

CHAPTER 1

INTRODUCTION, DEFINITIONS, AND RULES

CWT data must be exchanged in the form of a PSC Format V4.0 dataset. The definition and specification of PSC Format V4.0 is described in this set of documents.

A. Points of Data Exchange

Valid points of exchange are:

- Canada site: Mark Recovery Unit, Pacific Biological Station, Fisheries & Oceans Canada
- U.S. site: Pacific States Marine Fisheries Commission's Regional Mark Processing Center (hereafter "Mark Center")

B. Scheduled Frequency of Data Exchange

Any data should be exchanged as soon as it is considered to be complete. The minimal schedule in which data needs to be exchanged is as follows:

1. From the Mark Center to Canada:
 - a. Release and Location datasets will be sent to Canada:
 - 1) when specifically requested by Canada, or
 - 2) within two weeks of validation and processing at the Mark Center
 - b. Recovery, Catch/Sample, and Catch & Effort datasets will be sent to Canada:
 - 1) when specifically requested by Canada, or
 - 2) immediately upon validation and processing at the Mark Center
2. From Reporting Agencies to the Mark Center:
 - a. Release:
 - 1) Mid-Year Release (CWT Only): Incomplete mid-year data records for the current calendar year should be reported no later than **August 15** of the current calendar year. Preliminary release data must include at a minimum all of the following fields: record_code, format_version, submission_date, reporting_agency, release_agency, coordinator, tag_code_or_release_id, tag_type, species, brood_year, rearing_type, last_release_date, and hatchery_location_code. NOTE: Only the year portion of the last_release_date field is required.

- 2) Final Release: Complete data records for the current calendar year should be reported no later than **January 31** of the following year.
- b. Recovery: Preliminary data for the current calendar year should be reported no later than **January 31** of the following year. This applies to Recovery records where field "Run Year" is equal to the current calendar year.
- c. Catch/Sample: Preliminary data for the current calendar year should be reported no later than **January 31** of the following year. This applies to Catch/sample records where field "Catch Year" is equal to the current calendar year.
- d. Catch & Effort: Preliminary data for the current calendar year should be reported no later than **January 31** of the following year. This applies to Catch & Effort records where field "Catch Year" is equal to the current calendar year.
- e. Location: Locations can be sent whenever updates are deemed necessary by the reporting agency as required to validate data files mentioned above.
- f. Description: **One corresponding Description file must be submitted with any data file mentioned above** when submitted to the Mark Center. The Description file must be sent in the same e-mail package or network transfer session as the data file. However, a Description file should not be re-submitting when a data file is re-submitted solely for the purpose of correcting validation errors.

C. Required Grouping of Records within Data Type Files

- 1. From Mark Center to Canada:
 - a. Release: All releases per file.
 - b. Recovery: One reporting agency, one run year, and all data to date per file.
 - c. Catch/Sample: One reporting agency, one catch year, and all data to date per file.
 - d. Catch & Effort: One reporting agency, one calendar year, and all data to date per file.
 - e. Location: All locations per file.
- 2. From Reporting Agencies to the Mark Center:
 - a. Release: One reporting agency and any number of release records per file.
 - b. Recovery: One reporting agency, one run year, and all data to date per file.
 - c. Catch/Sample: One reporting agency, one catch year, and all data to date per file.
 - d. Catch & Effort: One reporting agency, one calendar year (date_catch_effort_year), and all data to date per file.
 - e. Location: One reporting agency and all Location Codes to date per file.
 - f. Description: One reporting agency and only new Descriptions since last submission per file.

D. General Data File Requirements

1. All PSC Format data must be presented in Comma-Separated Value (CSV) files using the ASCII character set;
2. All files must contain only newline-delimited records (i.e. one record per line);
3. The first record in the dataset must contain the corresponding "Data Field Names" as they are defined (with underscores replacing spaces) for the data type in this specification.
4. All fields which contain a data value must not contain any leading or trailing blanks unless specifically allowed in the Description & Validation notes for a particular field;
5. All fields which contain a data value must be surrounded on both ends by double-quotes (") and must be separated by a comma (,);
6. All fields which do not contain a data value (for whatever reason) are considered NULL values and must have NO representation whatsoever in the data file. The fields for which data is absent will simply be represented by two consecutive commas (,,);
7. No double-quotes (") are allowed in the contents (i.e. values) of any data field because the double-quote (") is sequestered for exclusive use as the delimiter character for data exchange;
8. Leading zeros are optional unless they are part of a value in a lookup field. An Example of a required leading zero as part of the value in a lookup field is; value '01' for the Release coordinator field. Decimal and trailing zeros are optional for numeric values in which all the digits after the decimal point would be zeros. For numeric values with a fractional part the decimal should be present. Implied decimals are not allowed
9. Data field types and ranges:
 - All data specified as "Numeric" must contain only ASCII characters in the range: '0' through '9' or a decimal character '.';
 - All data specified as "Lookup" are considered coded values having a corresponding lookup table, even if they appear numeric;
 - Data values should have neither blank () nor zero (0) characters appended to optional components (i.e. in cases where only partial dates are permitted). For example, the date August, 2001 should be formatted as follows:
 - Correct formatting: "200108"
 - Incorrect formatting: "20010800" or "200108 ";

E. Methods of Data File Exchange

1. Methods of file transfer may be any of the following:
 - Internet File Transfer Protocol (FTP) using the RMIS Internet web-site at the following address: <http://www.rmpc.org>
 - Internet File Transfer Protocol (FTP) using an *individual login account* on the Mark Center computer; FTP to this address: <ftp.rmpc.org> or <ftp.rmim.org>
 - CD-ROM disc
 - 3 1/2 inch rigid disk; 1.44 MB density or high-density
2. For file-transfer purposes, files may be compressed using PKZip, or Unix "gzip" file compression software;

line #n
2. Recovery Data—row and column excerpts:	
Header	"record_code","format_version","submission_date","reporting_agency","sampling_agency","recovery_id","species","run_year","recovery_date","recovery_date_type","period_type","period","fishery","adclip_selective_fishery","estimation_level","recovery_location_code","sampling_site","recorded_mark","sex","weight","weight_code"
Record	,"weight_type","length","length_code","length_type","detection_method","tag_status","tag_code","tag_type","sequential_number","sequential_column_number","sequential_row_number","catch_sample_id","sample_type","sampled_maturity","sampled_run","sampled_length_range","sampled_sex","sampled_mark","estimated_number"
line #1	"R","4.0","20010107","WDFW","371700","1","1996","19960430".....,"635218".....,"317024".....
line #2	"R","4.0","20010107","WDFW","374100","1","19960923".....,"635257".....
line #n

3. Catch/Sample Data—row and column excerpts:	
Header	"record_code","format_version","submission_date","reporting_agency","sampling_agency","catch_sample_id","species","catch_year","period_type","period","first_period
Record	","last_period","fishery","adclip_selective_fishery","estimation_level","catch_location_code","detection_method","sample_type","sampled_maturity","sampled_run","sampled_length_range","sampled_sex","sampled_mark","number_caught","escapement_estimation_method","number_sampled","number_estimated","number_recovered_decoded","number_recovered_no_cwts","number_recovered_lost_cwts","number_recovered_unreadable","number_recovered_unresolved","number_recovered_not_processed","number_recovered_pseudo_tags"," mr_1 st _partition_size"," mr_1 st _sample_size"," mr_1 st _sample_known_ad_status"," mr_1 st _sample_obs_adclips"," mr_2 nd _partition_size"," mr_2 nd _sample_size"," mr_2 nd _sample_known_ad_status"," mr_2 nd _sample_obs_adclips"," mark_rate","awareness_factor","sport_mark_incidence_sampl_size","sport_mark_inc_sampl_obs_adclips"
line #1	"S","4.0","20010309","NWIFC","NWIFC","00001238","1997".....,"E".....
line #2	"S","4.0","20010309","NWIFC","NWIFC","00001237","1997".....,"V".....
line #n

4. Catch & Effort Data—row and column excerpts:	
Header	"record_code","format_version","submission_date","reporting_agency","catch_effort_id","catch_year","period_type","period","landing_status","catch_location_code","harvest","fisher","catch_gear_group","catch_gear","species","grade","number_tickets","catch_weight","number_caught","effort_type","effort_quantity"
Record	
line #1	"C","4.0","20010710","WDFW","OLY00159","1992","6","01","1","3F21704 200015 H","1","1","10","41","1","9","50","100",...
line #2	"E","4.0","20010710","WDFW","OLY00158","1992","6","01","1","3F21704 200015 H","1","1","10","41"..., "50"..., "D","100"
line #n

5. Location Data—row and column excerpts:

Header Record	"record_code","format_version","submission_date","reporting_agency","location_code","location_type","name","latitude","longitude","psc_basin","psc_region","epa_reach","description"
line #1	"L","4.0","20010429","3F10208 031605 R","4",,,,,,"N F CASCADE RIVER"
line #2	"L","4.0","20010429","3M10746X1 X4B","1",,,,,,"4B COMBINED WITH 5 & 6C (NET)"
line #n

6. Description Data—row excerpt (all columns shown here):

Header Record	"record_code","format_version","submission_date","reporting_agency","submission_status","file_type","file_status","first_year","last_year","line","description"
line #1	"D","4.0","20010429","WDFW","R","LC","C",,"001","LOCATION CODE REVISIONS"
line #2	"D","4.0","20010429","WDFW","R","LC","C",,"002"," 7 New Recovery Sites, Hood Canal"
line #3	"D","4.0","20010429","WDFW","R","LC","C",,"003"," 3 Catch Areas Removed North Coastal"
line #4	"D","4.0","20010429","WDFW","R","RC","C","1996","1996","001","1996 Resubmitted Complete CWT Recovery Data."
line #5	"D","4.0","20010429","WDFW","R","RC","C","1996","1996","002"," Updates as follows:"
line #6	"D","4.0","20010429","WDFW","R","RC","C","1996","1996","003"," Puget Sound comm. net and marine sport"
line #7	"D","4.0","20010429","WDFW","R","RC","C","1996","1996","004"," Grays Harbor and Willapa Bay non-treaty net,"
line #8	"D","4.0","20010429","WDFW","R","RC","C","1996","1996","005"," Columbia River trib. Net,"
line #9	"D","4.0","20010429","WDFW","R","RC","C","1996","1996","006"," WDFW hatchery rack, spawning ground, and stream trap"
line #n

CHAPTER 2

Release Data

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
1	Record Code record_code	1	Yes	Lookup 'T' 'N'	Code to indicate the CWT data file classification (class) of this individual record. Must match one of the following: =Tagged Release record =Non-Associated Release record See chapter 16 for further discussion of the use of this field.
2 [24]	Format Version format_version	4	Yes	'4.0'	Format version used to report data Must have the value: '4.0'
3	Submission Date submission_date	8	Yes	YYYYMMDD	Date of submission for this set of records. Date should be close to actual date when this row is sent to the Mark Center Must have the same value for all records in this data submission Should match submission_date in corresponding Description file
4 [29]	Reporting Agency reporting_agency	10	Yes	Lookup	Abbreviation for reporting agency of this dataset for this data exchange Must contain an agency code defined in chapter 8 Must be the same for all records
5 [7]	Release Agency release_agency	10	Yes	Lookup	Abbreviations for tagging agencies Must contain an agency code defined in chapter 8
6 [20]	Coordinator coordinator	2	Yes	Lookup '01' '02' '03' '04' '05' '06' '07' '08' '09' '10'	Reporting coordinator for the release group of this individual record Must match one of the following: =ADFG (S.E. Alaska) =NMFS – Alaska =CDFO =WDFW =ODFW =NMFS – Columbia River =USFWS =CDFG =BCFW =IDFG

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
				'12'	=ADFG (S. Central AK)
				'13'	=MIC (Metlakatla, AK)
				'14'	=NWIFC
				'15'	=CRITFC
7	Tag Code or Release ID	12	Yes	Primary Lookup	This identifier represents either:
[1]	tag_code_or_release_id See notes to follow			AGD1D2D3D4	<p>Case 1) If this release contains CWT fish: Enter tag_code_or_release_id as follows: Cols. 1 – 2: Agency; Cols. 3 - 4: Data 1; Cols. 5 - 6: Data 2; Cols. 7 - 12:Data 3 and 4 Color coded tags and rare-earth tags: Report in Alpha only Sequential tags: Report only AG,D1,D2 for Release data; Report D3, D4 only in Recovery data file,fields 'sequential_column_number' and 'sequential_row_number' Must have record_code = 'T' Must have even number of characters Must be unique Must match one of the following patterns: All numeric OR all Alpha OR 1 Alpha then all numeric OR all numeric then '*' then 1 numeric OR 1 Alpha then all numeric then '*' then 1 numeric OR all Alpha then '*' then 1 numeric OR '##' then 2 Alpha OR '##' then 2 Alpha then '*' then 1 numeric OR '\$\$' then 2 Alpha OR '\$\$' then 2 Alpha then '*' then 1 numeric OR Special cases: 'XX0500' 'HF1505' 'HF1515' See notes to follow</p> <p>Case 2) If this release contains no CWT fish: Enter tag_code_or_release_id as follows: Column 1 must be '!' Columns 2 and 3 must match one of the valid coordinator codes for the Releases coordinator field: Must have record_code = 'N' Must be unique</p>
<p>NOTES for tag_code_or_release_id:</p> <ol style="list-style-type: none"> 1) Re-use of tag codes is not approved. In those cases when a tag code is re-used, whether by accident or intentionally, any subsequent recoveries may be regarded as unresolved discrepancies (where tag status [Recovery file] is '7') as determined by the reporting agency. 2) In cases where a tag code is accidentally re-used, the first occurrence may be appended with a '*1'. The second occurrence must have the suffix '*2' appended, and the n-th occurrence thereafter must have the suffix '*n' appended. Additionally, the field 'tag_reused' must be assigned the value 'Y' for the original tag code and all subsequent instances of the tag code. 3) See chapter 16 for discussion regarding the use of Blank or Agency-Only wire. 					

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
8 [3]	Tag Type tag_type	2	No	Lookup	<p>Code to indicate type of tag used for release group; If present, must match one of the following:</p> <ul style="list-style-type: none"> '0' =Standard binary (1mm) '1' =Half tags (H type) '2' =Half tags (B type) '3' =6 word half length tags '4' =X-ray binary (tag_code_or_release_id must be 'XX0500') '5' =Standard color '6' =Solid color (##) '7' =Striped color (\$\$) '8' =Rare Earth '9' =Repeating series '10' =Sequential 6 word binary; '11' =length & ½ Binary (1.5mm) '12' =Standard Alphanumeric (1 mm) '13' =length & ½ Alphanumeric (1.5 mm) '14' =Sequential Alphanumeric '15' =Half length Alphanumeric (0.5mm) '16' =Pseudo tag, blank wire <p>If tag_type = '10', then first_sequential_number is required and last_sequential_number is required Required if record_code is 'T' If tag_type = '0' thru '15' then record_code must be 'T' If tag_type = '16' then record_code must be 'N' See chapter 16 for further discussion of the use of this field.</p>
9 [27]	First Sequential Number first_sequential_number	5	No	Numeric	<p>Smallest value in sequential number series; Field used for sequential tags only If present, must be numeric in the range '0' through '16383' for tag_type '10' or '0' through '99999' for tag_type '14' Must be absent unless tag_type is '10', '14'</p>
10 [28]	Last Sequential Number last_sequential_number	5	No	Numeric	<p>Largest value in sequential number series; Field used for sequential tags only If present, must be numeric in the range '0' through '16383' for tag_type '10' or '0' through '99999' for tag_type '14' Must be absent unless tag_type is '10', '14'</p>
11 [33]	Related Group Type related_group_type	1	No	Lookup	<p>Code indicating whether this release group is double index tagging or otherwise Required if related_group_id is present If present, must match one of the following:</p> <ul style="list-style-type: none"> 'D' =Double index tag groups 'O' =Other related groups

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
12 [34]	Related Group ID related_group_id	15	No	Alpha-Numeric	Specifies linkage among double index tag groups or other related groups Required if related_group_type is present If present, first 2 columns must match one of the valid coordinator codes for the Releases coordinator field: and columns 3 - 6 must contain year of release and columns 7 - 15 are agency defined alpha-numeric text If present, at least one other record must exist with this same value
13 [4]	Species species	2	Yes	Lookup '1' '2' '3' '4' '5' '6' '7' '8' '9'	Code indicating species of release group; Must match one of the following: =Chinook =Coho =Steelhead =Sockeye =Chum =Pink =Masu =Cutthroat =Atlantic Salmon
14 [5]	Run run	2	No	Lookup '1' '2' '3' '4' '5' '6' '7' '8'	Code to indicate run of this release group; If present, must match one of the following: =Spring =Summer =Fall (includes type S Coho) =Winter =Hybrid =Landlocked =Late Fall N Coho =Late Fall Upriver Bright Chinook
15 [6]	Brood Year brood_year	4	Yes	YYYY	Calendar year when majority of parents of these fish spawned; If more than one brood present (i.e. wild tagging), then use dominant brood and report mixed stock tagging in Comments Must be less than or equal to the current year
16	First Release Date	8	No	YYYYMMDD	Date in which releasing began for this release group

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
[9a]	first_release_date				<p>If the release occurs on a single day, report that date for both first and last date fields. If a release occurred over more than one day but only one date is known, then leave the unknown date field (first or last) absent</p> <p>If present, must be of the form 'YYYYMMDD' where: MM must be in the range '01' through '12'. May be absent DD must be in the range '01' through the last day of the month referenced by MM. Must be absent if MM is absent. May be absent when MM is present</p> <p>This date must be less than or equal to today first_release_date must be less than or equal to last_release_date Required if last_release_date is absent and study_integrity is not 'D' If present, YYYY portion of date is required.</p>
17 [9b]	Last Release Date last_release_date	8	No	YYYYMMDD	<p>Date in which releasing ended for this release group</p> <p>If the release occurs on a single day, report that date for both first and last date fields. If a release occurred over more than one day but only one date is known, then leave the unknown date field (first or last) absent</p> <p>If present, must be of the form 'YYYYMMDD' where: MM must be in the range '01' through '12'. May be absent DD must be in the range '01' through the last day of the month referenced by MM. Must be absent if MM is absent. May be absent when MM is present</p> <p>This date must be less than or equal to today last_release_date must be greater than or equal to first_release_date Required if first_release_date is absent and study_integrity is not 'D' If present, YYYY portion of date is required.</p>
18 [8]	Release Location Code release_location_code	19	No	Lookup	<p>Hierarchical location code to geographically identify actual release location</p> <p>All location codes are standardized within a given State or Province, and coordinated by the State/Province</p> <p>If present, must exactly match the location_code of location_type '4' in the PSC Location file</p> <p>Trailing blanks should not be included</p>
19 [22]	Hatchery Location Code hatchery_location_code	19	No	Lookup	<p>Hierarchical location code to geographically identify actual site of hatchery</p> <p>All location codes are standardized within a given State or Province, and coordinated by the State/Province</p> <p>If present, must exactly match the location_code of location_type '3' in the PSC Location file</p> <p>Required if rearing_type is 'H' Must be absent if rearing_type is 'W' or 'M' Trailing blanks should not be included</p>
20 [23]	Stock Location Code stock_location_code	19	No	Lookup	<p>Hierarchical coding scheme to identify the stock's location or stream</p> <p>All location codes are standardized within a given State or Province, and coordinated by the State/Province</p>

