

# METADATA FOR GFNMS BEACHWATCH PROGRAM

**30 April 2005**

The Gulf of the Farallones National Marine Sanctuary Beach Watch Program began in 1993. It has continued without interruption through 2005. This document provides information on the data that the Beach Watch program has collected, and the manner in which it is stored in the MS Access Beach Watch database and exported for public use.

## Database Structure

In MS Access, each file comprises an entire database, or a large portion of a database. The Beach Watch database consists of two files. The "Beach Watch FrontEnd" file contains the user interface and the tables and queries that exist only to facilitate that interface. The "Beach Watch Data" file contains the tables that store Beach Watch data. This metadata document describes the tables in the "Beach Watch Data" file.

## Table Types

Three types of table store Beach Watch data. A distinct prefix denotes each type:

tbl - Primary/master table

stb - Sub-table: contains supplementary data. Links to a master table via keyed fields.

rtbl - Reference table: contains persistent data, such as information about beaches.

(Note: a fourth type, the "lookup" table, denoted by the "ltbl" prefix, contains a set of valid entries for a data field. These tables serve the Beach Watch user interface and do not appear in metadata.)

## Field Descriptions

The columns below define field names, field types, field lengths, and precision (for decimal fields only).)

Note that the field length totals for decimals include the decimal place(s) and the decimal point (e.g., "2.5" = 3 1 and "0.25" = 4 2). Integers, long integers, and dates/times are not assigned fixed lengths.

"Master" in the "Comments" column indicates that the field will be in the Master database only and not in the Exported database for general use.

All field names are prefixed with "fld".

The column with header "L" gives field length.

The column with header "P" gives the "precision for decimal values: the number of decimal places included.

**tblSurvey:** 23 fields covering survey date and conditions, and data entry and proofing information.

Field Name	Type	L	P	Comments
FldBeachID	text	5		Primary Key(1)
FldDate	date/time			Primary Key(2)
fldSurveyType	text	20		
FldTimeBegin	date/time			Format-just time
FldTimeEnd	date/time			Format-just time
FldDeadPct	integer			% survey complete for dead
FldLivePct	integer			% survey complete for dead
FldOil	text	1		Y/N
FldBeau	text	1		Wind Rating: 0-9 or 'U'-unknown
fldVisibility	text	1		1-3 or 'U'-unknown
FldTide	decimal	4	1	>-5 And <9.9 Or 99.9-unknown
FldCancelled	text	9		Master: "CANCELLED" or blank
FldNoDead	text	6		Master: "NODEAD" or blank
FldBand	text	1		Y/N
fldCom?	text	1		Y/N
FldComment	text	70		Master
FldEnterer	text	13		Master
FldChecked	text	1		Master: Y/N
FldChecker	text	13		Master
FldBatch	long int			Master
FldEditDate	Date/time			
fldSpecialSurvey	text	50		
fldNotCheckedIn	Yes/No			Master

**rtblBeach:** 12 fields covering permanent (or semi-permanent) characteristics of each beach, and its beach group (if any). Linked to tblSurvey by fldBeachID.

Field Name	Type	L	P	Comments
fldBeachID	text	5		Primary Key
fldCountyNum	text	3		Code for county
fldCounty	text	24		Name of county
fldCityState	text	255		City and 2C state code
fldDescription	text	255		Full name of beach
FldSize	double	4	1	length in kilometers
fldEnvironment	text	255		% survey complete for dead
fldBeachSurface	text	255		Sandy, cobble, etc.
fldDepPotential	text	255		Rated from high to low.
fldFacingDirection	text	255		1-2C code (SW for southwest, etc.)
fldBeachGroupID	text	50		5C code
FldBeachGroupings	text	50		name of beach group
FldCurrentReportBeaches	Text			

**rtblBeachTeamSched:** 7 fields covering survey teams, members, and team survey dates. Linked to tblSurvey, by fldBeachID.

Field Name	Type	L	P	Comments
fldBeachID	text	5		Primary Key(1)
fldTeamNum	int			Primary Key(2) (Sometimes 2 teams for one beach)
fldSurveyDay	text	255		Day of week team does survey.
fldWeekNum	int			Week of month team does survey
fldFirstDate	date/time			
fldSchedStart	date/time			
fldTeamNames	text	100		Names of team members

**rtblSpecies:** 24 fields covering the species sited in Beach Watch surveys. Linked to stbLive, and stbDead by fldSpeciesID.

