: dependent upon sampling protocol used.

## Examples of Data Tables

Each component of an inventory and monitoring program (e.g., amphibian call counts, vegetation plots, bird monitoring, bat monitoring) will require one or more related tables to store the data for that component. The table structure and fields in these tables will be determined by the sampling protocol. For example, a coastal park may have separate tables for land birds, shorebirds, marsh birds, and nest surveys because different sampling protocols are used and different types of data are collected for each component.

The LocationID and EventID fields must be included in each component's table as foreign key fields. The primary key for a component table could either be a composite key that includes these two fields plus some identifier that makes each record unique, or it could be an autonumber or other record identifier that uniquely references each record in the table. In the examples, RecordID is used as the primary key, and the other required fields are foreign keys.

\*RecordID: Autonumber that uniquely references each record

\*LocationID: see description under **tblLocations** above.

\*EventID: see description under **tblEvents** above.

Other fields: dependent upon sampling protocol used.

## ArcView GIS tables

ArcView GIS can use shape files of coverages from ArcInfo. The spatial data files link to the tabular database files via the LocationID. This link allows attributes of the Location (e.g., shape, aspect, datum, UTM zone) to be stored in **tblLocations** and thus precludes the need to add these attributes to each GIS file. The optional link to GIS files allows location information to span the full range of geographic features (point, line, and polygon) and adds additional flexibility to the Database Template approach.

\***LocationID**: The .dbf tables associated with the GIS shape files should include this 1-100 character code that identifies where the data were collected (e.g., plot, transect, stream segment, or sampling station). See description in **tblLocations**.

Shape: ArcView designation for a line, point, or polygon

Area: ArcView designation for units that the data represents, e.g. km, ha

Name: ArcView designation for individual attributes

For additional information and updates on the development of the Database Template, see the website <http://www.nature.nps.gov/im/apps/template.htm>.