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					If present, must exactly match the location_code of location_type '5' in the PSC Location file Trailing blanks should not be included
21 [10]	Release Stage release_stage	1	No	Lookup 'Z' 'E' 'F' 'G' 'V' 'Y' 'P' 'S' 'A' 'M'	Code indicating stage of majority of release group at point of release; If present, must match one of the following: =Zygote (eyed eggs) =Emergent fry =Fed fry =Fingerling =Advanced fingerling =Yearling =Pre-smolt =Smolt =Adult =Multiple release stages If 'M' then comments are required
22 [11]	Rearing Type rearing_type	1	Yes	Lookup 'H' 'W' 'M' 'U'	Code indicating most prevalent rearing method for this release group; If present, must match one of the following: =Hatchery reared fish (includes any wild fish reared in the hatchery) =Wild fish =Mixed hatchery & wild (downstream migrant or marine tagging) =Unknown (unavailable from release agency) If 'H' then hatchery_location_code is required If 'W', or 'M' then hatchery_location_code must be absent and release_strategy must be absent
23 [12]	Study Type study_type	1	No	Lookup 'E' 'P' 'B' 'O' 'K' 'I'	Code indicating type of study reflected by release group; If present, must match one of the following: =Experimental =Production =Both experimental and production =Other =PSC key indicator stocks =Other index streams
24 [30]	Release Strategy release_strategy	2	No	Lookup 'FR' 'MX' 'VO'	Code indicating strategy used to liberate majority of release group; If present, must match one of the following =Forced release =Mixed release strategies =Volitional release

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					Must be absent if rearing_type is 'W' or 'M'
25 [18]	Avg Weight avg_weight	7	No	Numeric	Average weight of a fish in this release group at point of release Units = grams/fish If present, must be numeric in the range: '.01' through '9999.99' No implied decimal. Decimal optional with up to 2 digits after the decimal point
26 [19]	Avg Length avg_length	6	No	Numeric	Average length of a fish in this release group at point of release Units = millimeters (fork length) If present, must be numeric in the range: '1' through '999999'
27 [21]	Study Integrity study_integrity	1	No	Lookup	Code indicating the survival viability of this release group or the integrity of this study If present, must match one of the following: 'N' =Normal range expected 'D' =Fish destroyed; zero survival assumed 'W' =Warning flag for serious problems If 'W' then comments are required
28 [31]	CWT 1st Mark cwt_1 st _mark	4	No	Lookup	Mark(s) on CWT fish corresponding to count value in cwt_1 st _mark_count If present, must match a mark code from Mark Coding table in chapter 11 Required if record_code is 'T' Must be absent if record_code is 'N' Required if corresponding cwt_1 st _mark_count is present Must be absent if corresponding cwt_1 st _mark_count is absent See chapter 15 for further discussion of the use of this field.
29 [13]	CWT 1st Mark Count cwt_1 st _mark_count	8	No	Numeric	Number tagged with CWT corrected for tag loss and mortality Corresponds to mark code value in cwt_1 st _mark Required if corresponding cwt_1 st _mark is present and study_integrity is not 'D' Must be absent if corresponding cwt_1 st _mark is absent If present, must be numeric in the range: '0' through '99999999' See chapter 15 for further discussion of the use of this field.
30 [31]	CWT 2nd Mark cwt_2 nd _mark	4	No	Lookup	Mark(s) on CWT fish corresponding to count value in cwt_2 nd _mark_count If present, must match a mark code from Mark Coding table in chapter 11 Must be absent if record_code is 'N' Required if corresponding cwt_2 nd _mark_count is present Must be absent if corresponding cwt_2 nd _mark_count is absent

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					Must not contain the same value as cwt_1 st _mark See chapter 15 for further discussion of the use of this field.
31 [13]	CWT 2nd Mark Count cwt_2 nd _mark_count	8	No	Numeric	Number tagged with CWT corrected for tag loss and mortality Corresponds to mark code value in cwt_2 nd _mark Required if corresponding cwt_2 nd _mark is present and study_integrity is not 'D' Must be absent if corresponding cwt_2 nd _mark is absent If present, must be numeric in the range: '0' through '99999999' Must be absent if cwt_1 st _mark_count is zero or absent See chapter 15 for further discussion of the use of this field.
32 [32]	Non CWT 1st Mark non_cwt_1 st _mark	4	No	Lookup	Mark(s) on Non-CWT fish corresponding to count value in non_cwt_1 st _mark_count If present, must match a mark code from Mark Coding table in chapter 11 Required if record_code is 'N' Required if corresponding non_cwt_1 st _mark_count is present Must be absent if corresponding non_cwt_1 st _mark_count is absent See chapter 15 & 16 for further discussion of the use of this field.
33 [15]	Non CWT 1st Mark Count non_cwt_1 st _mark_count	9	No	Numeric	Number with No CWT Tag Corresponds to mark code value in non_cwt_1 st _mark Required if corresponding non_cwt_1 st _mark is present and study_integrity is not 'D' Must be absent if corresponding non_cwt_1 st _mark is absent If present, must be numeric in the range: '0' through '999999999' See chapter 15 & 16 for further discussion of the use of this field.
34 [32]	Non CWT 2nd Mark non_cwt_2 nd _mark	4	No	Lookup	Mark(s) on Non-CWT fish corresponding to count value in non_cwt_2 nd _mark_count If present, must match a mark code from Mark Coding table in chapter 11 Required if corresponding non_cwt_2 nd _mark_count is present Must be absent if corresponding non_cwt_2 nd _mark_count is absent Must not contain the same value as non_cwt_1 st _mark See chapter 15 & 16 for further discussion of the use of this field.
35 [15]	Non CWT 2nd Mark Count non_cwt_2 nd _mark_count	9	No	Numeric	Number with No CWT Tag Corresponds to mark code value in non_cwt_2 nd _mark Required if corresponding non_cwt_2 nd _mark is present and study_integrity is not 'D' Must be absent if corresponding non_cwt_2 nd _mark is absent Must be absent if non_cwt_1 st _mark_count is zero or absent If present, must be numeric in the range: '0' through '999999999'

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					See chapter 15 & 16 for further discussion of the use of this field.
36 [16]	Counting Method counting_method	1	No	Lookup 'B' 'C' 'P' 'W' 'V' 'F'	Method used to determine number of non-CWT fish in the given release group; If present, must match one of the following: =Book estimates =Actual physical counts =Petersen estimates =weight derived estimates =Volumetric Conversion =Feed Conversion Estimates
37 [14]	Tag Loss Rate tag_loss_rate	6	No	Numeric	Number of fish which shed the CWT from the tag loss sample (expressed as a decimal percentage) If present, must be numeric in the range: '0' through '1' No implied decimal. Decimal optional with up to 4 digits after the decimal point Must be absent if record_code is 'N' See chapter 15 for further discussion of the use of this field.
38 [17]	Tag Loss Days tag_loss_days	3	No	Numeric	Number of days fish held to measure tag loss; Fish tagged and released the same day are assigned '0' If present, must be numeric in the range: '0' through '999' Must be absent if record_code is 'N'
39 [26]	Tag Loss Sample Size tag_loss_sample_size	5	No	Numeric	Number of fish sampled to calculate tag_loss_days If present, must be numeric in the range: '0' through '99999' Must be absent if record_code is 'N'
40	Tag Reused tag_reused	1	No	Boolean	Flag to indicate whether or not this record's tag code has been re-used Required if record_code is 'T' and this record is either the original of a reused tag code or any Instance of a reused tag code If present, must have the value 'Y' Must be absent if record_code is 'N'
41 [25]	Comments comments	80	No	Text	Permits brief summary of pertinent information regarding release group Required if study_integrity is 'W' or release_stage is 'M'

CHAPTER 3 Recovery Data

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
1	Record Code record_code	1	Yes	Lookup 'R'	Code to indicate the CWT data file classification (class) of this individual record. Must have the value 'R': =Recovery record
2 [28]	Format Version format_version	4	Yes	'4.0'	Format version used to report data Must have the value: '4.0'
3	Submission Date submission_date	8	Yes	YYYYMMDD	Date of submission for this set of records. Date should be close to actual date when this row is sent to the Mark Center Must have the same value for all records in this data submission Must match submission_date in corresponding Description file
4 [1]	Reporting Agency reporting_agency	10	Yes	Lookup	Abbreviation for reporting agency of this dataset for this data exchange Must contain an agency code defined in chapter 8 Must be the same for all records
5 [32]	Sampling Agency sampling_agency	10	No	Lookup	Agency responsible for sampling or collecting and tag recovery; May differ from reporting_agency If present, must contain an agency code defined in chapter 8
6 [2]	Recovery ID recovery_id	10	Yes	Primary Lookup	Unique ID's assigned to each recovery record by the recovery agency Must be unique for a given reporting_agency and run_year Must not contain embedded blanks
7 [7]	Species species	2	Yes	Lookup '1' '2' '3' '4' '5' '6' '7' '8'	Code indicating species of this recovered fish; Must match one of the following: =Chinook =Coho =Steelhead =Sockeye =Chum =Pink =Masu =Cutthroat

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
				'9'	=Atlantic Salmon Must match the value in corresponding Catch/Sample data file, species
8 [35]	Run Year run_year	4	Yes	YYYY	Calendar year corresponding to catch of this recovery in the fishery. For escapement which crosses year boundaries, it is the year in which majority of run returns Must match Catch Year of corresponding Catch/Sample data file. For recoveries without an associated CatchSample, report same year as those with an associated catch/sample Must be the same for all records in this dataset
9 [3]	Recovery Date recovery_date	8	Yes	YYYYMMDD	Date closest to that in which the catch occurred in the fishery for this decoded tag Must be of the form 'YYYYMMDD' where: YYYY is Required and must be in range; '1970' through the current year MM must be in the range '01' through '12'. May be absent DD must be in the range '01' through the last day of the month referenced by MM. Must be absent if MM is absent. May be absent if MM is present Must not contain embedded blanks Example: April 29, 2000 is coded: 20000429
10 [4]	Recovery Date Type recovery_date_type	1	No	Lookup 'R' 'C'	Code indicating the method used to determine recovery_date; If present, must match one of the following: =Reported date =Calculated date
11 [5]	Period Type period_type	2	No	Lookup	Code to Indicate the type of time periods in which sampling occurred in the fishery / stratum for this tag recovery; If present, must match one of the following: '1' =Escapement period (across years possible) '2' =Bi-weekly (statistical 2 week) '3' =Semi-monthly (calendar) '4' =Statistical month '5' =Calendar month '6' =Statistical week (beginning Monday) '7' =Week (beginning Sunday) '8' =Seasonal (Use for spring, summer, fall, or winter run periods) '10' =Weekend (Saturday, Sunday & observed holiday(s)) '11' =Weekday (Monday – Friday excluding observed holiday(s)) Required if sample_type is '1', '2', '4', or '6' Required if period present; period_type and period must match that used in Catch/Sample data file for the given stratum

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
12 [6]	Period period	2	No	Lookup	<p>Indicates the complete range of time in which sampling occurred in the fishery / stratum for this tag recovery; Possible Ranges:</p> <ul style="list-style-type: none"> n='01' =Escapement period (across years possible) n='01-26' =Bi-weekly (statistical 2 week) n='01-24' =Semi-monthly (calendar) n='01-12' =Statistical month n='01-12' =Calendar month n='01-54' =Statistical week (beginning Monday) n='01-54' =Week (beginning Sunday) n='01-04' =Seasonal periods (01=Spring, 02=Summer, 03=Fall, 04=Winter) n='01-54' =Weekend beginning Saturday (or Friday if on observed holiday) n='01-54' =Weekday beginning Monday (or first working day following observed holiday) <p>Required to map across to sampling period range in the Catch/Sample data file Required if period_type present period_type and period must match that used in Catch/Sample data file for the given stratum</p>
13 [23]	Fishery fishery	3	Yes	Lookup	<p>Code (standardized PSC fishery code) to indicate the fishery in which this recovery occurred Must match a code in the "Fishery" column from Chapter 9 Must match the value in corresponding Catch/Sample data file, fishery</p>
14 [27]	Gear gear	6	No	Lookup	<p>Code used by Agency "in-house" to identify its individual fishery or gear If present, should match a code in the "Fishery or Gear" column from Chapter 9</p>
15	Adclip Selective Fishery adclip_selective_fishery	1	No	Boolean	<p>Flag to indicate whether this recovery came from a fishery where only adipose clipped fish were allowed to be harvested If present, must have the value 'Y'</p>
16 [21]	Estimation Level estimation_level	1	No	Lookup	<p>Level of resolution at which expansion is made; If present, must match one of the following:</p> <ul style="list-style-type: none"> '2' =Level 2 (Sector) '3' =Level 3 (Region) '4' =Level 4 (Area) '5' =Level 5 (Location) '6' =Level 6 (Sub-Location) <p>Must match the value in corresponding Catch/Sample data file estimation_level Required if estimated_number is greater than '0'</p>

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
17 [22]	Recovery Location Code recovery_location_code	19	Yes	Lookup	Hierarchical and geographical coding scheme rendering multiple levels of resolution to Recovery Site All location codes are standardized within a given State or Province, and coordinated by the State/Province Must exactly match the Location Code of Location Type '1' in the PSC Location file Trailing blanks should not be included
18 [20]	Sampling Site sampling_site	4	No	Alpha-Numeric	Agency "in-house" codes for Port of landing, hatchery, etc.
19 [37]	Recorded Mark recorded_mark	4	Yes	Lookup	External mark recorded by sampler (See Note to follow) Must contain a code defined in chapter 11
<p>NOTES for recorded_mark:</p> <p>If Adipose clip status is Known then the recorded_mark should be: 0xxx if fish has not been Adipose clipped 5xxx if fish has been Adipose clipped where xxx represents other marks which may have been checked and recorded</p> <p>If Adipose clip status is Unknown then the recorded_mark should be: 9xxx where xxx represents other marks which may have been checked and recorded</p>					
20 [9]	Sex sex	1	No	Lookup 'F' 'M'	Code to indicate sex of this recovered fish; If present, must match one of the following: =Female =Male
21 [10]	Weight weight	5	No	Numeric	Weight in Kilograms If present, must be numeric in the range: '.01' through '99.99' No implied decimal. Decimal optional with up to 2 digits after the decimal point These fields must all have values or must all be absent: - weight - weight_code - weight_type

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
22 [11]	Weight Code weight_code	1	No	Lookup	Code to indicate method of measuring fish for weight; If present, must match one of the following: '1' =Round '2' =Dressed, head on '3' =Dressed, head off These fields must all have values or must all be absent: - weight - weight_code - weight_type
23 [12]	Weight Type weight_type	1	No	Lookup	Code to indicate how weight was determined; If present, must match one of the following: '1' =Actual weight '2' =Calculated weight (Sample size may be unknown) These fields must all have values or must all be absent: - weight - weight_code - weight_type
24 [13]	Length length	4	No	Numeric	Length in millimeters If present, must be numeric in the range: '1' through '9999' These fields must all have values or must all be absent: - length - length_code - length_type
25 [14]	Length Code length_code	1	No	Lookup	Code to indicate method of measuring fish for length; If present, must match one of the following: '0' =Fork length (preferred measurement) '1' =Mid-eye to fork '2' =Mid-eye to caudal peduncle '3' =Total length '4' =Head length: Eye to opercula '5' =Head length: Tip of snout to opercula These fields must all have values or must all be absent: - length - length_code - length_type

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
26 [15]	Length Type length_type	1	No	Lookup	Code to indicate how length was determined; If present, must match one of the following: =Actual length =Calculated length (Sample size may be unknown) These fields must all have values or must all be absent: - length - length_code - length_type
27 [39]	Detection Method detection_method	1	No	Lookup	Code indicating the method used to detect the presence of a tag on the fish; If present, must match one of the following: =Electronic =Visual If present, must match the value in corresponding Catch/Sample data file, detection_method
28 [19]	Tag Status tag_status	1	Yes	Lookup	Must match one of the following: '1' =Tag read OK (i.e. tag_code corresponds to a valid CWT release & has no unresolved discrepancies) '2' =No tag '3' =Tag lost before read '4' =Tag not readable '5' =Unclipped, positive-signal, head not taken '7' =Unresolved discrepancy (see notes to follow) '8' =Head not processed '9' =Pseudo tag, blank wire If '1' or '9', then tag_code is required
NOTES for tag_status: The following instances may warrant a status of "Unresolved discrepancy": 1) If the tag_code has been re-used (contains "**") and may; therefore, have more than one possible release 2) If the tag_code does not match a CWT Release Group in the Release data file 3) Species of recovered fish does not match that in Release data file 4) Age of fish is illogical (where Age is the difference between brood_year and the year of Recovery) 5) tag_code shows up in recovery when Release record has Expected Survival of "D" (Destroyed) Records classified as "Unresolved discrepancy" are still subject to all other validation requirements					
29 [16]	Tag Code tag_code	12	No	Foreign Lookup	Identifier coded on a tag to denote a release group AGD1D2D3D4For tag_status '1':

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					<p>Required to be a valid CWT release</p> <p>For tag_status '9':</p> <ol style="list-style-type: none"> 1) If completely blank wire was used, report verbatim the text: 'BLANK' in this field; 2) If agency-only coded wire was used, report verbatim the numeric agency wire prefix (i.e. Data 1) followed by the verbatim text: 'BLANK' in this field (e.g. agency 63 wire would be coded '63BLANK') <p>For Sequential Tags Only:</p> <ol style="list-style-type: none"> 1) Binary - the Sequential Table column and row information stored in Data 3 and Data 4 is not Reported here but rather in sequential_column_number & sequential_row_number. 2) Decimal - the Decimal Sequential information for Decimal Sequential tags is stored in sequential_number
30 [18]	Tag Type tag_type	2	No	Lookup	<p>Code to indicate type of tag wire found in the recovery snout; If present, must match one of the following:</p> <ul style="list-style-type: none"> '0' =Standard binary (1mm) '1' =Half tags (H type) '2' =Half tags (B type) '3' =6 word half length tags '4' =X-ray binary (tag_code must be 'XX0500') '5' =Standard color '6' =Solid color (##) '7' =Striped color (\$\$) '8' =Rare Earth '9' =Repeating series '10' =Sequential 6 word binary '11' =Length & 1/2 Binary (1.5mm) '12' =Standard Alphanumeric '13' =length & 1/2 Alphanumeric (1.5 mm) '14' =Sequential Alphanumeric '15' =Half length Alphanumeric (0.5mm) '16' =Pseudo tag, blank wire <p>Required if tag_status is '1' or '9' Must be '16' if tag_status is '9'</p>
31 [40]	Sequential Number sequential_number	5	No	Numeric	<p>Value identifying decimal number for this tag code; Used for decimal tags only</p> <p>If present, then tag_type must be '10' or '14'</p>
32 [33]	Sequential Column Number3 sequential_column_number		No	Numeric	<p>Value in "Table Column"; Corresponds to column number in Sequential Numbers Table; Used for sequential tags only</p> <p>If present, must be numeric in the range: '0' through '127'</p>