Field Name	Type	L	P	Comments
fldSpeciesID	text	4		Primary Key
fldSpeciesCom	text	37		Common name
fldSpeciesSci	text	25		Scientific name
fldKingdom	text	25		Taxonomic
fldPhylum	text	25		Taxonomic (if unknown, Kingdom)
fldClass	text	25		Taxonomic (if unknown, Phylum)
fldOrder	text	25		Taxonomic (if unknown, Class)
fldFamily	text	25		Taxonomic (if unknown, Order)
fldGenus	text	25		Taxonomic (if unknown, Family)
fldStatus	text	25		Resident, migrant, summer, or winter
fldAbundance	text	50		Abundant, common, rare, or uncommon
fldGroup1	text	50		Custom groupings
fldGroup2	text	50		Custom groupings
fldGroup3	text	50		Custom groupings
fldMaster?	text	2		Master: Is species or <b>taxon</b> on the master list? "MA" - yes, <blank> - no
fldExport?	text	1		Master: Is species or <b>taxon</b> in broader grouping for export? "E" - yes, "N" - no
fldMarine?	text	1		Master: Is the species or taxon marine? "M" - yes, "N" - no
fldUnKnown?	text	1		Master: Is the taxon identified to species or not? "I" - yes, "U" - no
fldLive?	text	1		Master: Has the taxon appeared as a Live siting? "L"- yes, <blank> - no
fldDead?	text	1		Master: Has the taxon appeared as a Dead siting? "D"- yes, <blank> - no
fldSpeciesCodeExport	text	4		4C codes for export
fldSpeciesNum		5		5-digit ID number
fldSpeciesCodeOrg	text	4		Master: 4C original Beach Watch codes
fldSpeciesCode6	text	25		6C from scientific name

**rtblSurveyors:** 14 fields covering the species sited in Beach Watch surveys. Linked to rtblSurveyTeam, by fldSurveyorID.

Field Name	Type	L	P	Comments
fldSurveyorID	text	15		Primary Key

fldName	text	255	Full name
fldAddress	text	255	
fldCity	text	255	
fldState	text	255	2C code
fldZipCode	text	255	Full nine-digit zip allowed
fldPhone	text	255	
fldMobile	text	255	
fldEmail	text	255	
fldYearStarted	text	255	4-digit calendar year started
fldYearEnd	text	255	Year ended, or "Active"
fldType	text	255	Trained, regular, or staff
fldExperienceLevel	text	255	
fldHoursSinceJan04	text	255	

**rtblSurveyTeam:** 3 fields identifying surveyors for each team at each beach.

Field Name	Type	L	P	Comments
fldSurveyorID	text	15		Primary Key(1)
fldBeachID	text	5		Primary Key(2)
fldTeamNumber	int			Primary Key(3) (team 1 or 2)

**stbBandedInfo:** 8 fields covering banding of live and dead specimens sited in surveys. Linked to rtblSurveyTeam, by fldSurveyorID.

Field Name	Type	L	P	Comments
fldDate	Date/Time			Primary Key(1) Survey date.
fldBeachID	text	5		Primary Key(2)
fldItemNum	long int			Primary Key(3)
fldSpeciesID	text	4		
fldSurveyor	text	50		
fldColor/Number Left	text	50		For band on left leg
fldColor/Number Right	text	50		For band on right leg
fldReports	memo			

**stbDead:** 18 fields covering dead specimens found on surveys. Linked to tblSurveys by fldDate, fldBeachID, and fldItem.

Field Name	Type	L	P	Comments
fldDate	date/time			Primary Key(1)
fldBeachID	Text	5		Primary Key(2)
fldItem	int			Primary Key(3)
fldSpeciesID	text	4		Master
fldAge	text	2		2C Code (see below)
fldSex	text	1		F, M, or U for unknown
fldCondition	integer	1		F-fresh, D-decomposing, M-mummified/dried, U-unknown
fldCauseOfDeath	text	1		1C Code (see below)
fldScavenged	text	1		Y/N or U-unknown
fldOiled	text	1		Y/N or S-substance unidentified, or U-unknown
fldOilExtent	decimal	1	1	1C Code (see below)
fldOilWhere	text	5		Multiple 1C codes (see below)
fldPhoto	text	1		Was photo taken? Y/N or U-unknown
fldPhotoID	text	1		Info confirmed by photo? Y/N/U
fldSpecimen	text	1		Was spec taken? Y/N/U: Y requires explanation in fldComment

fldTag	text	1	Y/N
fldCommentYN	text	1	Y/N
fldComment	text	70	Master

**stbEffort:** 6 fields covering surveyors' hours contributed and miles driven. Linked to tblSurveys by fldSurveyorID, fldDate, and fldBeachID

Field Name	Type	L	P	Comments
fldDate	date/time			Date of Survey
fldBeachID	Text	5		
fldOrderEntered	text	4		Order of surveyors entered on given survey date
fldSurveyorID	text	15		
fldHours	decimal	5	2	Master
fldMiles	int			Master -- Number of miles driven by surveyor

**stbLive:** 6 fields covering live specimens found on surveys. Linked to tblSurveys by fldDate and fldBeachID

Field Name	Type	L	P	Comments
fldDate	date/time			Date of Survey
fldBeachID	Text	5		
fldSpeciesID	text	4		Master
fldCount	int			Number of the IDed species sighted
fldComments	text	100		
fldOiledNum	int			Number of oiled among IDed species

**stbMiscellaneous:** 5 fields covering miscellaneous sightings (dogs, humans, etc.). Linked to tblSurvey, by fldDate and fldBeachID.

Field Name	Type	L	P	Comments
fldDate	date/time			Date of survey
fldBeachID	text	5		
fldMiscCode	text	2		2C code for misc sightings (dogs, humans, etc.)
fldNumScore	int			Number for each type of misc sighting IDed by 2C code above
fldComments	memo			

**stbOilInfo:** 20 fields covering oil found on Beach Watch surveys. Linked to tblSurveys by fldDate and fldBeachID.

Field Name	Type	L	P	Comments
fldDate	date/time			Primary Key(1)
fldBeachID	text	5		Primary Key(2)
fldTarBallNum	int			# tar balls on a 0-5 scale 9-unknown
fldTBSizeMin	int			Minimum diameter, in mms
fldTBSizeMax	int			Maximum diameter, in mms
fldTBSampCount	int			# of tar ball samples
fldNDOA	int			# of dead oiled vertebrates
fldNOAS	int			# of samples from dead oiled

			vertebrates
fldOANAL?	text	1	Y/N: Was oil analyzed?
fldNLOA	int		# of live oiled birds/mammals
fldNLOASSP	text	40	# of each species of live, oiled bird
fldOPER	int		Amount of oil covering beach on a scale of 0 - 6
fldOWID	int		Average width of oil <b>depositions</b> on a scale of 0 - 6, 9-unknown
fldOLEN	int		Total length of oil <b>depositions</b> on a scale of 0 - 6, 9-unknown
fldODIS	text	1	Average distribution of oil within <b>depositions</b> (1C code)
fldOTHI	text	2	Average thickness of oil within <b>depositions</b> (2C code)
fldOTYP	text	2	Average oil type (2C code)
fldODEG	text	1	Degree of oil (1C code)
fldComment	memo	1	Comments
fldTempTag	text	1	Instructions for changing bad data in record (temporary)

**stbOilsamples:** 18 fields covering info on oil samples found on Beach Watch surveys. Linked to tblSurveys by fldDate and fldBeachID.

Field Name	Type	L	P	Comments
fldDate	date/time			Primary Key(1)
fldBeachID	text	5		Primary Key(2)
fldBWSampNum	int			Primary Key(3)
fldOSPRNum	text	255		Code name for sample
fldSurvey	text	255		Survey type (Regular, UK/Special, etc.)
fldTime	text	255		Military time or U-unknown
fldCollector	text	255		Surveyor ID (last name, first initial)
fldType	text	255		Type of sample (feather etc.)
fldSpeciesItemNum	int			
fldTarballSampleNum	int			
fldSpeciesID	text	255		4C Species code
fldAnalysis	text	255		Comment on result of analysis, or "Not analyzed"
fldComments	text	255		Comments other than analysis
fldDateSampleRecVol	int			Total length of oil <b>depositions</b> on a scale of 0 - 6, 9-unknown
fldFMSAVerified	text	1		Has FMSA verified sample? (Y/N)
fldDateSentOspr	date/time			Date sample sent
fldDateSampleRecOspr	date/time			Date sample received
fldLocation	text	255		Degree of oil (1C code)

## Detailed Description of Each Table

### *tblSurvey*

**fldBeachID** Text 5

The numeric code for the beach (currently only three digits). See *rtblBeach* for a list of these numbers.

**fldDate** Date/Time

The date in the format "MM/DD/YYYY"

**fldTimeBegin** Date/Time

The starting time for the survey recorded in military time (e.g., "0630", "1200", "1715", etc.). All times rounded to nearest 15 minutes.

9999 = Unknown

**fldTimeEnd** Date/Time

The ending time for the survey recorded in military time. All times rounded to nearest 15 minutes.

9999 = Unknown

**fldDeadPct** Integer (between 0 and 100)

The estimated percentage of the beach surveyed for dead vertebrates. Note that distinction between this and

**fldLivePct** (see below) was only recorded following protocol changes initiated in fall 2004. Prior to this only one percentage was recorded for the entire survey and it is assumed that this covered both live and dead (although at least a few instances are known where this was not the case). Also, it is assumed that **fldLivePct** and **fldDeadPct** = 100 when this information is not written down; thus, there is no code for "unknown".

**fldLivePct** Integer (between 0 and 100)

The estimated proportion of the beach surveyed for live vertebrates and other items. See **fldDeadPct** (above).

**fldOil** Text 1

Were any oil-related observations made? Choices limited to:

Y- Yes (includes dead oiled vertebrates, live oiled vertebrates, tar balls, other oil on beach, etc.)

N - No

**fldBeau** Text 1

The estimated wind speed in beaufort scale. Choices limited to:

0 - no wind (0 kts or mph); calm; sea like a mirror.