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					If present, then tag_type must be '10'
33 [34]	Sequential Row Number sequential_row_number	3	No	Numeric	Value in "Table Row"; Corresponds to row number in Sequential Numbers Table; Used for sequential tags only If present, must be numeric in the range: '0' through '127' If present, then tag_type must be '10'
34 [36]	Catch Sample ID catch_sample_id	10	No	Foreign Lookup	Agency assigned ID used to associate recovery records in Recovery data file to corresponding catch/sample record in Catch/Sample data file. Required if sample_type is '1', '2', '4', or '6' If present, must match the value in corresponding Catch/Sample data file, catch_sample_id Must not contain embedded blanks
35 [25]	Sample Type sample_type	1	Yes	Lookup '1'	Must match one of the following: =In-sample recoveries from a sampled fishery with known catch; estimated_number is non-zero. Also used to report unsampled catch estimated_number must be absent or greater than '0'
				'2'	=Voluntary recoveries from a sampled fishery with known catch; <u>Awareness estimates</u> are available; estimated_number must be absent or greater than '0' (e.g., Puget Sound Sport)
				'3'	=Voluntary recoveries from an unsampled fishery. <u>Awareness approximations</u> may be possible yielding non-zero estimated_number otherwise estimated_number should be absent. (e.g., Hoh River freshwater sport fishery)
				'4'	=In-sample or voluntary recoveries from a sampled fishery with unknown catch; estimated_number must be absent. (e.g., Stream Survey)
				'5'	=Voluntary or select recoveries from a sampled fishery with known catch and no awareness estimates available; <u>Use of these recoveries leads to double counting</u> ; see also Note #3 to follow estimated_number must be equal to '0'. (e.g., commercial voluntary recoveries);
				'6'	=Mark Incidence – Indirect Sample: Voluntary recoveries from indirectly sampled sport fishery; estimated_number are calculated from sport_mark_inc_sampl_obs_ads in sport_mark_incidence_sampl_size from the corresponding Catch Sample record
				'7'	=Pass-Through Sample: Recoveries that are selectively removed from certain in-river sampling programs; The unmarked migrant fish are subject to subsequent destination sampling. see also Note #3 to follow estimated_number must be equal to '1'.
Notes for sample_type:					
1) Four keys are used to distinguish the type of sample:					
a) Sample: In-sample or Voluntary					
b) Fishery: Sampled or Unsampled					
c) Catch: Known or Unknown					
d) Awareness: Available or Unavailable					
2) Awareness estimates (Sample Type Code 2) are based on current year's data, while awareness approximations (Sample Type Code 3) are based on extrapolations of data from previous					

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					years. 3) "Pass-through" Sampling (Sample Type Code 7) In certain sampling programs, unmarked fish are released while marked fish are killed and snouts removed. The unmarked fish are subject to subsequent destination sampling and the lack of reporting would result in underestimation of the tag codes. Such tag recoveries should therefore be reported as Sample Type Code '7' with no catch/sample record provided. Sampled fish are selectively removed with an estimated_number equal to '1'. 4) Recovery records with Sample Type '1', '2', '4', or '6' must have an associated catch/sample record with the same sample_type.
36	Sampled Maturity sampled_maturity	1	No	Lookup	Code to indicate maturity class of sample in which this recovery occurred; If present, must match one of the following: '1' =Immature(0-Ocean Fish) '2' =Jacks (1-Ocean fish) '3' =Adults '4' =Mixed(adult, jack an immature) Must match the value in corresponding Catch/Sample data file, sampled_maturity
37 [29]	Sampled Run sampled_run	2	No	Lookup	Code to indicate run when sample is stratified by entry run timing (e.g., freshwater sport fisheries where runs can be identified by morphological differences); If present, must match one of the following: '1' =Spring '2' =Summer '3' =Fall (includes type S Coho) '4' =Winter '5' =Hybrid '6' =Landlocked '7' =Late Fall N Coho '8' =Late Fall Upriver Bright Chinook Must match the value in corresponding Catch/Sample data file, sample_run
38 [30]	Sampled Length Range sampled_length_range	8	No	Numeric	Length interval range in millimeters (mm); Example: 800 - 900 mm. length interval coded as 08000900 If present, must be numeric in the range: '00000000' through '99999999' The number represented by the first 4 bytes must be less than or equal to the number represented by the last 4 bytes
39 [31]	Sampled Sex sampled_sex	1	No	Lookup	Code to indicate sex of sample in which this recovery occurred; If present, must match one of the following: 'F' =Female 'M' =Male
40 [38]	Sampled Mark sampled_mark	4	No	Lookup	External mark used for differential sampling treatment. Used only if sampling treatments of returning fish were different based upon the external mark of the fish If present, must contain a code defined in chapter 11

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					Must match the value in corresponding Catch/Sample data file, sampled_mark
41 [24]	Estimated Number estimated_number	8	No	Numeric	Estimated number of fish in the catch represented by this tag recovery, as estimated by the reporting agency Must be absent if this recovery is used to adjust the Estimated Number of other recoveries If present, must be numeric in the range: '0' through '99999.99' No implied decimal. Decimal optional with up to 2 digits after the decimal point

CHAPTER 4
Catch/Sample Data

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
1	Record Code record_code	1	Yes	Lookup 'S'	Code to indicate the CWT data file classification (class) of this individual record. Must have the value 'S': =Catch/Sample record
2 [26]	Format Version format_version	4	Yes	'4.0'	Format version used to report data Must have the value: '4.0'
3	Submission Date submission_date	8	Yes	YYYYMMDD	Date of submission for this set of records. Date should be close to actual date when this row is sent to the Mark Center Must have the same value for all records in this data submission Must match submission_date in corresponding Description file
4 [1]	Reporting Agency reporting_agency	10	Yes	Lookup	Abbreviation for reporting agency of this dataset for this data exchange Must contain an agency code defined in chapter 8 Must be the same for all records Must match reporting_agency of corresponding Recovery data file
5 [31]	Sampling Agency sampling_agency	10	No	Lookup	Agency responsible for sampling or collecting and tag recovery; May differ from reporting_agency If present, must contain an agency code defined in chapter 8
6 [33]	Catch Sample ID catch_sample_id	10	Yes	Primary Lookup	Unique IDs assigned to each sample record by the reporting agency Must be unique for a given reporting_agency and catch_year Must not contain embedded blanks
7 [6]	Species species	2	Yes	Lookup '1' '2' '3' '4' '5' '6' '7' '8'	Code indicating species of this catch group; Must match one of the following: =Chinook =Coho =Steelhead =Sockeye =Chum =Pink =Masu =Cutthroat

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
				'9'	=Atlantic Salmon Must match the value in corresponding Recovery data file, species
8 [3]	Catch Year catch_year	4	Yes	YYYY	Corresponds to Run Year in Recovery file. Year when catch was made. For escapement which crosses year boundaries, use year when majority of run returns Must match run_year of corresponding Recovery data file Must be the same for all records in this dataset
9 [8]	Period Type period_type	2	Yes	Lookup '1' '2' '3' '4' '5' '6' '7' '8' '10' '11'	Code to Indicate the type of time periods in which sampling occurred in the fishery / stratum; Must match one of the following: =Escapement period (across years possible) =Bi-weekly (statistical 2 week) =Semi-monthly (calendar) =Statistical month =Calendar month =Statistical week (beginning Monday) =Week (beginning Sunday) =Seasonal (Use for spring, summer, fall, or winter run periods) =Weekend (Saturday, Sunday & observed holiday(s)) =Weekday (Monday – Friday excluding observed holiday(s)) period_type and period must match that used in Recovery data file for the given stratum
10 [9]	Period period	2	Yes	Lookup n='01' n='01-26' n='01-24' n='01-12' n='01-12' n='01-54' n='01-54' n='01-04' n='01-54' n='01-54'	Indicates the complete range of time in which sampling occurred in the fishery / stratum; Possible Range: =Escapement period (across years possible) =Bi-weekly (statistical 2 week) =Semi-monthly (calendar) =Statistical month =Calendar month =Statistical week (beginning Monday) =Week (beginning Sunday) =Seasonal periods (01=Spring, 02=Summer, 03=Fall, 04=Winter) =Weekend beginning Saturday (or Friday if on observed holiday) =Weekday beginning Monday (or first working day following observed holiday) period_type and period must match that used in Recovery data file for the given stratum

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
11 [10a]	First Period first_period	2	No	Lookup	Beginning sampling period number for situations where catch data are pooled across time periods Applies to non-standard estimated number calculations only If present, must define a valid period If present, Must be less than or equal to the value in last_period
12 [10b]	Last Period last_period	2	No	Lookup	Ending sampling period number for situations where catch data are pooled across time periods Applies to non-standard estimated number calculations only If present, must define a valid period If present, must be greater than or equal to the value in first_period
13 [11]	Fishery fishery	3	Yes	Lookup	Code (standardized PSC fishery code) to indicate the fishery in which this catch occurred Must match a code in the "Fishery" column from Chapter 9 Must match the value in corresponding Recovery data file fishery
14	Adclip Selective Fishery adclip_selective_fishery	1	No	Boolean	Flag to indicate whether or not this catch and sample were from a fishery where only adipose clipped fish were allowed to be harvested If present, must have the value 'Y'
15 [27]	Estimation Level estimation_level	1	No	Lookup	Level of resolution at which estimation is made: '2' =Level 2 (Sector) '3' =Level 3 (Region) '4' =Level 4 (Area) '5' =Level 5 (Location) '6' =Level 6 (Sub-Location) Required if number_estimated is greater than '0'. Must match the value in corresponding Recovery data file estimation_level
16 [12]	Catch Location Code catch_location_code	19	Yes	Lookup	Hierarchical and geographical coding scheme to identify area of catch All location codes are standardized within a given State or Province, and coordinated by the State/Province Must exactly match the Location Code of Location Type '2' in the PSC Location file
17 [35]	Detection Method detection_method	1	Yes	Lookup	Code indicating the method used to detect the presence of a tag on the fish; Must match one of the following: 'E' =Electronic 'V' =Visual Must match the value in corresponding Recovery data file, detection_method

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
18 [13]	Sample Type sample_type	1	Yes	Lookup	<p>Must match one of the following: (See note to follow)</p> <p>=In-sample recoveries from a sampled fishery with known catch; estimated_number is non-zero. Also used to report unsampled catch</p> <p>estimated_number must be absent or greater than '0'</p> <p>'1'</p> <p>=Voluntary recoveries from a sampled fishery with known catch; Awareness estimates are available; estimated_number must be absent or greater than '0' (e.g., Puget Sound Sport)</p> <p>'2'</p> <p>=In-sample or voluntary recoveries from a sampled fishery with unknown catch; estimated_number must be absent. (e.g., Stream Survey with no escapement estimate)</p> <p>'4'</p> <p>=Mark Incidence – Indirect Sample: Voluntary recoveries from indirectly sampled sport fishery; estimated_number are calculated from sport_mark_inc_sampl_obs_ads in sport_mark_incidence_sampl_size from corresponding Recovery record. Must match the value in corresponding Recovery data file, sample_type.</p> <p>'6'</p>
<p>Notes for sample_type: Four keys are used to distinguish the type of sample: a) Sample: In-sample or Voluntary b) Fishery: Sampled or Unsampled c) Catch: Known or Unknown d) Awareness: Available or Unavailable</p>					
19 [7]	Sampled Maturity sampled_maturity	1	No	Lookup	<p>Code to indicate maturity class of sample; If present, must match one of the following:</p> <p>'1'</p> <p>=Immature (0-Ocean fish)</p> <p>'2'</p> <p>=Jack (1-Ocean fish)</p> <p>'3'</p> <p>=Adult</p> <p>'4'</p> <p>=Mixed (adult, jack, and immature)</p> <p>Must match the value in corresponding Recovery data file, sampled_maturity</p>
20 [28]	Sampled Run sampled_run	2	No	Lookup	<p>Code to indicate run when sample is stratified by entry run timing (e.g., freshwater sport fisheries where runs can be identified by morphological differences); If present, must match one of the following:</p> <p>'1'</p> <p>=Spring</p> <p>'2'</p> <p>=Summer</p> <p>'3'</p> <p>=Fall (includes type S Coho)</p> <p>'4'</p> <p>=Winter</p> <p>'5'</p> <p>=Hybrid</p> <p>'6'</p> <p>=Landlocked</p> <p>'7'</p> <p>=Late Fall N Coho</p> <p>'8'</p> <p>=Late Fall Upriver Bright Chinook</p> <p>Must match the value in corresponding Recovery data file, sampled_run</p>

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
21 [29]	Sampled Length Range sampled_length_range	8	No	Numeric	Length interval range in millimeters (mm); Example: 800 - 900 mm. length interval coded as 08000900 If present, must be numeric in the range: '0' through '99999999' The number represented by the first 4 bytes must be less than or equal to the number represented by the last 4 bytes
22 [30]	Sampled Sex sampled_sex	1	No	Lookup 'F' 'M'	Code to indicate sex of sample; Must match one of the following: =Female =Male
23 [34]	Sampled Mark sampled_mark	4	No	Lookup	External mark used for differential sampling treatment. Used only if sampling treatments of returning fish were different based upon the external mark of the fish (see note to follow) If present, must contain a code defined in chapter 11 Must match the value in corresponding Recovery data file, sampled_mark
NOTE for sampled_mark: This field can only be used when the fish reported in number_caught were all examined for marks (for example, at a freshwater trap or hatchery rack).					
24 [14]	Number Caught number_caught	8	No	Numeric	Total catch of species for this area-period-fishery-age class stratum Required if sample_type is '1' and number_sampled is absent Must be absent if sample_type is '4' If present, must be numeric in the range: '0' through '99999999'
25 [32]	Escapement Estimation Method escapement_estimation_method	2	No	Lookup	Identifies the methodology used to estimate the natural spawning escapement (e.g. method used to determine the "number caught" in spawning ground carcass sampling); If present, must contain a code defined in chapter 12 Must be absent if fishery is not '54' (Spawning Ground) or sample_type is not '1'
26 [15]	Number Sampled number_sampled	8	No	Numeric	Number of fish examined for presence of tag wire Required if sample_type is '1' and number_caught is absent If present, must be greater than or equal to the sum of: number_recovered_decoded plus number_recovered_no_cwts plus number_recovered_cwts_lost plus number_recovered_unreadable plus number_recovered_unresolved plus

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
					number_recovered_not_processed plus number_recovered_pseudotags If present, must be numeric in the range: '0' through '99999999'
27 [18]	Number Estimated number_estimated	8	No	Numeric	Estimated number of fish in the catch represented by the individual recovery If present, must be numeric in the range: '0' through '99999.99' No implied decimal. Decimal optional with up to 2 digits after the decimal point
28 [17]	Number Recovered Decoded number_recovered_decoded	5	No	Numeric	Number of observed tags recovered and decoded in the sampling stratum; (i.e., Recovery tag_status is '1') If present, must be numeric in the range: '0' through '99999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled
29 [19]	Number Recovered No CWTs number_recovered_no_cwts	4	No	Numeric	Number of heads lacking CWT in sampling stratum; (i.e., Recovery tag_status is '2') If present, must be numeric in the range: '0' through '9999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled
30 [20]	Number Recovered Lost CWTs number_recovered_lost_cwts	3	No	Numeric	Number of lost CWTs in sampling stratum; (i.e., Recovery tag_status is '3') If present, must be numeric in the range: '0' through '999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled
31 [21]	Number Recovered Unreadable number_recovered_unreadable	3	No	Numeric	Number of unreadable CWTs in sampling stratum; If present, must be numeric in the range: '0' through '999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled
32 [22]	Number Recovered Unresolved number_recovered_unresolved	3	No	Numeric	Number of tag recoveries in sampling stratum which could not be assigned to a tag code (i.e., Recovery tag_status is '7') If present, must be numeric in the range: '0' through '999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
33 [23]	Number Recovered Not Processed number_recovered_not_processed	5	No	Numeric	Number of lost heads or heads not processed (i.e., no data) in sampling stratum; (i.e., Recovery tag_status is '8') If present, must be numeric in the range: '0' through '99999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled
34	Number Recovered PseudoTags number_recovered_pseudotags	3	No	Numeric	Number of fish among number_sampled which contained tag type 16 (Pseudo tag, blank wire) as described under Tag Type in Chapter 2 Releases. If present, must be numeric in the range: '0' through '999' If present and sample_type is not equal to '2', must be less than or equal to number_sampled
35	MR 1st Partition Size mr_1st_partition_size	8	Yes	Numeric	Number of fish in first mark rate partition Must be numeric in the range: '0' through '99999999' "See Chapter 14 for discussion of the use of this field."
36	MR 1st Sample Size mr_1st_sample_size	8	Yes	Numeric	Number of fish among mr_1st_partition_size which were visually sampled for adipose clips Must be numeric in the range: '0' through '99999999' Must be less than or equal to mr_1st_partition_size "See Chapter 14 for discussion of the use of this field."
37	MR 1st Sample Known Ad Status mr_1st_sample_known_ad_status	8	No	Numeric	Number of fish among mr_1st_sample_size which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip) Required if mr_1st_sample_size is greater than '0'. Must be absent if mr_1st_sample_size is equal to '0' and sample_type is not equal to '2'. If present, must be numeric in the range: '0' through '99999999' If present and sample_type is not equal to '2', must be less than or equal to mr_1st_sample_size "See Chapter 14 for discussion of the use of this field."
38 [36]	MR 1st Sample Obs Adclips mr_1st_sample_obs_adclips	8	No	Numeric	Number of fish among mr_1st_sample_size which were found to have an adipose clip Required if mr_1st_sample_size is greater than '0'. Must be absent if mr_1st_sample_size is equal to '0' and sample_type is not equal to '2'. If present, must be numeric in the range: '0' through '99999999' If present and sample_type is not equal to '2', must be less than or equal to mr_1st_sample_size "See Chapter 14 for discussion of the use of this field."

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
39	MR 2 nd Partition Size mr_2 nd _partition_size	8	No	Numeric	Number of fish in second mark rate partition Required if mr_2 nd _sample_size is present Must be absent if mr_2 nd _sample_size is absent If present, must be numeric in the range: '0' through '99999999' "See Chapter 14 for discussion of the use of this field."
40 [37]	MR 2 nd Sample Size mr_2 nd _sample_size	8	No	Numeric	Number of fish among mr_2 nd _partition_size which were visually sampled for adipose clips Required if mr_2 nd _partition_size is present Must be absent if mr_2 nd _partition_size is absent If present, must be numeric in the range: '0' through '99999999' "See Chapter 14 for discussion of the use of this field."
41	MR 2 nd Sample Known Ad Status mr_2 nd _sample_known_ad_s tatus	8	No	Numeric	Number of fish among mr_2 nd _sample_size which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip) Required if mr_2 nd _sample_size is greater than '0' Must be absent if mr_2 nd _sample_size is equal to '0' or is absent. If present, must be numeric in the range: '0' through '99999999' If present, must be less than or equal to mr_2 nd _sample_size "See Chapter 14 for discussion of the use of this field."
42 [38]	MR 2 nd Sample Obs Adclips mr_2 nd _sample_obs_adclips	8	No	Numeric	Number of fish among mr_2 nd _sample_size which were found to have an adipose clip Required if mr_2 nd _sample_size is greater than '0'. Must be absent if mr_2 nd _sample_size is equal to '0' or is absent. If present, must be numeric in the range: '0' through '99999999' If present, must be less than or equal to mr_2 nd _sample_size "See Chapter 14 for discussion of the use of this field."
43	Mark Rate mark_rate	6	No	Numeric	Proportion of fish in the number_sampled that were adipose fin clip marked (expressed as a decimal percentage) If present, must be numeric in the range: '0' through '1'. No implied decimal. Decimal optional with up to 4 digits after the decimal point
NOTE for mark_rate: Warning: If detection_method='E' and mr_1st_sample_size not equal to mr_1st partition size or mr_2nd_sample_size not equal to mr_2nd_partition_size, the usefulness of this rate will be dependent upon the subsamples being adequately representative of the partitions. See chapter 14 for discussion of the use of this field.					

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
44 [16]	Awareness Factor awareness_factor	5	No	Numeric	Estimation factor used for voluntary recoveries in sport fisheries If present, must be numeric in the range: '0' through '9.999' No implied decimal. Decimal optional with up to 3 digits after the decimal point
45 [24]	Sport Mark Incidence Sampl Size sport_mark_incidence_sampl_size	5	No	Numeric	Number of fish sampled for marks in sport fishery but heads not taken; Use only if sample_type is '6' Must be absent if sample_type is not '6' If present, must be numeric in the range: '0' through '99999'
46 [25]	Sport Mark Inc Sampl Obs Adclips sport_mark_inc_sampl_obs_adclips	4	No	Numeric	Number of observed ad clips in sport fishery but heads not taken; Use only if sample_type is '6' Must be absent if sample_type is not '6' If present, must be numeric in the range: '0' through '9999'

CHAPTER 5

Catch & Effort Data

NOTE: The presence of 'C, E' in the Req'd column indicates that the field is to be used for both Catch and Effort records. The presence of only a 'C' or 'E' in the Req'd column indicates the field is to be used for only: Catch records (C) or Effort records (E).

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Req'd	Format / Use	Description & Validation.....
1	Record Code record_code	1	Yes C, E	Lookup 'C' 'E'	Code to indicate the data file classification (class) of this individual record. Must match one of the following: =Catch record =Effort record
2	Format Version format_version	4	Yes C, E	'4.0'	Format version used to report data Must have the value: '4.0'
3	Submission Date submission_date	8	Yes C, E	YYYYMMDD	Date of submission for this set of records. Date should be close to actual date when this row is sent to the Mark Center Must have the same value for all records in this data submission Must match the submission_date in corresponding Description file
4 [1]	Reporting Agency reporting_agency	10	Yes C, E	Lookup	Abbreviation for reporting agency of this dataset for this data exchange Must contain an agency code defined in chapter 8 Must be the same for all records
5 [3]	Catch Effort Id catch_effort_id	10	Yes C, E	Primary Lookup	Unique ID assigned to each catch or effort record by the reporting agency Must be unique for a given reporting_agency and catch_year Must not contain embedded blanks
6 [2]	Catch Year catch_year (see note, end of chapter)	4	Yes C, E	YYYY	Calendar year of landing Must be the same for all records in this dataset

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
7 [12]	Period Type period_type (see note, end of chapter)	2	Yes C, E	Lookup '0' '4' '5' '6' '7'	Code to Indicate the type of time periods in which sampling occurred in the fishery / stratum; Must match one of the following: =Annual (calendar year) =Statistical month =Calendar month =Statistical week (beginning Monday) =Week (beginning Sunday)
8 [13]	Period period (see note, end of chapter)	2	Yes C, E	Lookup n='01' n='01-12' n='01-54' n='01-54'	Indicates the complete range of time in which sampling occurred in the fishery / stratum; Possible Range: =Annual =Statistical or calendar month =Statistical week (beginning Monday) =Week (beginning Sunday)
9 [10]	Landing Status landing_status (see note, end of chapter)	1	Yes C, E	Lookup '1' '2' '3' '4' '5' '6' '9' 'U'	Conditions under which the fish were harvested and landed; Must match one of the following: =Standard =Test =Seized =Hatchery, cost recovery =Hatchery, terminal area fishery =Experimental =Unspecified =Unknown
10 [11]	Catch Location Code catch_location_code	19	Yes C, E	Lookup	Hierarchical and geographical coding scheme to identify area of catch All location codes are standardized within a given State or Province, and coordinated by the State/Province Must exactly match the location_code of location_type '2' in the PSC Location file Trailing Blanks should not be included
11 [9]	Harvest harvest (see note, end of chapter)	1	Yes C, E	Lookup '1' '2' '3' '4' '5' 'U'	Type of harvest; Must match one of the following: =Commercial =Recreational – unspecified =Recreational – charter =Recreational – noncharter =Subsistence, ceremonial, or personal use =Unknown Catch or effort from codes 2+3+4 equals total known recreational value

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
12 [8]	Fisher fisher (see note, end of chapter)	1	Yes C, E	Lookup	Native and/or treaty status of fish harvester; Must match one of the following: '1' =Native – treaty '2' =Native – nontreaty '3' =Native – unspecified '4' =Non-native '9' =Unspecified 'U' =Unknown The sum of codes 1+2+3 equals total known native catch or effort
13 [15]	Catch Gear Group catch_gear_group	2	Yes C, E	Lookup	Collection of agency gears into major types Must match a code in the 'Catch Gear Group' column from Chapter 10
14 [14]	Catch Gear catch_gear (see note, end of chapter)	2	Yes C, E	Lookup	Catch & Effort 'Catch Gear' code: specific to reporting agency Must match a code in the 'Catch Gear' column from Chapter 10
15 [16]	Species species	2	Yes C	Lookup	Code indicating species of this catch group; If present, must match one of the following: '1' =Chinook '2' =Coho '3' =Steelhead '4' =Sockeye '5' =Chum '6' =Pink '7' =Masu '8' =Cutthroat '9' =Atlantic Salmon Must be absent if record_code is 'E'
16 [17]	Grade grade	1	No C	Lookup	Size or flesh-color of chinook: If present, must match one of the following: 'S' =Small (1 - 3.6 kilograms) 'M' =Medium (3.7 - 5.6 kilograms) 'L' =Large (more than 5.6 kilograms) 'J' =Jack 'W' =White chinook '9' =Unspecified Required if record_code is 'C' and species is '1' Must be absent if record_code is 'E'

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
17 [18]	Number Tickets number_tickets	6	No C, E	Numeric	Number of tickets is absent if catch or effort data is not derived from the reporting agency's master fish ticket file. For catch records, this is the count of tickets used to derive the catch data in this record. For effort records, this is the count of tickets used to derive the effort data in this record If present, must be numeric in the range: '0' through '999999'
18 [19]	Catch Weight catch_weight	9	No C	Numeric	Total round weight in kilograms. If present, must be numeric in the range '1' through '999999999' Required if record_code is 'C' and harvest is '1' Must be absent if record_code is 'E' catch_weight or number_caught must be greater than zero in each catch record
19 [20]	Number Caught number_caught	8	No C	Numeric	Number of fish harvested; If present, must be numeric in the range '1' through '99999999' Must be absent if record_code is 'E' Leave absent if unknown
20 [21]	Effort Type effort_type	1	No E	Lookup 'A' 'B' 'C' 'D' 'E' 'F'	Type of effort corresponding to effort_quantity. If present, must match one of the following: =Angler days =Boat days or permit days =Boats (no. of distinct boats participating) =Fishers (no. of distinct persons participating) =Net days =Boat trips Required if record_code is 'E' and effort_quantity is greater than zero; Must be absent if record_code is 'C'
21 [22]	Effort Quantity effort_quantity	6	Yes E	Numeric	Number of effort units as defined by effort_type If present, Must be numeric in the range: '0' through '999999' Must be absent if record_code is 'C'
<p>Chapter NOTES: For every catch stratum, a corresponding effort record is submitted, even if the optional effort statistics fields are missing. A catch stratum consists of the following fields: catch_year, period_type, period, landing_status, catch_location_code, harvest, fisher and catch_gear.</p>					

CHAPTER 6

Location Data

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
1	Record Code record_code	1	Yes	Lookup 'L'	Code to indicate the CWT data file classification (class) of this individual record. Must have the value 'L': =Location record
2	Format Version format_version	4	Yes	'4.0'	Format version used to report data Must have the value: '4.0'
3	Submission Date submission_date	8	Yes	YYYYMMDD	Date of submission for this set of records. Date should be close to actual date when this row is sent to the Mark Center Must have the same value for all records in this data submission Must match the submission_date in corresponding Description file
4	Reporting Agency reporting_agency	10	Yes	Lookup	Abbreviation for reporting agency of this dataset for this data exchange Must contain an agency code defined in chapter 8 Must be the same for all records
5	Location Code location_code see notes to follow	19	Yes	Primary Lookup	19 – character code used to identify hatchery, release location, recovery site, catch area, or stock; Coding based on hierarchical scheme to give multiple levels of resolution (see notes to follow) All location codes are standardized within a given State or Province, and coordinated by the State/Province Must be unique within a given location_type Trailing Blanks should not be included
[1]	a. Level 0 State or Province	(1)		'1' '2' '3' '4' '5' '6' '7'	The first character must match one of the following: =Alaska =British Columbia / Yukon =Washington =Idaho =Oregon =California =High Seas
	b. Level 1; Water Type	(1)		'M'	The second character must match one of the following: =Marine

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
				'F'	=Freshwater
	c. Level 2; Sector	(1)		Alpha-Numeric	The third character (Sector) can be agency defined alpha-numeric text (Special case: use of asterisk; see note 3 to follow)
	d. Level 3; Region	(2)		Alpha-Numeric	Characters 4 and 5 (Region) are agency defined alpha-numeric text
	e. Level 4; Area	(4)		Alpha-Numeric	Characters 6 through 9 (Area) are agency defined alpha-numeric text
	f. Level 5; Location	(7)		Alpha-Numeric	Characters 10 through 16 (Location) are agency defined alpha-numeric text
	g. Level 6; Sub-Location	(3)		Alpha-Numeric	Characters 17 through 19 (Sub-Location) are agency defined alpha-numeric text
Notes for location_code:					
1) General usage of location codes - Standardized location codes are maintained for a State or Province by the State/Province fisheries agency. These codes must be used by all other agencies within that jurisdiction.					
2) Reporting of location codes - When reporting a Location data set, report only those Location Codes for which your reporting agency is responsible. Do not report codes maintained by another reporting agency.					
3) Usage of asterisk (*) in character 3 (Sector) of location code					
Use of the asterisk (*) is restricted to only these situations:					
a) If a code from the external State/Province cannot be provided due to sampling or timing problems;					
b) If the location is in a foreign (i.e. non-North American) country—thus cannot be provided.					
Wherever possible, use those codes already provided by the external State/Province.					
If an asterisk is used, then characters 1 and 2 must contain a state, province, high seas (HS), or foreign country (FO) code.					
6	Location Type	1	Yes	Primary Lookup	Type of geographic location referred to by location file reporting agency; Must match one of the following:
[2]	location_type			'1'	=Recovery site
				'2'	=Catch area or Effort area (code must match Recovery Site code at Estimation Level)
				'3'	=Release facility (i.e., Hatchery, etc.)
				'4'	=Release Location
				'5'	=Stock

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
7 [6]	Name name	25	Yes	Alpha-Numeric	Concise description of the location Must be unique within: 1) State or Province (i.e. level 0) of location_code. 2) location_type
8 [10]	Latitude latitude	8	No	Numeric	Decimal global latitude of the location_code These fields must both have values or must both be absent: Latitude Longitude If present, must be numeric decimal in the range: '0' through '90' No implied decimal. Decimal optional with up to 4 digits after the decimal point
9 [11]	Longitude longitude	9	No	Numeric	Decimal global longitude of the location_code Use '-' to identify Western hemisphere. (Ex. '-123.557') These fields must both have values or must both be absent: Latitude Longitude If present, must be numeric decimal in the range: '-179.9999' through '180' No implied decimal. Decimal optional with up to 4 digits after the decimal point
10 [8]	PSC Basin psc_basin	5	No	Lookup	The geographic basin or district corresponding to at least one sub-division within the given psc_region which encompasses the location given by location_code (see note to follow) If present, must contain a code defined in chapter 13
11 [7]	PSC Region psc_region	5	No	Lookup	The geographic region or area corresponding to a major river, coastal area, or passage within the State or Province which encompasses the location given by location_code (see note to follow) If present, must contain a code defined in chapter 13
<p>Note for psc_basin and psc_region: PSC Region Code and PSC Basin Code are currently specified only for Hatcheries, Release Locations, and Stocks (i.e. where location_type is '3', '4', '5'). PSC Region Code and PSC Basin Code are defined in chapter 13.</p>					

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
12	EPA Reach	18	No	Alpha-Numeric	For USA Territories (see note to follow);
[9]	epa_reach				Must not contain embedded blanks
Note for epa_reach: EPA Reach pertains to any location_codes of any location_type which can be associated with a freshwater transport or shoreline EPA Reach Number. When provided, epa_reach should be assigned either the complete (17-character) EPA Reach Number or the most specific portion of the EPA Reach Number possible to describe the location. See explanation in chapter 13.					
13	Description	100	Yes	Alpha-Numeric	Name of location plus appropriate description as needed
[3]	description				If level 2 (column 3) of location_code contains an asterisk (**), then this description must begin with one of the following 2-character abbreviations indicating actual origin. In such cases, this State or Province must be different than that coded in level 0 of the Location Code 'AK' = Alaska 'BC' = British Columbia 'CA' = California 'CO' = Colorado 'FO' = Foreign 'HS' = High Seas 'ID' = Idaho 'OR' = Oregon 'WA' = Washington 'MN' = Minnesota 'MT' = Montana 'ND' = North Dakota 'NE' = Nebraska 'WI' = Wisconsin 'WY' = Wyoming

CHAPTER 7

Description Data

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
1	Record Code record_code	1	Yes	Lookup 'D'	Code to indicate the CWT data file classification (class) of this individual record. Must have the value 'D': =Description record
2	Format Version format_version	4	Yes	'4.0'	Format version used to report data Must have the value: '4.0'
3	Submission Date submission_date	8	Yes	YYYYMMDD	Refers to the date the Reporting Agency submitted the corresponding (or attached) data file or set of records indicated in file_type Must have the same value for all rows corresponding to the same file_type Must be greater than submission_date of previously submitted Description file for the given file_type Must not be greater than today
4 [5]	Reporting Agency reporting_agency	10	Yes	Lookup	Abbreviation for reporting agency of this dataset for this data exchange Must contain an agency code defined in chapter 8 Must be the same for all records
5	Submission Status submission_status	1	Yes	Lookup 'N' 'R'	Must match one of the following =New data file =Resubmitted data file
6 [3]	File Type file_type	2	Yes	Primary Lookup 'RL' 'RC' 'CE' 'CS' 'LC'	Type of data file to which description pertains; Must match one of the following: =Release (tagged and/or untagged) =Recovery =Catch & Effort =Catch/Sample =Location
7 [4]	File Status file_status	1	Yes	Lookup 'I' 'C'	Must match one of the following =Incomplete data file =Complete data file

PSC Fld #	PSC Common Name and Data Field Name	Max Cols	Reqd	Format / Use	Description & Validation.....
8 [6]	First Year first_year	4	No	YYYY	If file_type is 'RC', 'CE' or 'CS', then this field can be used to specify the first year in a range of file years so that one description can be repeated for several years Required if File Type Code is 'RC', 'CE' or 'CS' YYYY must contain run_year if File Type is 'RC' or catch_year if File Type is 'CS' or catch_effort_year if File Type is 'CE' Must be absent if file_type is 'LC' or 'RL'
9 [7]	Last Year last_year	4	No	YYYY	If file type is 'RC', 'CE' or 'CS', then this field can be used to specify the last year in a range of file years so that one description can be repeated for several years (see note to follow) Used only if: 1) file_type is 'RC', 'CE' or 'CS' and 2) Multiple and consecutive file years are reported with the same description Use same format as first_year Must be absent if file_type is 'LC' or 'RL'
<p>Note for file_end_year: In order to submit one description pertaining to multiple file years, the file years must be consecutive. If there are any gaps in file years then a new Data Description (set of rows of the given file_type) must be submitted for every non-consecutive file year.</p>					
10 [8]	Line line	3	Yes	Primary Lookup	Line (record) number of current description Must begin with the value '001' for each description and file_type and must contain leading zeroes ('0' or '00') Must be numeric and consecutive in the range: '001' through '999'
11 [9]	Description description	54	Yes	Alpha- Numeric	Textual description to further explain meaning of data for a file_type and one consecutive span of file years. May span multiple lines (up to 999) in which case fields 1-9 must be repeated for each line May contain leading blanks

CHAPTER 8

AGENCY CODING

A. Release Agency

Field: Release Agency
 File: Releases
 Current as of: December, 2001
 Authorized: PSC Working Group on Data Standards

Release Agency must match one of these:

AAC	American Aquaculture Corporation
AAI	Alaska Aquaculture, Inc
ADFG	Alaska Department of Fish and Game
AFSP	Aboriginal Fishery Strategy Program (BC)
AKI	Armstrong Keta, Inc. (AK)
ANAD	Anadromous Inc. (OR)
BCFW	British Columbia Fish and Wildlife
BHSR	Burnt Hill Salmon Ranch (now OPSR) (OR)
BURR	Burro Creek Hatchery
CDFG	California Department of Fish and Game
CDFO	Canada Department of Fisheries and Oceans
CDFR	Canada Dept. of Fisheries and Oceans - Research
CDWR	California Department of Water Resources
CEDC	Clatsop Economic Development Council (OR)
CERA	Ceratodus Fisheries (OR)
CHEH	Chehalis Tribe (WA)
CIAA	Cook Inlet Aquaculture Association (AK)
COLV	Colville Tribe (WA)
COOP	Washington Department of Fisheries – Cooperative
CRFC	Columbia River Inter-Tribal Fish Commission
CTWS	Confederated Tribes of Warm Springs of Oregon (OR)
DIPC	Douglas Island Pink and Chum, Inc. (AK)
DOMS	Domsea Farms, Inc. (OR-WA)
EBMD	East Bay Municipal Utilities District, CA
EDUC	Educational Facility (excluding UW) (WA)
ELWA	Lower Elwha S'Klallam Tribe (WA)

FWS	U.S.Fish and Wildlife Service
H&H	Harris & Hugie Company (OR)
HECK	C.W. Heckard Company (OR)
HFAC	Humbolt Fish Action Council (CA)
HOH	Hoh Tribe (WA)
HSU	Humboldt State University (CA)
HVT	Hoopa Valley Tribe (CA)
IDFG	Idaho Department of Fish and Game
JAME	Jamestown S' Klallam Tribe (WA)
KAKE	Kake Non-Profit Fisheries Corp. (AK)
KETA	Keta Company (OR)
KRAA	Kodiak Regional Aquaculture Association (AK)
KRHI	Klawock River Hatchery, Inc. (AK)
KRUK	Karuk Tribe (CA)
KTHC	Ketchikan Tribal Hatchery Corporation (AK)
LUMM	Lummi Tribe (WA)
MAKA	Makah Tribe (WA)
MIC	Metlakatla Indian Community (AK)
MTSG	Mattole Salmon Group (CA)
MUCK	Muckleshoot Tribe (WA)
NBS	National Biological Survey
NERK	Nerka Incorporated (AK)
NEZP	Nez Perce Tribe (ID)
NISQ	Nisqually Tribe (WA)
NLNS	Nehalem Land & Salmon (OR)
NMFS	National Marine Fisheries Service (AK)
NOOK	Nooksack Tribe (WA)
NSRA	Northern Southeast Regional Aquaculture Assn. (AK)
OAF	Oregon Aquafoods, Inc.
ODFW	Oregon Department of Fish and Wildlife
OPSR	Oregon-Pacific Salmon Ranch (formerly BHSR)
OSU	Oregon State University
PGAM	Port Gamble S'Klallam Tribe (WA)
PGHC	Port Graham Hatchery Corporation
PLCO	Pacific Lumber Company (CA)
PNPT	Point No Point Treaty Council (WA)
PPWR	Puget Power (WA)
PSE	Puget Sound Energy (WA)
PUYA	Puyallup Tribe (WA)
PWHA	Prince of Wales Hatchery Association (AK)

PWSA	Prince William Sound Aquaculture Corporation (AK)
QDNR	Quinault Department of Natural Resources (WA)
QUIL	Quileute Tribe (WA)
ROWH	Rowdy Cr. Hatchery (CA)
SHOL	Shoalwater Tribe (WA)
SIUF	Siuslaw Fisheries (OR)
SJ	Sheldon Jackson College (AK)
SJRG	San Joaquin River Group (CA)
SKOK	Skokomish Tribe (WA)
SOF	Silverking Oceanic Farms (CA)
SPOK	Spokane Tribe (WA)
SQAX	Squaxin Island Tribe (WA)
SRKC	Smith River Kiwanis Club
SSC	Skagit System Cooperative (WA)
SSLC	Seward Sealife Center
SSRA	Southern Southeast Regional Aquaculture Assn. (AK)
STIL	Stillaguamish Tribe (WA)
SUQ	Suquamish Tribe (WA)
SYCL	South Yuba River Citizens League (CA)
THCC	Tlingit-Haida Central Council (AK)
TULA	Tulalip Tribe (WA)
TYEE	Tyee Foundation (CA)
UA	University of Alaska
UI	University of Idaho
UPSK	Upper Skagit Tribe
USFS	U.S. Forest Service
UW	College of Fisheries, University of Washington
VFDA	Valdez Fisheries Development Association (AK)
WDFW	Washington Department of Fish and Wildlife
WREG	Washington Regional Enhancement Groups
YAKA	Yakama Tribe (WA)