1 - 1-3 kts, 1-5 mph; light air; sea with ripples but no crests

2 - 4-6 kts, 4-7 mph; light breeze; small wavelets or crests, not breaking

3 - 7-10 kts, 8-12 mph; gentle breeze; large wavelets and crests, some whitecaps

4 - 11-16 kts, 13-18 mph; moderate breeze; 1-4' waves, numerous whitecaps

5 - 17-21 kts, 19-24 mph; fresh breeze; 4-7' waves, many whitecaps, some spray

6 - 22-27 kts, 25-31 mph; strong breeze; 7-13' waves, more whitecaps and spray.

7 - 28-33 kts, 32-38 mph; near gale; 13-20' waves, white foam beginning to blow

8 - 34-40 kts, 39-46 mph; gale; 13-20' waves, foam blowing in streaks

9 - >34 kts, >39 mph; storm; >20' waves, foam and spray; low visibility

U - Unknown

**fldVisibility** Text 1

The estimated minimum visibility. Choices limited to:

- 1 - < 300 feet
- 2 - 300 feet to ¼ mile (1,320 feet)
- 3 - > ¼ mile
- U - Unknown

**fldTide** Decimal 4 1

The tidal height in feet, to the nearest 1/10 of a foot, at the start of the survey. Recorded from the GFNMS tide chart, corrected to each beach if possible.

99.9 = Unknown (tide height can later be entered from NOAA data).

**fldCancelled** Text 9 M

Was the survey cancelled?

"CANCELLED" = Yes (reason in COMMENT)

<Blank> = No

**fldNoDead** Text 6 M

Were there any dead vertebrates found?

"NODEAD" = No

<Blank> = Yes

**fldBand** Text 1

Is there information on banding for this survey in sub-table stbBandedInfo?

Y = Yes

N = No.

**fldCom?** Text 1

Is there information in the COMMENT field?

Y = Yes

N = No.

**fldComment** Text 70

Comments of up to 70 characters.

**fldEnterer** Text 13 M

The person who entered the data in format "LASTNAME<no space>FIRST INITIAL"; e.g., "HALLJ".

UNKNOWN = Unknown

**fldChecked** Text 1 M

Has the data been proofed?

Y = Yes

N = No.

**fldChecker** Text 13 M

The person who proofed the data in format "LASTNAME<no space>FIRST INITIAL"; e.g., "HALLJ".

UNKNOWN = Unknown



## ***rtblBeach***

**fldBeachID** Text 5

The numeric code for the beach (currently only three digits). See *rtblBeach* for a list of these numbers.

**fldDescription** Text 255

The name of the beach.

**fldSize** Double (decimal) 4 1

The length of the beach in kilometers

**fldFacingDirection** Text 2

The direction in which the beach is facing. This direction is perpendicular to a line between the start and end points, toward the ocean, lagoon, or estuary, to the nearest of eight compass points. Choices are limited to: S, SW, W, NW, N, NE, E, and SE.

**fldBeachSurface** Text 255

The surface structure of the beach. Choices are limited to one or two of the following. When there is two surface structures, indicate in order of proportion and separate with a comma; e.g., "Sandy, Rock Ledge" indicates a beach that is mostly sandy but with a lower proportion of rock-ledge substrate. Choices are limited to:

- Sandy
- Rock Ledge
- Boulders
- Cobble
- Marsh
- Mud Flat
- Other (describe in Comment)

**fldDepPotential** Text 255

What is the deposition potential for carcasses? Choices currently limited to:

- None
- Low
- Medium-Low
- Medium-High
- High

**fldEnvironment** Text 255

A description of the type of beach according to the backing. Choices are currently limited to one or two of the following. When there is two backing types, indicate in order of proportion and separate with a comma; e.g., "Dune, Urban" indicates a beach that is mostly backed by dunes but with a lower proportion of urban infusion. Choices are limited to:

- Bluff
- Dune
- Marsh
- Pocket
- Harbor
- Urban
- Other (describe in Comment)

**fldCityState** Text 255

County and State. Choices currently limited to:

Sonoma County, CA  
Marin County, CA  
San Francisco County, CA  
San Mateo County, CA  
Santa Cruz County, CA

**fldBeachGroupID** Text 50

**fldBeachGroupings** Text 50

**Beach Groups:**

**Ano Nuevo State Reserve**

Green Oaks to North Point (506)

Cove Beach (509)

New Year's Creek to Wadell (510)

**Bolinas Lagoon**

Bolinas Lagoon, Dipsea Road (601)

**Fitzgerald Marine Reserve**

J.V. Fitzgerald Marine Reserve (331 – 334)

**Golden Gate National Recreation Area**

Stinson Beach (214)

Muir Beach (219)

Tennessee Cove (221)

Rodeo Beach (223)

Kirby Cove (230)

Baker Beach (302)

Land's End (306)

Ocean Beach North (308)

Ocean Beach Central (309)

Ocean Beach South (310)

Thornton Beach North (311)

Thornton Beach South (312)

**Point Reyes National Sea Shore**

Point Reyes Beach A (114)

Point Reyes Beach B (115)

Point Reyes Beach C (116)

Point Reyes Beach D (117)

Chimney Rock to Drakes Beach (202)

Drakes Beach W. (203)

Drakes Beach E. (204)