B. Reporting Agency

Field:	Reporting Agency
Files:	Releases, Recoveries & Catch/Sample
Current as of:	December, 2001
Authorized:	PSC Working Group on Data Standards

Reporting Agency must match one of these:

ADFG	Alaska Department of Fish and Game
CDFG	California Department of Fish and Game
CDFO	Canada Department of Fisheries and Oceans
CRFC	Columbia River InterTribal Fish Commission
FWS	U.S.Fish and Wildlife Service
IDFG	Idaho Department of Fish and Game
NIFC	Northwest Indian Fisheries Commission
NMFS	National Marine Fisheries Service (AK)
ODFW	Oregon Department of Fish and Wildlife
QDNR	Quinault Department of Natural Resources (WA)
QUIL	Quileute Tribe (WA)
WDFW	Washington Department of Fish and Wildlife

C. Sampling Agency

Field:	Sampling Agency
Files:	Recoveries & Catch/Sample
Current as of:	December, 2001
Authorized:	PSC Working Group on Data Standards

Sampling Agency must match one of these:

ADFG	Alaska Department of Fish and Game
BCFW	British Columbia Fish and Wildlife
CDFG	California Department of Fish and Game
CDFO	Canada Department of Fisheries and Oceans
COLV	Colville Tribe (WA)
ELWA	Lower Elwha S'Klallam Tribe (WA)
FWS	U.S.Fish and Wildlife Service
HOH	Hoh Tribe (WA)
IDFG	Idaho Department of Fish and Game
LUMM	Lummi Tribe (WA)
MAKA	Makah Tribe (WA)
MIC	Metlakatla Indian Community (AK)
MUCK	Muckleshoot Tribe (WA)

NIFC	Northwest Indian Fisheries Commission
NISQ	Nisqually Tribe (WA)
NMFS	National Marine Fisheries Service (AK)
ODFW	Oregon Department of Fish and Wildlife
PGAM	Port Gamble S'Klallam Tribe (WA)
PNPT	Point No Point Treaty Council (WA)
PUYA	Puyallup Tribe (WA)
QDNR	Quinault Department of Natural Resources (WA)
QUIL	Quileute Tribe (WA)
SHOL	Shoalwater Tribe (WA)
SKOK	Skokomish Tribe (WA)
SPOK	Spokane Tribe (WA)
SQAX	Squaxin Island Tribe (WA)
SSC	Skagit System Cooperative (WA)
STIL	Stillaguamish Tribe (WA)
SUQ	Suquamish Tribe (WA)
TULA	Tulalip Tribe (WA)
UW	College of Fisheries, University of Washington
WDFW	Washington Department of Fish and Wildlife
YAKA	Yakama Tribe (WA)

CHAPTER 9
FISHERY CODING

A. Overview

<u>Fishery Groups</u>	<u>Gear</u>
10-19	Troll
20-29	Net and Seine
30-39	Aboriginal
40-49	Sport
50-59	Escapement
60-69	Test Fisheries
70-79	Juvenile Sampling
80-89	High Seas
90-99	Miscellaneous

B. Detailed Coding

'10' Series: Troll

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>		
10	Ocean Troll (Non-treaty)	ADFG	11_5	Traditional Troll		
		CDFG	00	Commercial Troll		
		CDFO	30	Troll General		
			31	Troll - Freezer Boat		
			32	Troll - Day Boat		
			33	Troll - Ice Boat		
		ODFW	10	Ocean Troll		
		WDFW	41	Troll (Non-treaty)		
		11	Ocean Troll - Day Boat	ADFG	13_5	Experimental Area Troll
				CDFO	32	Troll - Day Boat
WDFW	41			Troll (Non-treaty)		
12	Ocean Troll - Trip	WDFW	41	Troll (Non-treaty)		

13	Ocean Troll - Freezer Boat	CDFO	31	Troll - Freezer Boat
14	Ocean Troll - Ice Boat	CDFO	33	Troll - Ice Boat
15	Treaty Troll	WDFW	40 10	Treaty Troll Hook & Line
16	Terminal Troll	ADFG NMFS (AK)	12_5 73	Terminal Area Troll Terminal Troll
17	Non-treaty / Treaty Troll	WDFW	40 41	Treaty troll Troll (Non-treaty)
18	Aboriginal Troll	ADFG	17_5	M.I.C. Troll
19	Other			

'20' Series: Net and Seine

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
20	Ocean Gillnet (Non-treaty)	ADFG CDFO	11_3 10	Traditional Drift Gillnet Gillnet
21	Columbia River Gillnet	ODFW WDFW	13 14 16 17 49	Columbia River Gillnet Non-treaty Drift Gillnet Set Gillnet Treaty Drift Gillnet Mixed Gillnet
22	Coastal Gillnet	ADFG QDNR WDFW	12_3 16 14 16 17 49	Terminal Area Drift Gillnet Coastal Net Non-treaty Drift Gillnet Set Gillnet Treaty Drift Gillnet Mixed Gillnet
23	Mixed Net and Seine	ADFG CDFO	11_2 10	Traditional Beach Seine Gillnet

			15	Mixed Net
			20	Seine
		WDFW	10	Hook & Line
			11	Dip Bag Net
			12	Beach Seine
			14	Non-treaty Drift Gillnet
			15	Round Haul Net
			16	Set Gillnet
			17	Treaty Drift Gillnet
			19	Non-treaty Purse Seine
			20	Reef Net
			29	Treaty Purse Seine
			49	Mixed Gillnet
			51	Treaty Trap
			52	Mixed Net
24	Freshwater Net	ADFG	11_8	Traditional Fish Wheel
		CDFO	45	Freshwater Net (mixed)
		NIFC	16	Set Gillnet
		WDFW	11	Dip Bag Net
			12	Beach Seine
			16	Set Gillnet
			17	Treaty Drift Gillnet
			52	Mixed Net
25	Commercial Seine	ADFG	11_1	Traditional Purse Seine
		CDFO	20	Seine
		NMFS	11_1	Traditional Purse Seine
26	Terminal Seine	ADFG	12_1	Terminal Area Purse Seine
		NMFS (AK)	77	Terminal Seine
27	Freshwater Seine	ODFW	36	River Seine (non-Columbia)
28	Other Net	ADFG	11_4	Traditional Set Gillnet
29	Other Seine			

'30' Series: Aboriginal

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
30	Aboriginal Seine	ADFG	17_1	M.I.C. Purse Seine
31	Aboriginal Gillnet	ADFG CDFO	17_3 10	M.I.C. Drift Gillnet Gillnet
32	Aboriginal Mixed Net			

'40' Series: Sport

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
40	Ocean Sport	ADFG CDFG CDFO ODFW WDFW	S1_N 03 07 11 95	Marine Sport (DE,DT,MB,MR,MS) Sport Sport Ocean Sport Marine Sport
41	Sport (Charter)	CDFG WDFW	01 95	Sport - Charter Marine Sport
42	Sport (Private)	CDFG WDFW	02 95	Sport - Skiff Marine Sport
43	Sport (Jetty)	WDFW	95	Marine Sport
44	Columbia River Sport	ODFW	12	Columbia River Sport
45	Estuary Sport	ODFW WDFW	32 95	Estuary Sport Marine Sport
46	Freshwater Sport	ADFG CDFO ODFW	S2_N 07 47 14 26 27 40	Freshwater Sport (FF) Sport Freshwater Sport Spring Sport Deschutes River Sport Freshwater Sport Mid-Columbia River Sport

			41	Salmon River Sport
			47	Elk River Sport
		WDFW	96	Freshwater Sport
		FWS	51	Creel Survey
47	Freshwater Sport Snag	WDFW	97	Freshwater Sport Snagging
48	Terminal Sport	ADFG	S3_N	Terminal Sport (TF)
		NMFS (AK)	76	Terminal Sport
49	Other	ADFG	P_N	Personal Use

'50' Series: Escapement

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
50	Hatchery	ADFG	50	Rack Return
		CDFG	50	Hatchery
		CDFO	40	Hatchery Rack
		NIFC	50	Escapement
		NMFS	50	Hatchery Returns
		ODFW	21	ODFW Hatcheries
			22	Other Oregon Hatcheries
			23	Oregon Private hatcheries
		FWS	50	Hatchery Returns
		WDFW	01	Hatchery
51	Fish Screens	CDFG	51	Fish Screen
52	Fish Trap (Freshwater)	CDFG	52	Fish Trap
		CDFO	42	Trap
		NIFC	52	Fish Trap
		NMFS	52	Fish Trap
		ODFW	24	Fish Trap
		WDFW	04	Fish Trap
			03	Spawning Ground
53	Wild Broodstock Collection (formerly Gaff)	CDFO	43	Wild Broodstock Collection
		NIFC	53	Brood Stocking

		WDFW	02	Wild Broodstock Collection
54	Spawning Ground	ADFG	54	Escapement Survey
		CDFG	54	Spawning Ground
		CDFO	41	Spawning Ground
		FWS	54	Spawning Ground
		NIFC	54	Spawning Ground
		NMFS	54	Spawning Ground
		ODFW	18	Spawning Ground Survey
		WDFW	03	Spawning Ground
			04	Fish Trap
55	Treaty Ceremonial	ODFW	16	Ceremonial
56	Treaty Subsistence	ADFG	U_N	Subsistence
		ODFW	20	Subsistence
57	Mixed Wild Broodstock and Hatchery Returns			
59	Other			

'60' Series: Test Fisheries

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
60	Test Fishery Troll			
61	Test Fishery Net	WDFW	14	Non-treaty Drift Gillnet
		ODFW	15	Columbia River Test
		WDFW	16	Set Gillnet
62	Test Fishery Seine	WDFW	19	Non-treaty Purse Seine
			29	Treaty Purse Seine
63	Test Fishery Trap			
64	Test Fishery Unknown Multiple Gear	ADFG	41_N	Test Fish Run Strength
			42_N	Test Fish Special Study
			43_N	Test Fish Long Term Assessment

65	Dead Fish Survey	ODFW	46 65	Dead Fish Survey (Lower Willamette Spawn) Dead Fish Survey
69	Other			

'70' Series: Juvenile Sampling

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
70	Juvenile Sampling - Troll (Marine)	NMFS (AK)	05	Juvenile Sampling - Troll
71	Juvenile Sampling - Gillnet (Marine)	NMFS (AK)	04	Juvenile Sampling - Gillnet
72	Juvenile Sampling - Seine (Marine)	NMFS (AK) NMFS (CR) ODFW	12 O 19	Juvenile Sampling - Seine Outmigrant Sampling - Ocean OSU Experimental Ocean Purse Seine
73	Juvenile Sampling - Seine (Freshwater)	NMFS (CR) ODFW	C S 28	Outmigrant Sampling - Columbia River Outmigrant Sampling - Snake river Juvenile Sampling – Freshwater
74	Juvenile Sampling –Trawl (Marine)	NMFS (AK)	74	Juvenile Sampling – Trawl
79	Other	ADFG WDFW	J_N 32	Juvenile Otter Trawl

'80' Series: High Seas

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
80	Hake Trawl Fishery (CA/OR/WA)	NMFS (AK)	802	At Sea Midwater Trawl Bycatch
802	Limited-Entry Rockfish Trawl (CA/OR/WA)	NMFS (AK)	802	At-Sea Midwater Trawl Bycatch
803	Limited-Entry Non-Hake Groundfish Trawl (CA/OR/WA)	NMFS (AK)	803	At-Sea Bottom Trawl Bycatch
804	Limited-Entry Sablefish Fixed Gear (CA/OR/WA)	NMFS (AK)	804	Sablefish Fixed Gear Bycatch

805	State-Permitted Nearshore Groundfish Fishery (CA/OR)	NMFS (AK)	805 806	Nearshore Groundfish Fixed Gear Bycatch Nearshore Groundfish Trawl Bycatch
81	Groundfish Observer (Gulf of Alaska)	NMFS (AK)	801	At-Sea Trawl Bycatch
82	Groundfish Observer (Bering Sea/Aleutians)	NMFS (AK)	801	At-Sea Trawl Bycatch
83	Foreign Research Vessels	NMFS (AK)	831 832 833 834 835	Research Gillnet Research Longline Research Trawl Research Squid Driftnet Research Squid Gillnet
84	Foreign Mothership Vessels	NMFS (AK)	841 842	Salmon Gillnet Research Gillnet
85	Ocean Trawl By-Catch	ODFW WDFW	30 33 32	Ocean Trawl By-Catch Pacific High Seas Ocean Trawl
87	Squid Gillnet By-Catch	NMFS (AK)	87	Squid Gillnet By-Catch
88	Juvenile Sampling	NMFS (AK)	74	Juvenile Sampling - Trawl
89	Other			

'90' Series: Miscellaneous

<u>Fishery</u>	<u>Fishery Name</u>	<u>Agency</u>	<u>Fishery or Gear</u>	<u>Fishery or Gear Name</u>
90	Multiple Gear	ADFG	1_N 1_1 1_3 1_5 11_N 17_N	Multiple fisheries Multiple fisheries Seine Multiple fisheries Gillnet Multiple fisheries Troll Traditional multiple/unknown gear Aboriginal multiple/unknown gear

91	PNP Cost Recovery	ADFG	2_N	Hatchery Miscellaneous	
			21_N	PNP Hatchery Cost Recovery	
			22_N	PNP Hatchery Carcasses	
			23_N	State Hatchery Cost Recovery	
			24_N	State Hatchery Carcasses	
			27_N	PNP Hatchery Dontated	
			28_N	State Hatchery Donated	
			NMFS	21_N	Hatchery Miscellaneous
			92	Columbia River Shad	ODFW
93	Set-Line (Sturgeon)	ODFW	31	Columbia River Set Line (Sturgeon)	
94	Fish Trap (Marine)	ADFG	11_0	Traditional Trap	
			17_0	M.I.C. Trap	
95	Confiscated	ADFG	18_1	Confiscated Purse Seine	
			18_3	Confiscated Drift Gillnet	
			18_4	Confiscated Set Gillnet	
			18_5	Confiscated Troll	
			18_8	Confiscated Fish Wheel	
99	Other	ADFG	31_N	Derby Sale	
			33_N	Discarded Catch	
			34_N	Oil Spill Victim	
			35_N	Education Permit	
			36_N	Donated Catch	
			O_N	Other	

CHAPTER 10
CATCH EFFORT GEAR CODES

<u>Catch Gear Group</u>	<u>Catch Gear Group Name</u>	<u>Agency</u>	<u>Catch Gear</u>	<u>Catch Gear Name</u>
10	Troll	ADFG	05	Hand Troll
		CDFO	30	Salmon Troll
			31	Salmon Troll Freezer
		NMFS(AK	73	Terminal Troll
		ODFW	12	Ocean Troll
		WDFW	10	Hook & Line (Juan de Fuca only)
			41	Troll
20	Gill Net	ADFG	03	Drift Gill Net
			04	Set Gill Net
		CDFO	10	Gill Net
			11	Other Net
			13	Drift Net
		ODFW	21	Columbia River Gill Net
			23	Columbia River Set Net
		WDFW	14	Drift Gill Net
			16	Set Gill Net
		25	Seine	ADFG
02	Beach Seine			
CDFO	20			Purse Seine
	70			Beach Seine
NMFS(AK	77			Terminal Seine
WDFW	12			Beach Seine
	19			Purse Seine
28	Other Net	ADFG	13	Dip Net
		CDFO	14	Drag Net/Bag Net (Indian)

			15	Mixed or Unspecified
		WDFW	05	Pole Net
			11	Dip Bag Net
			15	Round Haul Net
			20	Reef Net
		ODFW	24	Dip Net
40	Sport	ADFG	20	Sport
		CDFO	07	Ocean Sport
			47	Freshwater Sport
		NMFS(AK	76	Terminal Sport
		ODFW	11	Ocean Sport
			27	Freshwater Sport (for recreational catch)
			32	Estuary Sport
		WDFW	95	Marine Sport
			96	Freshwater Sport
			97	Freshwater Sport Snag
85	Trawl	NMFS(AK	80	Groundfish Observer (CA/OR/WA)
			81	Groundfish Observer (Gulf of Alaska)
			82	Groundfish Observer (Bering Sea/Aleutians)
			86	Land Based Salmon
			87	Squid Gill Net By-Catch
			90	Japanese Research Vessel
			91	Japanese Mother Ship
		ODFW	30	Ocean Trawl By-Catch
			33	Pacific High Seas
		WDFW	32	Otter Trawl
			34	Midwater Trawl
94	Trap	ADFG	00	Trap
		WDFW	51	Treaty Trap
95	Hand Held	ADFG	12	Hand Picked/Diving
		CDFO	41	Jigging (Indian)
			83	Gaff

			85	Spear/Arrow/Harpoon
		WDFW	02	Gaff
			10	Hook & Line (Outside Juan de Fuca)
			42	Handline
		ODFW	27	Hook & Line
99	Other	ADFG	99	Unknown
		CDFO	00	Unknown

CHAPTER 11
MARK CODING

Mark Codes for Special Cases

0000	No Adclip + No other external marks
0009	No Adclip + Unknown or unspecified other marks
5000	Adclip + No other external marks
5009	Adclip + Unknown or unspecified other marks
9000	Adipose Clip Unknown + No other external marks
9009	Adipose Clip Unknown + Totally Unknown other external marks
9nnn	Adipose Clip Unknown but other external marks present (nnn – appropriate 3 digit code indicating other marks)

Non-Adipose
Mark Code

Mark Description

Adipose
Mark Code

Mark Description

0001	No Adclip + Left Ventral	5001	Adclip + Left Ventral
0002	No Adclip + Right Ventral	5002	Adclip + Right Ventral
0050	No Adclip + Left Ventral Right Ventral	5050	Adclip + Left Ventral Right Ventral
0051	No Adclip + Left Ventral Left Pectoral	5051	Adclip + Left Ventral Left Pectoral
0052	No Adclip + Left Ventral Right Pectoral	5052	Adclip + Left Ventral Right Pectoral
0053	No Adclip + Left Ventral Left Maxillary	5053	Adclip + Left Ventral Left Maxillary
0054	No Adclip + Left Ventral Right Ventral Left Maxillary	5054	Adclip + Left Ventral Right Ventral Left Maxillary
0055	No Adclip + Left Ventral Right Ventral Right Maxillary	5055	Adclip + Left Ventral Right Ventral Right Maxillary
0056	No Adclip + Left Ventral Right Maxillary	5056	Adclip + Left Ventral Right Maxillary
0057	No Adclip + Left Ventral Dorsal	5057	Adclip + Left Ventral Dorsal
0058	No Adclip + Left Ventral Anal	5058	Adclip + Left Ventral Anal
0059	No Adclip + Left Ventral Caudal	5059	Adclip + Left Ventral Caudal
0060	No Adclip + Left Ventral Freeze Brand	5060	Adclip + Left Ventral Freeze Brand
0061	No Adclip + Left Ventral + Elastomer Injection Left Eye	5061	Adclip + Left Ventral + Elastomer Injection Left Eye
0070	No Adclip + Right Ventral Left Pectoral	5070	Adclip + Right Ventral Left Pectoral
0071	No Adclip + Right Ventral Right Pectoral	5071	Adclip + Right Ventral Right Pectoral
0072	No Adclip + Right Ventral Left Maxillary	5072	Adclip + Right Ventral Left Maxillary

0073	No Adclip + Right Ventral Right Maxillary	5073	Adclip + Right Ventral Right Maxillary
0074	No Adclip + Right Ventral Dorsal	5074	Adclip + Right Ventral Dorsal
0075	No Adclip + Right Ventral Anal	5075	Adclip + Right Ventral Anal
0076	No Adclip + Right Ventral Caudal	5076	Adclip + Right Ventral Caudal
0077	No Adclip + Right Ventral Freeze Brand	5077	Adclip + Right Ventral Freeze Brand
0090	No Adclip + Left Pectoral	5090	Adclip + Left Pectoral
0091	No Adclip + Left Pectoral Left Maxillary	5091	Adclip + Left Pectoral Left Maxillary
0092	No Adclip + Left Pectoral Right Maxillary	5092	Adclip + Left Pectoral Right Maxillary
0093	No Adclip + Left Pectoral Right Maxillary Anal	5093	Adclip + Left Pectoral Right Maxillary Anal
0094	No Adclip + Left Pectoral Dorsal	5094	Adclip + Left Pectoral Dorsal
0095	No Adclip + Left Pectoral Anal	5095	Adclip + Left Pectoral Anal
0100	No Adclip + Right Pectoral	5100	Adclip + Right Pectoral
0101	No Adclip + Right Pectoral Left Maxillary	5101	Adclip + Right Pectoral Left Maxillary
0102	No Adclip + Right Pectoral Right Maxillary	5102	Adclip + Right Pectoral Right Maxillary
0103	No Adclip + Right Pectoral Right Maxillary Anal	5103	Adclip + Right Pectoral Right Maxillary Anal
0104	No Adclip + Right Pectoral Dorsal	5104	Adclip + Right Pectoral Dorsal
0105	No Adclip + Right Pectoral Anal	5105	Adclip + Right Pectoral Anal
0110	No Adclip + Left Maxillary	5110	Adclip + Left Maxillary
0111	No Adclip + Left Maxillary Right Maxillary	5111	Adclip + Left Maxillary Right Maxillary
0112	No Adclip + Left Maxillary Dorsal	5112	Adclip + Left Maxillary Dorsal
0113	No Adclip + Left Maxillary Anal	5113	Adclip + Left Maxillary Anal
0120	No Adclip + Right Maxillary	5120	Adclip + Right Maxillary
0121	No Adclip + Right Maxillary Dorsal	5121	Adclip + Right Maxillary Dorsal
0122	No Adclip + Right Maxillary Anal	5122	Adclip + Right Maxillary Anal
0130	No Adclip + Dorsal	5130	Adclip + Dorsal
0140	No Adclip + Anal	5140	Adclip + Anal
0150	No Adclip + Caudal	5150	Adclip + Caudal
0190	No Adclip + Jet	5190	Adclip + Jet
0200	No Adclip + Visual Implant Alpha-numeric	5200	Adclip + Visual Implant Alpha-numeric
0201	No Adclip + Visual Implant Elastomer Injection	5201	Adclip + Visual Implant Elastomer Injection
0202	No Adclip + Visual Implant Fluorescent Filament	5202	Adclip + Visual Implant Fluorescent Filament
0203	No Adclip + Elastomer Injection Left Eye Blue	5203	Adclip + Elastomer Injection Left Eye Blue
0204	No Adclip + Elastomer Injection Right Eye Blue	5204	Adclip + Elastomer Injection Right Eye Blue
0205	No Adclip + Elastomer Injection Left Eye Red	5205	Adclip + Elastomer Injection Left Eye Red
0206	No Adclip + Elastomer Injection Right Eye Red	5206	Adclip + Elastomer Injection Right Eye Red
0207	No Adclip + Elastomer Injection Left Eye Green	5207	Adclip + Elastomer Injection Left Eye Green
0208	No Adclip + Elastomer Injection Right Eye Green	5208	Adclip + Elastomer Injection Right Eye Green
0209	No Adclip + Elastomer Injection Left Eye Orange	5209	Adclip + Elastomer Injection Left Eye Orange
0210	No Adclip + Elastomer Injection Right Eye Orange	5210	Adclip + Elastomer Injection Right Eye Orange
0211	No Adclip + Jet Left Ventral	5211	Adclip + Jet Left Ventral

0212	No Adclip + Jet Left Pectoral	5212	Adclip + Jet Left Pectoral
0213	No Adclip + Jet Anal	5213	Adclip + Jet Anal
0214	No Adclip + Elastomer Injection Left Eye Yellow	5214	Adclip + Elastomer Injection Left Eye Yellow
0215	No Adclip + Elastomer Injection Right Eye Yellow	5215	Adclip + Elastomer Injection Right Eye Yellow
0216	No Adclip + Elastomer Injection Left Jaw Green	5216	Adclip + Elastomer Injection Left Jaw Green
0300	No Adclip + Freeze Brand	5300	Adclip + Freeze Brand
0350	No Adclip + PIT Tag	5350	Adclip + PIT Tag
0400	No Adclip + Floy Tag	5400	Adclip + Floy Tag
0500	No Adclip + Otolith	5500	Adclip + Otolith
0501	No Adclip + Otolith + Left Ventral	5501	Adclip + Otolith + Left Ventral
0502	No Adclip + Otolith + Right Ventral	5502	Adclip + Otolith + Right Ventral

CHAPTER 12

CODING FOR ESCAPEMENT EST METHOD

A. Overview

<u>Codes</u>	<u>Method</u>
10-19	Passage Counts
20-29	Live Counts
30-39	Carcass Counts
40-49	Live and Dead Counts Combined
50-59	Redd Counts
60-69	Mark-Recapture Counts
70-79	Electronic Counts
90-99	Miscellaneous

B. Detailed Coding

'10' Series: Passage Counts

<u>Code</u>	<u>Method</u>
10	Total direct count of run passed through weir/trap/ladder
11	Partial direct count of run with extrapolation for unsampled periods
12	Partial direct count of run with no extrapolation for unsampled periods
13	Total count past dam with passage adjustments (e.g. boat locks, fall-backs)
14	Extrapolation from differences in counts between dams (minus other escapement and harvest)

'20' Series: Live Counts (fish on spawning grounds)

<u>Code</u>	<u>Method</u>
20	Counts with extrapolation for entire period (e.g. 'area under the curve' derived from fish days/stream life)
21	Peak count
22	Index area peak count with expansion factors from a baseline year study
23	Index area peak count with expansion factors from another index stream or baseline year

'30' Series: Carcass Counts

<u>Code</u>	<u>Method</u>
30	Cumulative count
31	Peak count
32	Index area peak count with expansion factors from a baseline year study
33	Index area peak count with expansion factors from another index stream

'40' Series: Live and Dead Counts

<u>Code</u>	<u>Method</u>
40	Cumulative count (cumulative carcasses plus live fish from last survey)
41	Peak count
42	Index area peak count with expansion factors from a baseline year study
43	Index area peak count with expansion factors from another index stream

'50' Series: Redd Counts

<u>Code</u>	<u>Method</u>
50	Cumulative redd count for entire area
51	Index area cumulative counts with supplemental area counts
52	Index area cumulative counts with supplemental areas and expansions for unsurveyed areas
53	Counts of visible redds with extrapolation for entire period (e.g. 'area under the curve' derived from total redd days/visible redd life)
54	Counts of visible redds/date with expansion factors from a baseline year study

'60' Series: Mark/Recapture Estimates

<u>Code</u>	<u>Method</u>
60	Lower river marking with upstream recapture
61	Carcass mark/recapture

'70' Series: Electronic Counts

<u>Code</u>	<u>Method</u>
70	Conductivity sensing counter
71	Sonar counter

72	Radar counter
73	Hydroacoustic estimate

'90' Series: Miscellaneous

<u>Code</u>	<u>Method</u>
90	Estimate based on past hatchery/natural escapement ratios
91	Estimate based on hatchery/natural ratio from harvest or test fishery
92	Estimate based on estimated harvest rate in a terminal fishery
99	Other (method not described by codes)

CHAPTER 13 GEOGRAPHIC CODING

A. Overview

Fields: PSC Region Code, PSC Basin Code
 File: Locations
 Current as of: December, 2001
 Authorized: PSC Working Group on Data Standards

Domains for PSC Region Code and PSC Basin Code

- 1 Alaska
- 2 Yukon Territory
- 3 British Columbia
- 4 Washington
- 5 Columbia River

- 6 Oregon
- 7 California
- 8 Other / International

within the state of Alaska and jurisdictional waters
 within the territory of Yukon and jurisdictional waters
 within the province of British Columbia and jurisdictional waters
 within the state of Washington and jurisdictional waters
 all Columbia River drainages consisting of the jurisdictions:

- state of Washington (mainstem, tribs, and estuary)
- state of Oregon (mainstem, tribs, and estuary)
- province of British Columbia (upper tribs and headwaters)
- state of Idaho (upper Snake R and tribs)

within the state of Oregon and jurisdictional waters
 within the state of California and jurisdictional waters
 any jurisdictions not identified above

B. Domain/ Region/ Basin Coding

Domain 1: Alaska

Region Code	Region Name	Basin Code	Basin Name
SEAK	Alaska, Southeast	SEAK	Alaska, Southeast (excluding transboundary rivers)
		AKBC	Alaska, Southeast; transboundary rivers originating in BC
		AKYT	Alaska, Southeast; transboundary rivers originating in Yukon T
		SEAKG	Alaska, Southeast; general, combined, unknown, or undefined
AYK	Alaska, Arctic, Yukon, Kuskokwim	KOTZ	Kotzebue
		KUSK	Kuskokwim
		NORT	Norton Sound
		YUKN	Yukon (AK only)
		AYKG	Alaska, Arctic, Yukon, Kuskokwim; general, combined, unk., or undefined
CNAK	Alaska, Central	BRIS	Bristol Bay
		COOK	Cook Inlet
		PWS	Prince William Sound
		CNAKG	Alaska, Central; general, combined, unknown, or undefined
WEAK	Alaska, Westward	ALEU	Aleutians
		PENI	Peninsula
		CHIG	Chignik
		KODI	Kodiak
		DUTC	Dutch Harbor
		BERI	Bering Sea
		WEAKG	Alaska, Westward; general, combined unknown, or undefined
AKGN	Alaska, general	AKGNG	Alaska; general, comvined, unknown, or undefined

Domain 2: Yukon Territory

Region Code	Region Name	Basin Code	Basin Name
YUKN	Yukon Territory (Yukon R in Yukon territory only)	YUKN	Yukon Territory (Yukon R in Yukon territory only)
YUGN	Yukon T, general	YUGNG	Yukon T; general, combined, unknown, or undefined

Domain 3: British Columbia

Region Code	Region Name	Basin Code	Basin Name
FRTH	Fraser R – Thompson R	LWFR	Lower Fraser R (below Hope + tributaries)
		UPFR	Upper Fraser R (above Hope + tribs; excluding Thompson R)
		TOMM	Thompson R Mainstem
		TOMF	Thompson R (North & South forks)
		FRTHG	Fraser R – Thompson R; general, combined, unknown, or undefined
NASK	Nass R – Skeena R	SKNA	Skeena R
		NASS	Nass R
		NASKG	Nass R – Skeena R; general
GST	Georgia Strait	GSVI	Georgia Strait – Vancouver Island
		GSMN	Georgia Strait – Mainland North
		GSMS	Georgia Strait – Mainland South
		GSTG	Georgia Strait; general
WCVI	Western Vancouver Island	SWVI	SW Vancouver Island
		NWVI	NW Vancouver Island
		WCVIG	Western Vancouver Island; general
JNST	Johnstone Strait	JNSTG	Johnstone Strait; general
COBC	Coastal British Columbia	RIVR	Rivers & Smith Inlets
		CCST	Coastal British Columbia; Central
		NCST	Coastal British Columbia; North
		COBCG	Coastal British Columbia; general
QCI	Queen Charlotte Islands	QCIG	Queen Charlotte Islands; general

Region Code	Region Name	Basin Code	Basin Name
TRAN	Transboundary Rivers in Canada	ALSE	Alsek R / BC, Yukon
		CHIL	Chilkat R / BC
		STIK	Stikine R / BC
		TAKU	Taku R / BC
		UNUK	Unuk R / BC
		WHIT	Whiting R / BC
		TRANG	Transboundary Rivers; general
BCGN	British Columbia, general	BCGNG	British Columbia; general, combined, unknown, or undefined

Domain 4: Washington

Region Code	Region Name	Basin Code	Basin Name
GRAY	Grays Harbor	GRAY	Grays Harbor – Lower Chehalis R
		UPCH	Upper Chehalis R
		GRAYG	Grays Harbor; general
HOOD	Hood Canal	ADIN	Admiralty Inlet
		TPDB	Tala Point to Dabob Bay
		SKDO	Skokomish R – Dosewallips R – Great Bend
		WKIT	West Kitsap Peninsula
		HOODG	Hood Canal; general
JUAN	Strait of Juan De Fuca	ELDU	Elwha R – Dungeness R
		LYHO	Lyre R – Hoko R
		JUANG	Strait of Juan De Fuca; general
MPS	Puget Sound Mid	DUWA	Duwamish R – Green R
		EKPN	East Kitsap North of Narrows
		LAKW	Lake Washington
		PUYA	Puyallup R
		MPSG	Puget Sound Mid; general
NOOK	Nooksack R	NOOK	Nooksack R
		SAM	Samish R
		SJUA	San Juan Islands

Region Code	Region Name	Basin Code	Basin Name
NWC	Coastal Washington, North	NOOKG	Nooksack R – Samish R; general
		QEUQ	Queets R – Quinault R
		QUHO	Quillayute R – Hoh R
		NWCG	Coastal Washington, North; general
SKAG	Skagit R	SKAG	Skagit R
		SKAGG	Skagit R; general
SPS	Puget Sound South	CHAM	Chambers Cr
		DES	Deschutes R
		EKPS	East Kitsap South of Narrows
		KENN	Kennedy Cr – Goldsborough Cr
		NISQ	Nisqually R
		SPSG	Puget Sound South; general
STIL	Stillaguamish R – Snohomish R	STIL	Stillaguamish R
		SNOH	Snohomish R
		WICI	Whidbey Island – Camano Islands
		STILG	Stillaguamish R – Snohomish R; general
WILP	Willapa R	WILP	Willapa R
		WILPG	Willapa R; general
WAGN	Washington, general	CWG	Coastal Washington; general
		PSG	Puget Sound; general
		WAGNG	Washington; general, combined, unknown, or undefined

Domain 5: Columbia River

Region Code	Region Name	Basin Code	Basin Name
LOCR	Lower Columbia R (mouth to Bonneville Dam)	GREL	Grays R – Elokomin R / WA
		COWL	Cowlitz R / WA
		LEWI	Lewis R / WA
		SAWA	Salmon R – Washougal R / WA
		WILL	Willamette R / OR
		YOCL	Youngs Bay – Clatskanie R / OR
		SAND	Sandy R / OR

Region Code	Region Name	Basin Code	Basin Name
		LOCRG	Lower Columiba R; general
CECR	Central Columbia R (Bonneville Dam to McNary Dam)	WIND KLIC ROCK HOO DESC JOHN UMAT CECRG	Wind R – White Salmon R / WA Klickitat R / WA Rock Cr – Glade Cr / WA Hood R / OR Deschutes R / OR John Day R / OR Umatilla R / OR Central Columbia R; general
UPCR	Upper Columbia R (abv. McNary Dam; excl. Snake R)	MEOK ROOS WACO WECH YAKI KOOT WAWA UPCRG	Methow R – Okanogan R / WA Lake Roosevelt – Colville R – Kettle R / WA Wanapum R – Coulee Res / WA Wenatchee R – Entiat R – Lk Chelan / WA Yakima R / WA Kootenay R / BC Walla Walla R / WA Upper Columbia R; general
SNAK	Snake R	LOSN GRIA PATU CLEA SALM UPSN SNAKG	Lower Snake R, below Perry / WA Grande Ronde R – Imnaha R – Asotin Cr / OR, WA Palouse R – Tucannon R / WA Clearwater R / ID Salmon R / ID Upper Snake R, above Salmon R / ID Snake R; general
CRGN	Columbia R, general	CRGNG	Columbia R; general, combined, unknown, or undefined

Domain 6: Oregon

Region Code	Region Name	Basin Code	Basin Name
NOOR	Coastal Oregon, North	ALSE	Alsea R
		NECA	Necanicum R
		NEHA	Nehalem R
		SIYA	Siletz R – Yaquina R
		SILT	Siltcoos R
		SIUS	Siuslaw R
		WTN	Wilson R – Trask R – Nestucca R
		NOORG	Coastal Oregon North; general
SOOR	Coastal Oregon, South	APPL	Applegate R
		CHET	Chetco R – Winchuck R – Pistol R
		COOS	Coos R
		COQU	Coquille R
		ROGU	Rogue R
		SIXE	Sixes R – Elk R – Floras Cr
		UMPO	Umpqua R
		SOORG	Coastal Oregon South; general
ORGN	Oregon, general	ORGNG	Oregon; general, combined, unknown or undefined

Domain 7: California

Region Code	Region Name	Basin Code	Basin Name
NOCA	Coastal California, North	SMIT	Smith R
		NOCAG	Coastal California North; general
CECA	Coastal California, Central	MAEL	Mad R – Eel R
		RUSS	Russian R
		CECAG	Coastal California Central; general
SOCA	Coastal California, South	SOCAG	Coastal California South; general
KLAM	Klamath R – Trinity R	KLAM	Klamath R

Region Code	Region Name	Basin Code	Basin Name
SACR	Sacramento R	TRIN	Trinity R
		KLAMG	Klamath R – Trinity R; general
		SACR	Sacramento R
		FEA	Feather R
		AMER	American R
SJOA	San Joaquin R	SFBA	San Francisco – San Pablo – Grizzly – Susin Bays
		SACRG	Sacramento R; general
		SJOA	San Joaquin R
		MERC	Merced R
		TUST	Tuolumne R – Stanislaus R
CAGN	California, general	MOKE	Mokelumne R
		SJOAG	San Joaquin R; general
		CAGNG	California; general, combined, unknown, or undefined

Domain 8: Other / International

Region Code	Region Name	Basin Code	Basin Name
JAPN	Japan	HOKK	Hokkaido, Japan
		JAPNG	Japan; general
CISR	Commonwealth of Independent States / Russia	SAHK	Sahkalin, Russia
		CISRG	Commonwealth of Independent States / Russia; general
INGN	Other / International, general	INGNG	Other / International; general, combined, unknown, or undefined

C. EPA Reach Coding (USA Only)

Field: EPA Reach
 File: Locations
 Current as of: December, 2001
 Authorized: PSC Working Group on Data Standards

The EPA Reach Number refers to the U.S. Environmental Protection Agency's "reach file," a national data base of surface water features. The full EPA Reach Number is 17 characters in length. It is based on the U.S. Geological Survey's (USGS) nationwide system of 8 digit Hydrologic-Unit Codes (HUC)s and can be used to identify stream reaches. These reaches can identify locations down to the level of stream intervals and coastal shoreline intervals. EPA Reach is provided to facilitate the mapping of Location Codes pertaining to freshwater and shoreline locations. Mapping of most marine locations may not be possible at this time.