Limantour Beach W. (205)

Coast Camp to Pt. Resistance (207)

REC Beach (212)

**San Mateo County**

Thornton Beach South (312)

Sharp Park (315)

Montara Beach (327)

Fitzgerald Marine Reserve (331 – 334)

Pillar Point (335)

Half Moon Bay –North (403)

Half Moon Bay – South	(405)
Miramontes Point/ Martins Beach	(407)
San Gregorio Beach/ Pomponio Beach	(414)
Pescadero Beach	(417)
Pescadero Point	(420)
Bolsa Point/ Pigeon Point	(424)
Gazos Creek	(503)
Green Oaks Creek/North Point	(506)
Cove Beach	(509)
New Years Creek/Waddell Creek	(510)

**Tomales Bay**

Sand Point to Tom's Point	(701)
Tomasini Creek to Millerton Gulch	(706)

## ***rtblEffort***

**fldDate**      Date/Time

The date in the format "MM/DD/YYYY"

**fldBeachID**      Text 5

The numeric code for the beach (currently only three digits). See rtblBeach for a list of these numbers.

**fldSurveyorID**      Text 15

The person who surveyed the beach in format "LASTNAME<no space>FIRST INITIAL"; e.g., "MORTENSONJ".

UNKNOWN = Unknown (indicates an unknown, **non-trained** observer was present).

**fldOrderEntered**      Integer

The surveyor number for the day in the order listed on the form. Range 1-4.

**fldHours**      Decimal 5 2 M

The number of hours spent by the surveyor to survey the beach, including preparation time, in decimal format to the nearest 15 minutes (e.g., 5 hrs 45 min = "5.75").

99.99 = Unknown.

88.88 means that the total hours for this observer are included in the total for the Observer with SN 1 for the beach and date.

**fldMiles**      Integer M

The number of miles (round trip) driven by the surveyor to perform the survey.

9999 = unknown.

8888 means that the total miles for this observer are included in the total for the Observer with SN 1 for the beach and date.

## ***rtblSurveyors***

**fldSurveyorID** Text 15

The person who surveyed the beach in format "LASTNAME<no space>FIRST INITIAL"; e.g., "MORTENSONJ". This field can be used to sort the observers alphabetically by last name.

**fldName** Text 255

The full name (First Last) of the trained surveyor

**fldAddress** Text 255

The street or P.O. Box address of the trained surveyor.

<blank> = unknown

**fldCity** Text 255

The city address of the trained surveyor

<blank> = unknown

**fldState** Text 255

The state address of the trained surveyor

<blank> = unknown

**fldZipCode** Text 255

The zip code of the trained surveyor

<blank> = unknown

**fldPhone** Text 255

The home phone number or voicemail of the surveyor including area code (e.g., "415-555-1221").

<blank> = unknown (or does not have a phone)

**fldMobile** Text 255

The mobile phone number of the surveyor including area code.

<blank> = unknown or does not have a cell phone

**fldEmail** Text 255

The email address of the surveyor.

<blank> = unknown or does not have an email address

**fldYearStarted** Text 255

The Starting Year of the surveyor within the BeachWatch Program.

**fldYearEnd** Text 255

The ending year of an inactive observer.

“Active” = the observer is still active.

**fldExperienceLevel** Text 255

A code indicating the experience level of the observer in bird identification based on a testing system.

<blank> = unknown or has not been tested

## ***stbOillInfo***

**fldDate**                      Date/Time

The date in the format "MM/DD/YYYY"

**fldBeachID**                Text 5

The numeric code for the beach (currently only three digits). See rtblBeach for a list of these numbers.

**fldTarBallNum**   integer

The estimated number (score) of tar balls observed on beach during survey. Choices limited to:

0 - 0

1 - 1-10

2 - 10-100

3 - 100-1,000

4 - 1,000-10,000

5 - 10,000-100,000

9 - Unknown (choice for Enterer only)

**fldTBSizeMin**   integer

The estimated minimum diameter of the tar balls observed to the nearest 1/10 of a centimeter.

99 = Unknown (choice for Enterer only).

**fldTBSizeMax**   integer

The estimated maximum diameter of the tar balls observed to the nearest 1/10 of a centimeter.

99 = Unknown (choice for Enterer only).

**fldTBSampCount**        integer

The number of tar balls collected as samples during the survey.

99 = Unknown (choice for Enterer only).

**fldNDOA**                integer

The number of dead oiled vertebrates observed on the survey. See stbDead for details.

**fldNOAS**                integer

The number of samples taken from dead oiled vertebrates. See stbDead for more information.

99 = Unknown (choice for Enterer only).

**fldOANAL?**    Text 1

Was oil analyzed?

Y - Yes

N - No.

Marker for presence of data in another table containing analysis information (not yet constructed).

**fldNLOA**                integer

Number of live oiled birds and mammals observed on the survey.

999 = unknown

**fldNLOASSP**    Text 40

The number of each species of live oiled bird and mammal observed. Format should be in the form: "SPCO N; SPCO N; etc."