To assist with mapping these locations, the following items are available on request from the Mark Center:

Document: EPA Reach File Manual
 Maps: USGS Hydrologic Unit Maps (by State)
 Maps: EPA River Reach File Hydrologic Segment Plots (by State)

The parts (components) of the EPA Reach Number that are permissible in the EPA Reach field are as follows (See Figures 1 & 2 below):

1. Full EPA Reach Number (17 - char)
 If possible, place the entire EPA Reach Number into the EPA Reach field. This will be possible only for certain types of locations that refer to point locations such as hatchery / facilities, or known release locations. Specific values can be obtained by referring to the maps: [EPA River Reach File Hydrologic Segment Plots \(by State\)](#).
2. Hydrologic Unit Code (HUC) portion only (8 - char)
 In many cases it will not be possible to map a CWT Location Code to a 17-character EPA Reach Number. This situation arises when the Location Code refers to an entire river, bay, lake, or other general area. For example, the release location Newakum R [3F21802 230882 R] encompasses many stream reaches within the EPA Reach-coded HUC: [17100103]. In these cases, the solution is to use only part of the EPA Reach Number in the Reach field—the 8 character HUC. HUC values may be obtained by referring to either of these maps: [USGS Hydrologic Unit Maps \(by State\)](#); [EPA River Reach File Hydrologic Segment Plots \(by State\)](#).
3. Accounting Unit Code portion only (6 - char)
 If the Location Code encompass more than one HUC, then use the Accounting Unit Code portion of the HUC. Accounting Unit Code values may be obtained by referring to either of these maps: [USGS Hydrologic Unit Maps \(by State\)](#); [EPA River Reach File Hydrologic Segment Plots \(by State\)](#).
4. Sub-region Unit Code portion only (4 - char)
 If the Location Code encompasses more than one Accounting Unit Code, then use the Sub-region Unit Code portion of the Accounting Unit Code. All permissible values are listed here. (for assistance, refer to the either of these maps: [USGS Hydrologic Unit Maps \(by State\)](#); [EPA River Reach File Hydrologic Segment Plots \(by State\)](#).) EPA Reach must contain one of these:

1701	Kootenai / Pend Oreille / Spokane sub-region
1702	Upper Columbia sub-region
1703	Yakima sub-region
1704	Upper Snake sub-region
1705	Middle Snake sub-region
1706	Lower Snake sub-region
1707	Middle Columbia sub-region
1708	Lower Columbia sub-region
1709	Willamette sub-region
1710	Oregon-Washington Coastal sub-region
1711	Puget sub-region
1712	Oregon-Closed Basins sub-region
1801	Klamath-North California Coast sub-region
1802	Sacramento sub-region
1901	Alaska-Southeast sub-region
1902	Alaska-Central sub-region
1903	Alaska-Kuskokwim sub-region
1904	Alaska-Yukon sub-region
1905	Alaska-Northwestern sub-region
1906	Alaska-Arctic sub-region

5. Region Unit Code portion only (2 - char)

If the Location Code encompass more than one Sub-region Unit Code, then use the Region Unit Code portion of the Sub-region Unit Code. All permissible values are listed here. (for assistance, refer to the either of these maps: [USGS Hydrologic Unit Maps \(by State\)](#); [EPA River Reach File Hydrologic Segment Plots \(by State\)](#).) EPA Reach must contain one of these:

17	Pacific Northwest region
18	California region
19	Alaska region

Figure 1: Illustration of EPA Reach Number for mapping of CWT Location Codes into EPA Reach

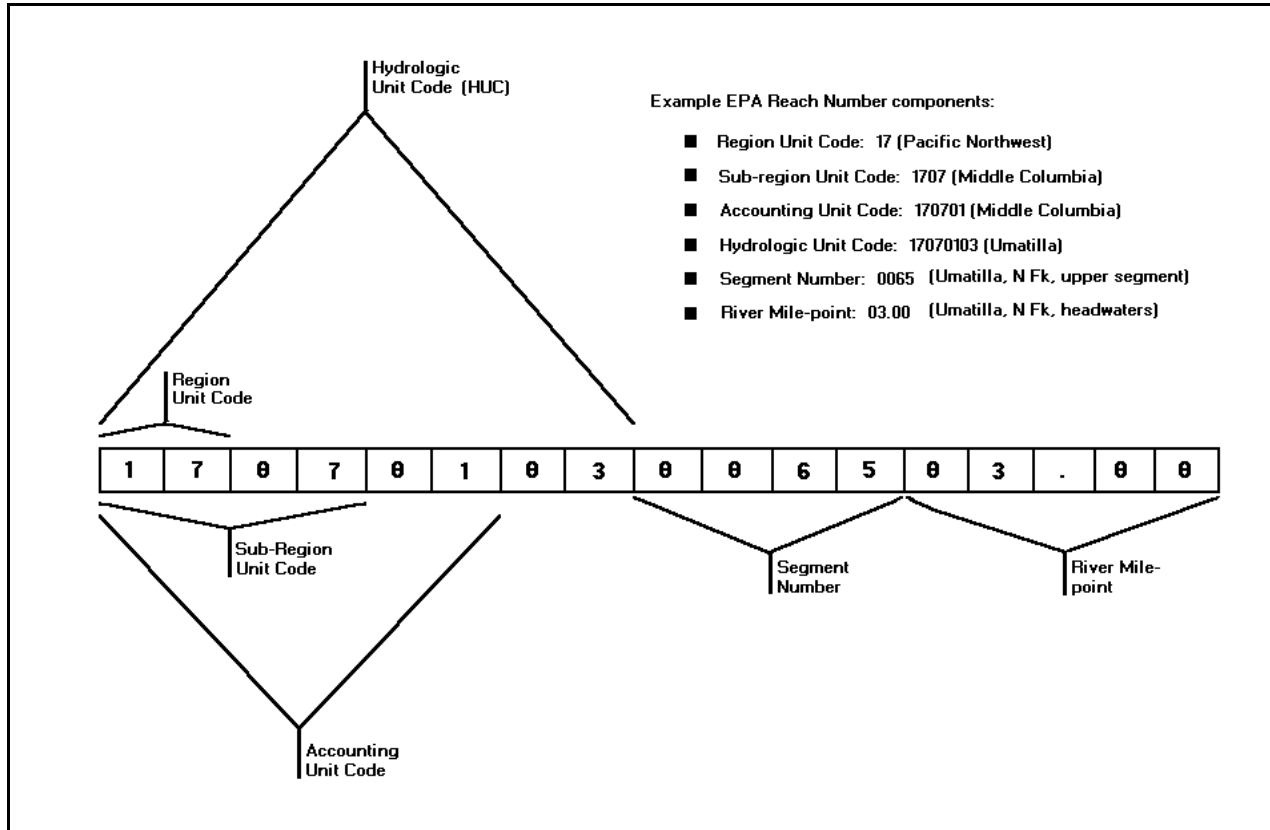
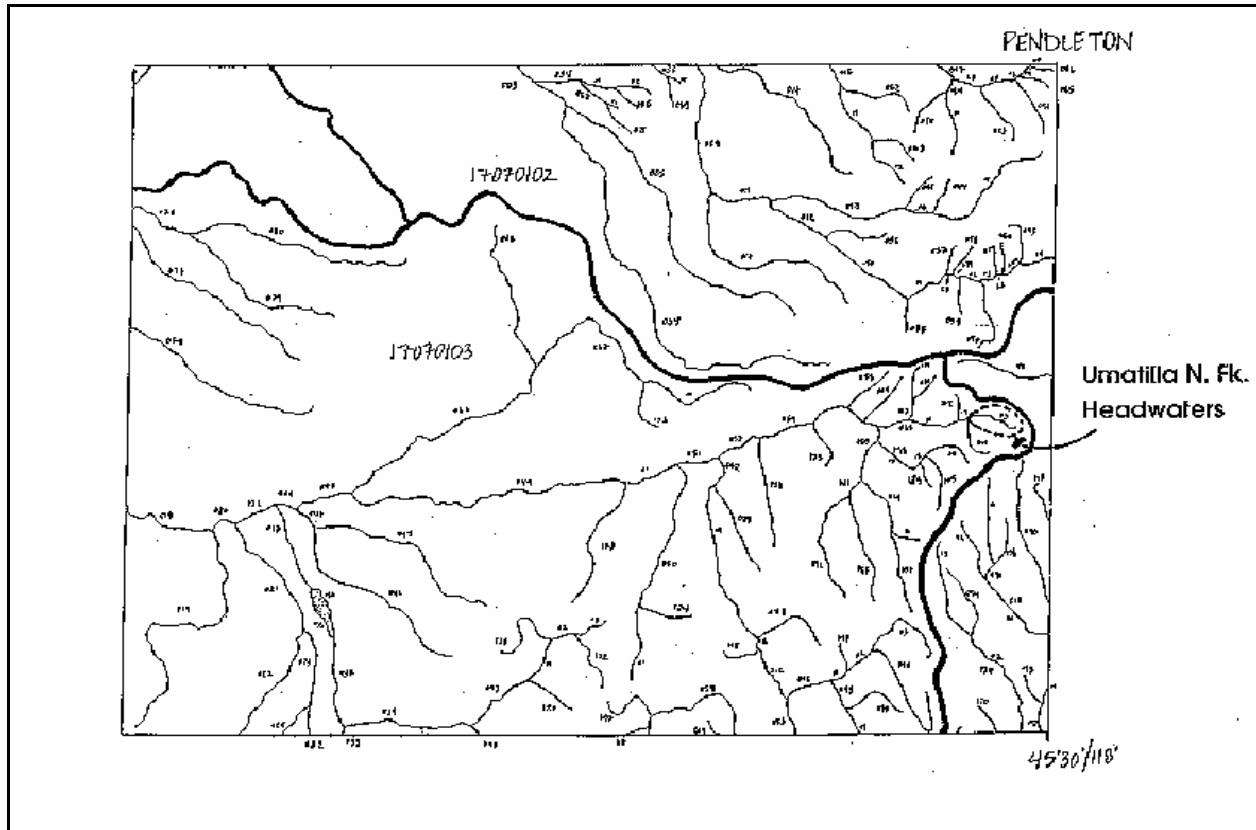


Figure 2: Map of EPA Reach Numbers corresponding to illustration in Figure 1 (i.e. Umatilla, N Fk, Headwaters Reach)



CHAPTER 14

MARK (Adclip) SAMPLING

D. Mark (Adclip) Sampling - General

The method to mark sample to calculate an unbiased mark (adclip) rate will depend upon whether the tag detection method is visual or electronic.

- g. When the tag detection method is **visual**, all fish in the sample are examined for an adipose clip. All adipose-clipped fish are presumed to have a cwt and are included in the recovery file. Mark sampling occurs as part of the process of cwt sampling. (See Figure 1 below).
- h. When the tag detection method is **electronic**, all fish in the sample are electronically wanded or tubed. All positive-signal ('beep') fish are presumed to have a cwt and are included in the recovery file. Mark sampling can occur as follows:

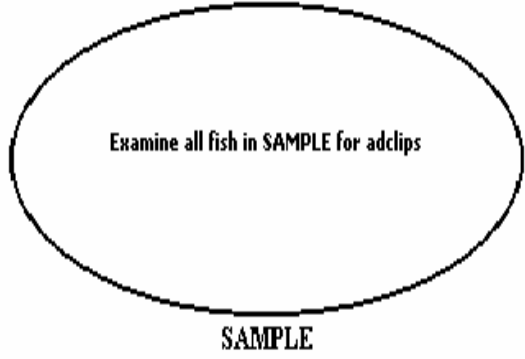
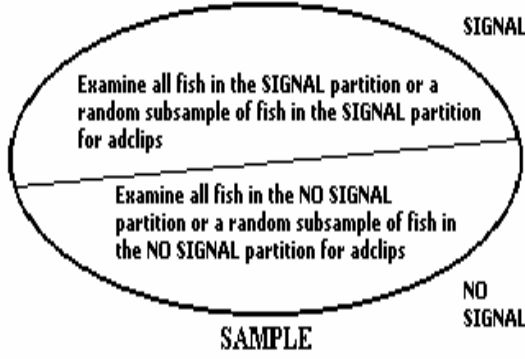
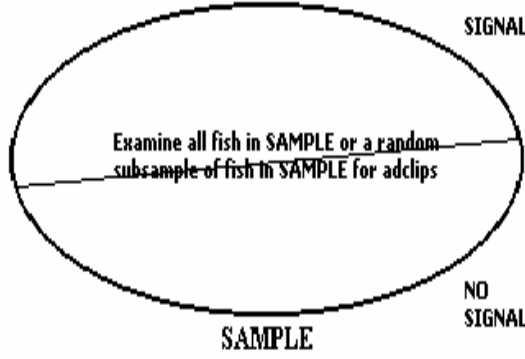
- 1) Mark sampling can be **dependent** on the electronic signal. The sample is divided into a 'signal' partition and a 'no-signal' partition. All fish in each partition, all fish in one partition and a random sub-sample of all fish in the other partition, or a random sub-sample of all fish in each partition must be examined for an adipose clip. (see Figure 2 below). Typically, the 'Signal' partition is not sub-sampled since all fish will be processed as cwt recoveries.

A unbiased mark rate can only be calculated if both partitions are examined for adclips. For example, if the 'signal' partition is examined for adclips but the 'no-signal' partition is not examined for adclips, a mark rate for the SAMPLE can not be calculated, even though it is possible to calculate a mark rate for the 'signal' partition.

- 2) Mark sampling can be **independent** of the electronic signal. All fish in the sample or a random sub-sample of all fish in the sample must be examined for an adipose clip (see Figure 3 below).

If a sample is examined for adclips apart from electronic detection or as fish are wanded, the mark sampling is **independent** of the electronic detection. If fish are separated into two partitions as a result of the electronic wand or tube signal, and each partition is examined for adclips, the mark sampling is **dependent** on the electronic signal.

Whether or not mark sampling is dependent or independent of the electronic detection, as in Figures 2 and 3, any subsampling of fish in each partition or in the sample will affect the usefulness of the mark rate and should be examined to ensure the subsampling adequately represents the fish in the partition or sample. The mark rate calculation assumes that the subsampling is random and adequately representative of all fish. For example, if all fish in the 'signal' partition are examined for adclips, but only 2 out of 500 fish in the 'no-signal' partition are examined, it is possible to calculate a mark rate for the SAMPLE using the formula but its usefulness should be questioned since 2 fish out of 500 does not adequately represent the 'no-signal' fish in the sample.

<p>Figure 1: Illustration of Mark Sampling when Tag Detection Method is Visual</p>	<p>Figure 2: Illustration of Mark Sampling Dependent on Electronic Signal, when Tag Detection Method is Electronic</p>	<p>Figure 3: Illustration of Mark Sampling Independent of Electronic Signal, when Tag Detection Method is Electronic</p>
 <p style="text-align: center;">SAMPLE</p>	 <p style="text-align: center;">SAMPLE</p>	 <p style="text-align: center;">SAMPLE</p>

E. Mark (Adclip) Sampling - PSC Catch/Sample Fields used for Data Exchange

The usage of the PSC Catch Sample fields depends upon the tag detection method and whether mark sampling was dependent upon electronic partitioning or is independent of the electronic signal.

- a. When the tag detection method is **visual**, only the 1st set of 'mr_' fields (mr_1st_xxx) should be used. The 2nd set of mr_ fields (mr_2nd_xxx) must be absent. (See Figure 4 below).
- b. When the tag detection method is **electronic**, the usage of the 1st set of 'mr_' fields (mr_1st_xxx) and the 2nd set of mr_ fields (mr_2nd_xxx) depends upon whether mark sampling is dependent or independent of the electronic signal.
 - 1) When the tag detection method is **electronic** and mark sampling is **dependent** on the electronic partitioning, both sets of mr_ fields should be used. The first set (mr_1st_xxx) represents the 'Signal' partition. The second set (mr_2nd_xxx) represents the 'No Signal' partition. (See Figure 5,6 and 7 below).
 - 2) When the tag detection method is **electronic** and mark sampling is **independent** of the electronic signal, only the 1st set of mr_ fields (mr_1st_xxx) should be used. The 2nd set of mr_ fields (mr_2nd_xxx) must be absent. (see Figure 8 and 9 below).

Figure 4: Illustration of PSC data fields used when tag detection method is **visual**

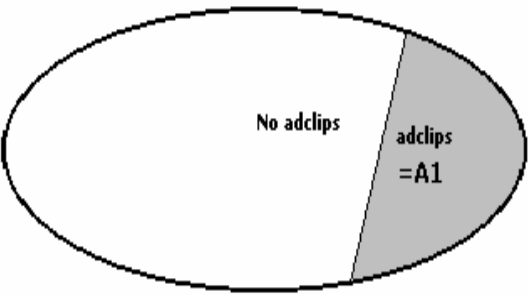
 <p style="text-align: center;">SAMPLE = P1=S1=K1</p>	<p>All fish in the sample are treated as one partition so P1 = number of fish in the sample Sample is not subsampled so S1=number of fish in the sample Since all fish in Sample were visually sampled, all fish in Sample have 'determinable and therefore known' adclip status so K1=number of fish in the sample All recoveries have adclips so A1 = number of fish in the sample with an adclip = total fish in corresponding recovery file</p>
mr_1 st _partition_size (P1)	P1 = num_sampled
mr_1 st _sample_size (S1)	S1 = num_sampled
mr_1 st _sample_known_ad_status (K1)	K1 = num_sampled
mr_1 st _sample_obs_adclips (A1)	A1 = number_recovered_decoded + number_recovered_no_cwts + number_recovered_lost_cwts + number_recovered_unreadable + number_recovered_unresolved + number_recovered_not_processed + number_recovered_pseudotags
mark_rate (MR)	MR = A1/K1

Figure 5: Illustration of PSC data fields used when tag detection method is **electronic**, mark sampling is **dependent** on electronic signal, and all fish in each partition are examined for adipose clips.

<p>SIGNAL =P1=S1 =K1</p> <p>No adclips adclips = A1</p> <p>No adclips adclips = A2 =K2</p> <p>NO SIGNAL =P2=S2 SAMPLE</p>	<ul style="list-style-type: none"> - P1 = number of fish in the SIGNAL partition of the sample = number of fish in the sample with a 'positive' signal = total fish in corresponding recovery file - SIGNAL partition is not subsampled so S1 = number of fish in the SIGNAL partition - P2 = number of fish in the NO SIGNAL partition of the sample = number of fish in the sample with a 'negative' signal = number of fish in the sample - (minus) total fish in corresponding recovery file - NO SIGNAL partition is not subsampled so S2 = number of fish in the NO SIGNAL partition
<p>mr_1st_partition_size (P1)</p>	<p>P1 = number_recovered_decoded + number_recovered_no_cwts + number_recovered_lost_cwts + number_recovered_unreadable + number_recovered_unresolved + number_recovered_not_processed + number_recovered_pseudotags</p>
<p>mr_1st_sample_size (S1)</p>	<p>S1 = P1</p>
<p>mr_1st_sample_known_ad_status (K1)</p>	<p>K1 = Number of fish in P1 which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)</p>
<p>mr_1st_sample_obs_adclips (A1)</p>	<p>A1 = Number of fish in P1 which were found to have an adipose clip</p>
<p>mr_2nd_partition_size (P2)</p>	<p>P2 = number_sampled - P1</p>
<p>mr_2nd_sample_size (S2)</p>	<p>S2 = P2</p>
<p>mr_2nd_sample_known_ad_status (K2)</p>	<p>K2 = Number of fish in P2 which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)</p>
<p>mr_2nd_sample_obs_adclips (A2)</p>	<p>A2 = Number of fish in P2 which were found to have an adipose clip</p>
<p>mark_rate (MR)</p>	<p>MR = [estimated marks in P1 + estimated marks in P2] / (total fish in P1 and P2) = [(P1 * A1/K1) + (P2 * A2/K2)] / (P1 + P2) If K1 or K2 is '0' absent, then mark_rate can not be calculated and must remain blank.</p>

Figure 6: Illustration of PSC data fields used when tag detection method is **electronic**, mark sampling is **dependent** on electronic signal, all fish in the 'Signal' partition are sampled for adipose clips, and a random sub-sample of all fish in the 'No Signal' partition is examined for adipose clips.