<blank> = no live oiled birds reported

**fldOPER** integer

The percent (estimated total amount of oil) covering the beach up to the dune vegetation or cliff face. Score for entry as follows:

- 0 = no depositions
- 1 = < 1%
- 2 = 1-2%
- 3 = 3-5%
- 4 = 5-10%
- 5 = 10-50%
- 6 = > 50%

**fldOWID** integer

Average width of oil depositions. Score for entry:

- 0 = no depositions
- 1 = < 1 cm
- 2 = 1-5 cm
- 3 = 5-10 cm
- 4 = 10-100 cm
- 5 = >100-300 cm (1-3 m)
- 6 = > 300 cm (3m).
- 9 = Unknown (but oil depositions observed)

**fldOLEN** integer

Total length of oil depositions. Score for entry:

- 0 = no depositions
- 1 = < 1 m
- 2 = 1-5 m
- 3 = 5-10 m
- 4 = 10-100 m
- 5 = >100 m.
- 9 = Unknown (but oil depositions observed)

**fldODIS** Text 1

Average distribution of oil within depositions. Choices limited to:

- C - Continuous (91-100%),
- B - Broken (51-90%)
- P - Patchy (11-50%)
- S - Sporadic (1-10%)
- T - Trace (< 1%).
- U - Unknown (but oil depositions observed)
- N - No oil depositions noted.

**fldOTHI** Text 2

Average oil thickness. Choices limited to:

- PO - Pooled Oil (fresh or mousse) > 1 cm thick.
- CV - Cover (or mousse) 0.1-1 cm thick.
- CT - Coat < 0.1 cm thick which can be scraped off with fingernail.
- ST - Stain < 0.1 cm thick which cannot be scraped off with fingernail.
- FL - Film, just a sheen or iridescent oily film.
- UU- Unknown (but oil depositions observed)
- NO - No oil depositions noted.

**fldOTYP** Text 2

Average oil type. Choices limited to:

- FR - Fresh oil (unweathered, liquid).
- MS - Mousse (emulsified oil occurring over broad areas)
- PT - Patties (discrete accumulations of oil (but not "tarball").
- TC - Tar (highly weathered oil, if tarry, nearly solid in consistency).
- AP - Asphalt Pavements (cohesive, heavily oiled surfaces).
- NO - No oil depositions noted.

**fldODEG**            Text 1

Degree of oiled observed. Choices limited to:

- H - Heavy (> 10 feet wide continuous band).
- M - Medium (3-10 feet continuous or broken band).
- L - Light (1-3 feet of any type or multiple oil swash lines).
- V - Very Light (sporadic patches of deposition, not including "tarballs").
- U - Unknown (but oil depositions observed)
- N - No oil depositions noted.

**fldOILCOMM**            memo

Memo/text field for description of oil observed on survey. Please enhance the above data with qualifying verbiage as appropriate. Verbosity is encouraged.



## ***stbDead***

**fldDate** Date /Time

The date in the format "MM/DD/YYYY"

**fldBeachID** Text 5

The numeric code for the beach (currently only three digits). See rtblBeach for a list of these numbers.

**fldItem** Integer

The item # assigned to the specimen at that beach on that day. Current maximum number: 78. A unique locator (along with fldDate and fldBeachID) for the record.

**fldSpeciesID** Text 4 M

The 4-letter species code of the vertebrate found dead. See rtblSpecies for a list of acceptable codes.

**fldAge** Text 2

The estimated age of the dead vertebrate. Choices limited to:

HY - Hatching Year (all birds except gulls; includes "chicks")

FY - First Year (gulls only)

SY - Second Year (gulls only)

TY - Third Year (gulls only)

AD - Adult (birds and mammals) Replaces AHY (birds) and ATY (gulls) of former coding lists.

PC - Pup/Calf (mammals only)

IM - Immature (mammals only)

UN - Unknown

**fldSex** Text 1

The sex of the dead vertebrate. Choices limited to:

F - Female

M - Male

U - Unknown

**fldCondition** Text 1

The condition of the dead vertebrate. Choices limited to:

F - Fresh Dead

D - Decomposing

M - Mummified, Dried

U - Unknown

**fldCauseOfDeath** Character 1

The cause of death of the vertebrate. Choices limited to:

S - Shot

F - Tangled in Fishing line or net

P - Tangled in Plastic

B - Shark Bite (mammals only)

O - Oiled (OILED?, OILEX, and WOILED data required)

C - Other (explanation in COMMENT required)

U - Unknown

**fldScavenged** Character 1

Was the carcass scavenged? "U" will not be listed as a choice on field form but can be a choice of the enterer. Choices limited to:

Y = Yes

N = No  
U = Unknown.

**fldOiled** Text 1

Was the carcass oiled? "U" will not be listed as a choice on field form but can be a choice of the enterer.

Choices limited to:

Y - Yes  
N - No  
S - Substance present and sampled; unknown if oil or not.  
U - Unknown.

**fldOilExtent** Text 1

The estimated extent that the vertebrate was oiled. Choices limited to the following. "U" will not be listed as a choice on field form but can be a choice of the enterer.

1 - small globules, < 2% of body  
2 - 2-33% of body  
3 - 34-66% of body  
4 - 67-100% of body  
U - Unknown  
N - No oil present

**fldOilWhere** Text 5

Where the oil occurs on the body. Up to three of the following can be entered. If more than one entry, choices should be separated with slashes in format "#/##" or "###/###".

1 - dorsum  
2 - ventral surface  
3 - entire body  
4 - head  
5 - feet  
6 - wings/flippers  
7 - other (explanation in COMMENT required)  
U - Unknown if oil was present (not listed on form).  
N - No oil was present

**fldPhoto** Text 1

Was a photograph taken?

Y = Yes  
N = No  
U = Unknown. "U" will not be listed as a choice on field form but can be a choice of the enterer.

**fldPhotoID** (Formerly "TRANSFER") Character 1

Was the photograph viewed by an expert and confirmed for species identification and other parameters?

Y - Yes  
N - No. Currently, "Unknown" is entered as "N".

**fldSpecimen** Text 1

Was a specimen collected?

Y = Yes. Information on disposition of the specimen or that it was reported to CAS or elsewhere is required in the COMMENT field.  
N = No.  
U = Unknown. "U" will not be listed as a choice on field form but can be a choice of the enterer.

**fldTag** Text 1

Is there information in the stbBandedInfo table?

Y = Yes.

N = No.

**fldCommentYN** Text 1

Is there information in fldComment?

Y = Yes.

N = No.

**fldComment** Memo M

Comments in memo/text format.

## ***stbBandedInfo***

**fldDate**                      Date /Time

The date in the format "MM/DD/YYYY"

**fldBeachID**                Text 5

The numeric code for the beach (currently only three digits). See rtblBeach for a list of these numbers.

**fldItemNum**              Long Integer

The item # assigned to the specimen (if from the stbDead table) at that beach on that day.

stbLive = The tag or band was observed on a live animal and is linked to tblSurvey and stbLive through the fields fldDate, fldBeachID, and fldSpeciesID.

**fldSpeciesID**            Text 4

The 4-letter species code of the vertebrate found dead. See rtblSpecies for a list of acceptable codes.

**fldColor/Number Left**                      Text 50

A description of the band or tags that are located on the left leg or left flippers of the animal. Describe things in order: number (of bands or tags), color, alpha-numeric markers on the band or tag (e.g., "2 bands, green over metal, metal # 2406-05578"). Use fldReports field for other comments or to describe placement of dye marks or other intrusions that may not fit easily into either fldColor/Number Left or fldColor/Number Right.

**fldColor/Number Right**                      Text 50

A description of the band or tags that are located on the right leg or right flippers of the animal. See fldColor/Number Left.

**fldReports**                memo

Any other comments on the tag, band, or markings.

## ***stbLive***

**fldDate**            Date /Time  
The date in the format "MM/DD/YYYY"

**fldBeachID**        Text 5  
The numeric code for the beach (currently only three digits). See rtblBeach for a list of these numbers.

**fldSpeciesID**     Text 4    M  
The 4-letter species code of the vertebrate found dead. See rtblSpecies for a list of acceptable codes.

**fldCount**           Integer  
The number of individuals observed.

**fldComments**     Text 100  
Comments on live data

**fldOiledNum**      Integer  
The number of oiled individuals observed

## ***rtblSpecies***

### **fldSpeciesID**      Text 4

A five-number code to put vertebrates into taxonomic order. The order among classes is Birds (SSN 00070-19999), Mammals (20100-20630), Amphibians (30100), Reptiles (40100-40220), Elasmobranchs (50100-50500), Bony Fish (60100-60700), and Unidentified Animal (70000). Taxonomy follows standard references (e.g., the AOU for birds).

### **fldSpeciesCom**      Text 37

The common or English name of the vertebrate. Common names follow standard references (e.g., the AOU for birds).

### **fldSpeciesSci**      Text 25

The scientific name of the vertebrate.

### **fldKingdom**      Text 25

The taxonomic kingdom of the specimen.

### **fldPhylum**      Text 25

The taxonomic phylum of the specimen (always "Vertebrata," for our purposes).

### **fldClass**      Text 25

The taxonomic class of the vertebrate. For taxa of unknown class, "Vertebrata" is entered.

### **fldOrder**      Text 25

The taxonomic order of the vertebrate. For taxa of unknown order, the class is entered.

### **fldFamily**      Text 25

The taxonomic family of the vertebrate. For taxa of unknown family, the order is entered.

### **fldGenus**      Text 25

The taxonomic genus of the vertebrate. For taxa of unknown genus, the family is entered.

### **fldStatus**      Text 25

The seasonal status of the taxon. Species that show up predominantly in one season are listed for that season, even though fewer numbers may appear in other seasons. Choices are limited to:

Winter - Occurs predominantly as a winter resident

Migrant - Occurs more abundantly on migration than in Winter and Summer.

Summer - Occurs predominantly as a summer resident or fall dispersant.

Resident - Occurs year-round in roughly equal numbers.

### **fldAbundance**      Text 50

The encounter rate of the species or taxon as recorded in stbLive and stbDead. Abundance codes were assigned according to the following formulae and in the following order:

Abundant - Recorded on >1,500 surveys or >10,000 individuals recorded (1993-2003).

Common - Recorded on 101-1,500 surveys or 1,001-10,000 individuals recorded (1993-2003).

Uncommon - Recorded on 11-100 surveys or 21-1,000 individuals recorded (1993-2003).

Rare - Recorded on 1-10 surveys or 1-20 individuals recorded (1993-2003).

### **fldGroup1**      Text 50

Field for first-order taxonomic grouping. Entries include, e.g., "Loon", "Shearwater", "Scoter", "Gull", etc.

**fldGroup2** Text 50

Field for second-order taxonomic grouping. Entries include, e.g., "Tubenose", "Waterfowl", etc.  
No Group = No grouping at this level.

**fldGroup3** Text 50

Field for third-order taxonomic grouping. Entries include "Cetacean", "Fissiped", etc.  
No Group = No grouping at this level.

**fldMaster?** Text 2

Is the species or taxon part of the Master List? MA- Yes, <blank> - No. Only three entries are not part of the master list (Other Non-marine Bird, Other Non-Marine Mammal, and Non-marine Mammal, Domestic), representing groups of taxa for export that are listed by species on the master list.

**fldExport?** Text 1

Does the species or taxon within a broader grouping for Export?  
E - Yes, within a broader grouping for Export.  
N - No, not within a broader grouping for export.

**fldMarine?** Text 1

Is the species or taxon marine?  
M - Marine  
N - Non-marine.

**fldUnKnown?** Text 1

Is the taxon identified to species or not?  
I - Identified  
U - Unidentified.

**fldLive?** Text 1 M

Has the taxon appeared in stbLive?  
L - Yes  
<blank> - No.

**fldDead?** Text 1 M

Has the taxon appeared in stbDead?  
D - Yes  
<blank> - No.

**fldSpeciesCodeExport** Text 4

Four-letter codes for export. Some codes under SPCOM can be lumped into broader categories for export, so that public users are not overwhelmed by codes of non-focal species.

**fldSpeciesNum** Text 5

A five-number code to put vertebrates into taxonomic order. The order among classes is Birds (SSN 00070-19999), Mammals (20100-20630), Amphibians (30100), Reptiles (40100-40220), Elasmobranchs (50100-50500), Bony Fish (60100-60700), and Unidentified Animal (70000). Taxonomy follows standard references (e.g., the AOU for birds).

**fldSpeciesCodeOrg** Text 4 M

Original 4-letter codes used in the Beachwatch program. This list contains all original codes such that when an obsolete code is encountered it's updated code can be looked up.

**fIdSpeciesCode6**                      Text 6

A 6-letter species code, derived from the scientific name, of the vertebrate found dead. For birds, 6-letter codes follow those recommended by Pyle and DeSante (2003). The rules of this reference were used to derive codes for the other classes.



## ***stbMiscellaneous***

**fldDate**            Date /Time  
The date in the format "MM/DD/YYYY"

**fldBeachID**        Text 5  
The numeric code for the beach (currently only three digits). See rtblBeach for a list of these numbers.

**fldMiscCode**      Text 2  
Two-letter code for human activity, dogs, etc. Choices will be limited to.

### Human Activity (Number recorded)

#### OB - Person on Beach

- BA - Bather
- SU - Surfer
- SC - Scuba Diver
- KA - Kayaker
- BB - Boogie Boarder
- BO - Boater.
- BI - Biker
- FI - Fisherman
- HB - Horseback rider
- DL - Dog on leash
- DU - Dog not on leash (unleashed)
- OP - Other Person doing something of note; Entry into fldComments required.
- OT - Oyster Tube
- WS - Windsurfer
- JS - Jet Skier
- CA - Camper
- HG -Hang-glider
- PG - Para-glider
- SB - Skim Boarder
- CD - Clam Digger
- AT - ATV Rider

### Invertebrates (Score recorded)

- WO - Wood
- AL - Alga wrack
- JE - Jellyfish
- SS - Sea Stars
- CM - Crabs and their Molts
- MC - Mole Crabs and their Molts
- VE - Vellela

### Other (Score recorded)

- WO - Wood
- AL - Alga wrack

**fldNumScore**     integer  
The number of observations, or abundance score, for the activity listed under ITEM. The abundance scores for those scored items (see NS and ITEMNAME) are:

0 - 0

1 - 1-10

- 2 - 10-100
- 3 - 100-1,000
- 4 - 1,000-10,000
- 5 - 10,000-100,000
- 6 - 100,000-1,000,000
- 7 - >1,000,000

**fldComments**    memo

Comments of any length on miscellaneous data.