	<ul style="list-style-type: none"> - P1 = number of fish in the SIGNAL partition of the sample = number of fish in the sample with a 'positive' signal = total fish in corresponding recovery file - SIGNAL partition is not subsampled so S1 = number of fish in the SIGNAL partition - P2 = number of fish in the NO SIGNAL partition of the sample = number of fish in the sample with a 'negative' signal = number of fish in the sample - (minus) total fish in corresponding recovery file - NO SIGNAL partition is subsampled
<p>mr_1st_partition_size (P1)</p>	<p>P1 = number_recovered_decoded + number_recovered_no_cwts + number_recovered_lost_cwts + number_recovered_unreadable + number_recovered_unresolved + number_recovered_not_processed + number_recovered_pseudotags</p>
<p>mr_1st_sample_size (S1)</p>	<p>S1 = P1</p>
<p>mr_1st_sample_known_ad_status (K1)</p>	<p>K1 = Number of fish in P1 which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)</p>
<p>mr_1st_sample_obs_adclips (A1)</p>	<p>A1 = Number of fish in P1 which were found to have an adipose clip</p>
<p>mr_2nd_partition_size (P2)</p>	<p>P2 = number_sampled - P1</p>
<p>mr_2nd_sample_size (S2)</p>	<p>S2 = Number of fish in P2 which were visually sampled for adipose clips</p>
<p>mr_2nd_sample_known_ad_status (K2)</p>	<p>K2 = Number of fish in S2 which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)</p>
<p>mr_2nd_sample_obs_adclips (A2)</p>	<p>A2 = Number of fish in S2 which were found to have an adipose clip</p>
<p>mark_rate (MR)</p>	<p>MR = [estimated marks in P1 + estimated marks in P2] / (total fish in P1 and P2) = [(P1 * A1/K1) + (P2 * A2/K2)] / (P1 + P2) If K1 or K2 is '0' or absent, then mark_rate can not be calculated and must remain blank. The usefulness of mark_rate is dependant upon S2 adequately representing P2</p>

Figure 7: Illustration of PSC data fields used when tag detection method is **electronic**, Mark Sampling is **dependent** on electronic signal, and a random sub-sample of all fish in each partition is examined for adipose clips.

<p>The diagram shows a large oval representing the 'SAMPLE'. It is divided horizontally into two main sections: 'SIGNAL = P1' (top) and 'NO SIGNAL = P2' (bottom). - The 'SIGNAL = P1' section is further divided into a 'SIGNAL SUBSAMPLE = S1' (indicated by a bracket) and an unlabeled area. Within S1, there are two sub-sections: 'No Adclips' (with a question mark) and 'Adclips = A1'. A bracket below S1 is labeled '=K1', representing the number of fish visually sampled in this partition. - The 'NO SIGNAL = P2' section is divided into a 'NO SIGNAL SUBSAMPLE = S2' (indicated by a bracket) and an unlabeled area. Within S2, there are two sub-sections: 'No Adclips' (with a question mark) and 'Adclips = A2'. A bracket below S2 is labeled '=K2', representing the number of fish visually sampled in this partition. - The entire oval is labeled 'SAMPLE' at the bottom.</p>	<ul style="list-style-type: none"> - P1 = number of fish in the SIGNAL partition of the sample = number of fish in the sample with an adclip = total fish in corresponding recovery file - SIGNAL partition is subsampled - P2 = number of fish in the NO SIGNAL partition of the sample = number of fish in the sample with a 'negative' signal = number of fish in the sample - (minus) total fish in corresponding recovery file - NO SIGNAL partition is subsampled
<p>mr_1st_partition_size (P1)</p>	<p>P1 = number_recovered_decoded + number_recovered_no_cwts + number_recovered_lost_cwts + number_recovered_unreadable + number_recovered_unresolved + number_recovered_not_processed + number_recovered_pseudotags</p>
<p>mr_1st_sample_size (S1)</p>	<p>S1 = Number of fish in P1 which were visually sampled for adipose clips</p>
<p>mr_1st_sample_known_ad_status (K1)</p>	<p>K1 = Number of fish in S1 which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)</p>
<p>mr_1st_sample_obs_adclips (A1)</p>	<p>A1 = Number of fish in S1 which were found to have an adipose clip</p>
<p>mr_2nd_partition_size (P2)</p>	<p>P2 = number_sampled - P1</p>
<p>mr_2nd_sample_size (S2)</p>	<p>S2 = Number of fish in P2 which were visually sampled for adipose clips</p>
<p>mr_2nd_sample_known_ad_status (K2)</p>	<p>K2 = Number of fish in S2 which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)</p>
<p>mr_2nd_sample_obs_adclips (A2)</p>	<p>A2 = Number of fish in S2 which were visually sampled for adipose clips which were found to have an adipose clip</p>
<p>mark_rate (MR)</p>	<p>MR = [estimated marks in P1 + estimated marks in P2] / (total fish in P1 and P2) = [(P1 * A1/K1) + (P2 * A2/K2)] / (P1 + P2) If K1 or K2 is '0' or absent, then mark_rate can not be calculated and must remain blank. The usefulness of mark_rate is dependant upon S1 adequately representing P1, and S2 adequately representing P2</p>

Figure 8: Illustration of PSC data fields used when tag detection method is **electronic**, mark sampling is **independent** of electronic signal, and all fish in Sample are examined for adipose clips.

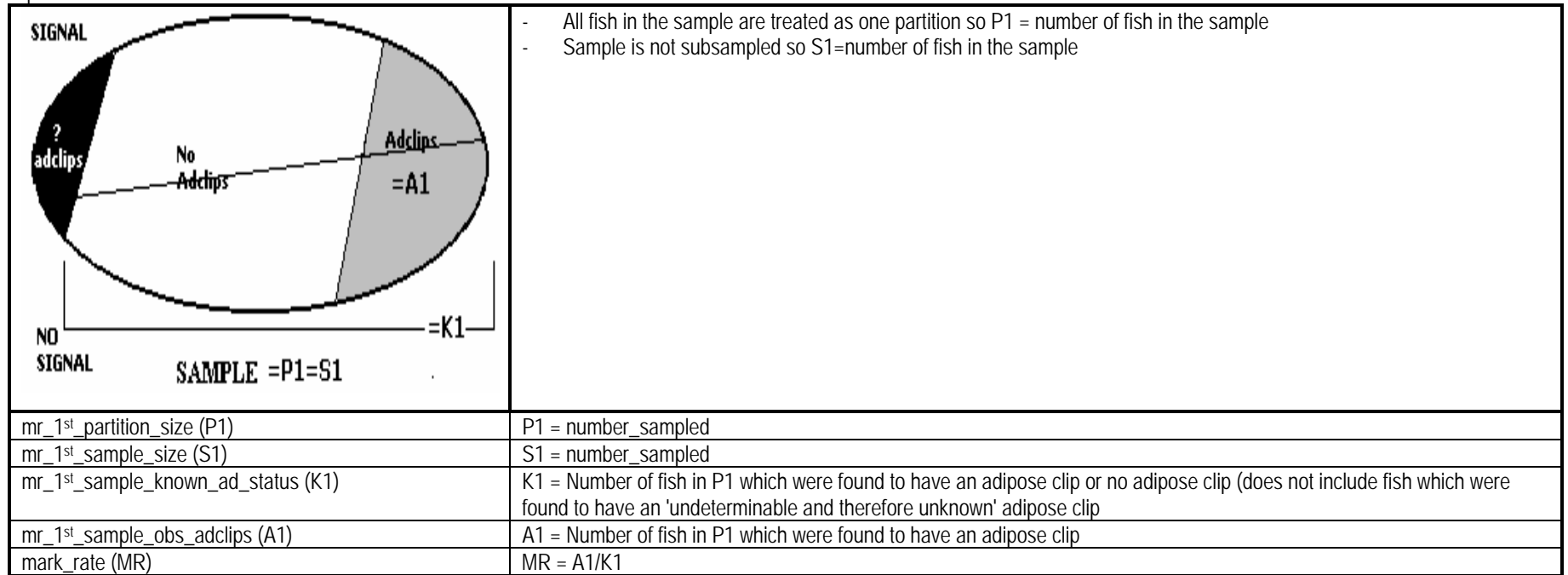


Figure 9: Illustration of PSC data fields used when tag detection method is **electronic**, mark sampling is **independent** of electronic signal, and a subsample of fish in Sample is examined for adipose clips.

	<ul style="list-style-type: none"> - All fish in the sample are treated as one partition so $P1 = \text{number of fish in the sample}$ - Sample is subsampled
<p>mr_1st_partition_size (P1)</p>	<p>$P1 = \text{number_sampled}$</p>
<p>mr_1st_sample_size (S1)</p>	<p>$S1 = \text{number of fish in } P1 \text{ which were visually sampled for adipose clips}$</p>
<p>mr_1st_sample_known_ad_status (K1)</p>	<p>$K1 = \text{Number of fish in } S1 \text{ which were found to have an adipose clip or no adipose clip (does not include fish which were found to have an 'undeterminable and therefore unknown' adipose clip)}$</p>
<p>mr_1st_sample_obs_adclips (A1)</p>	<p>$A1 = \text{Number of fish in } S1 \text{ which were found to have an adipose clip}$</p>
<p>mark_rate (MR)</p>	<p>$MR = A1/K1$ The usefulness of mark_rate is dependent upon S1 adequately representing P1.</p>

CHAPTER 15

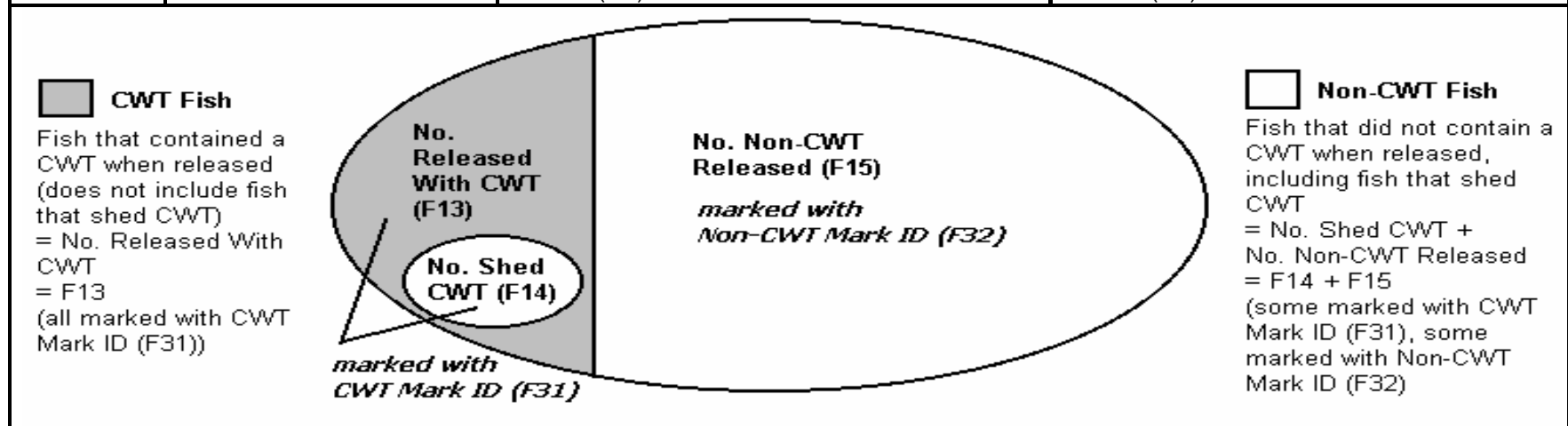
Release Count and Mark Code Fields

F. Version 3.2 Release Count and Mark Code Fields

Under version 3.2 specifications, the following fields were used to report release counts and mark codes (Figure 1):

Figure 1: Illustration of Version 3.2 Mark & Count Fields

Field No.	PSC Format Name	Description	
		CWT Release Group	Unassociated Release Group
F13	No. Released With CWT	Number tagged with CWT corrected for tag loss and mortality	Not applicable
F14	No. Shed CWT	Number of CWT marked fish that shed tag	Not applicable
F15	No. Non-CWT Released	Total fish in release with neither CWT nor a shed tag	All fish in release
F31	CWT Mark ID	Mark(s) on CWT fish recorded in No. Released with CWT (F13)	Not applicable
F32	Non-CWT Mark ID	Mark(s) on non-CWT fish reported in No. Non-CWT Released (F15)	Mark(s) on non-CWT fish reported in No. Non-CWT Released (F15)



The use of the release count and mark code fields depended on whether the release group was reported as a **CWT release group** (Tag Code [field 1a] does not begin with '!' -- release group contains any number of coded wire tagged fish) or a **Unassociated (to CWTs) release group** (Release Identifier [field 1b] begins with a '!' -- release group contains no coded wire tagged fish).

- c. For **CWT Release Groups**, No. Released with CWT (F13), No. Shed CWT (F14) and No. Non-CWT Released (F15) were used to report counts. CWT Mark ID (F31) and Non-CWT Mark ID (F32) were used to report mark codes.
 The **number of fish released with a CWT** was reported as No. Released with CWT (F13).
 The **number of fish released without a CWT** could be calculated by summing No. Shed CWT (F14) and No. Non-CWT Released (F15).
 The **total number of fish released** could be calculated by summing No. Released with CWT (F13), No. Shed CWT (F14), and No. Non-CWT Released (F15).
- d. For **Unassociated Release Groups**, No. Non-CWT Released (F15) was used to report the release count and Non-CWT Mark ID (F32) was used to report the mark code. Other fields were not used for unassociated release groups.

G. Version 4.0 Release Count and Mark Code Fields

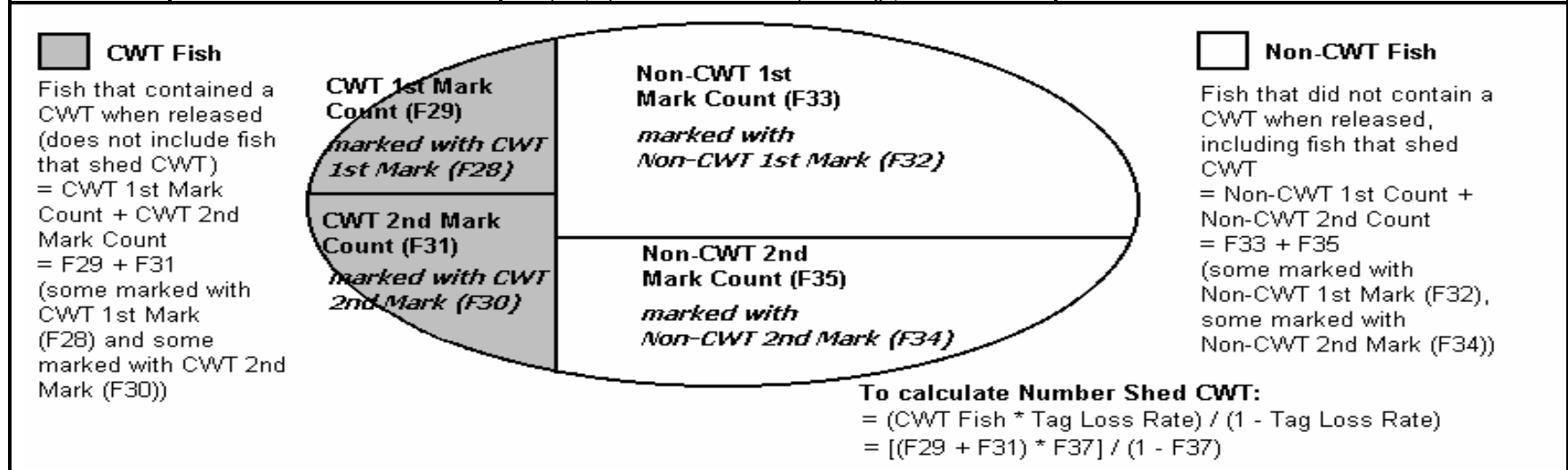
The intention of the version 4.0 count and mark code fields is to provide a physical view of release counts and marks. Changes to the method of reporting release counts and marks were necessary due to the desequestering of the adipose clip to indicate a coded-wire tagged fish. The changes enable the user to calculate the number of adipose clipped fish in a release group, whether or not they are coded-wire tagged. The changes also permit the reporting of up to two different marks for CWT or Non-CWT (fish that do not contain a CWT) fish in a release.

Under version 4.0 specifications, the following fields are used to report release counts and mark codes (Figure 2):

Figure 2: Illustration of Version 4.0 Mark & Count Fields

Field No.	PSC Common Name	Description	
		CWT Release Group	Unassociated Release Group
F28	CWT 1 st Mark	Mark(s) on CWT fish corresponding to count value in CWT 1 st Mark Count (F29)	not applicable
F29	CWT 1 st Mark Count	Number of CWT fish corrected for tag loss and mortality with CWT 1 st Mark (F28)	not applicable
F30	CWT 2 nd Mark	Mark(s) on CWT fish corresponding to count value in CWT 2 nd Mark Count (F31) (only used if CWT tagged fish have 2 different mark codes)	not applicable

F31	CWT 2 nd Mark Count	Number of CWT fish corrected for tag loss and mortality with CWT 2 nd Mark (F30) (only used if CWT tagged fish have 2 different mark codes)	not applicable
F32	Non-CWT 1 st Mark	Mark(s) on non-CWT fish corresponding to count value in Non CWT 1 st Mark Count (F33)	Mark(s) on fish corresponding to count value in Non CWT 1 st Mark Count (F33)
F33	Non-CWT 1 st Mark Count	Number of fish with No CWT with Non-CWT 1 st Mark (F32)	Number of fish with Non-CWT 1 st Mark (F32)
F34	Non-CWT 2 nd Mark	Mark(s) on non-CWT fish corresponding to count value in Non CWT 2 nd Mark Count (F35) (only used if fish with No CWT have 2 different mark codes)	Mark(s) on fish corresponding to count value in Non CWT 2 nd Mark Count (F35) (only used if fish with No CWT have 2 different mark codes)
F35	Non-CWT 2 nd Mark Count	Number of fish with No CWT with Non-CWT 2 nd Mark (F34) (only used if fish with No CWT have 2 different mark codes)	Number of fish with Non-CWT 2 nd Mark (F34) (only used if fish with No CWT have 2 different mark codes)
F37	Tag Loss Rate	Proportion of fish which shed the CWT from the tag loss sample (expressed as a decimal percentage)	not applicable



The use of the release mark and count fields depends upon whether the release group is reported as a **CWT release group** (Record_Code [Field 1] = 'T' -- release group contains any number of coded wire tagged fish) or a **Unassociated (to CWTs) release group** (Record_Code [Field 11] = 'N' -- release group contains no coded wire tagged fish).

- e. For **CWT Release Records**, CWT 1st Mark (F28), CWT 2nd Mark (F30), Non-CWT 1st Mark (F32), and Non-CWT 2nd Mark (F34) are used to report marks. CWT 1st Mark Count (F29), CWT 2nd Mark Count (F31), Non-CWT 1st Mark Count (F33) and Non-CWT 2nd Mark Count (F35) are used to report counts. Tag Loss Rate (F37) is used to report the rate of CWT loss.

If cwt fish all have the same mark, only CWT 1st Mark (F28) and CWT 1st Mark Count (F29) are used. If cwt fish have 2 different marks, CWT 1st Mark (F28), CWT 1st Mark Count (F29), CWT 2nd Mark (F30), and CWT 2nd Mark Count (F31) are used. **No specific information** is implied by using the 1st or 2nd set of CWT mark/count fields, when both sets of fields are used.

If fish that did not contain a CWT when released (including fish that were tagged and shed cwt) all have the same mark, only Non-CWT 1st Mark (F32) and non-CWT 1st Mark Count (F33) are used.

If fish that did not contain a CWT when released have 2 different marks, Non-CWT 1st Mark (F32), Non-CWT 1st Mark Count (F33), Non-CWT 2nd Mark (F34) and Non-CWT 2nd Mark Count (F35) are used. **No specific information** is implied by using the 1st or 2nd set of Non-CWT mark/count fields when both sets of fields are used. (i.e. The number of fish that were tagged and shed CWT may be reported in the 1st set of Non-CWT mark/count fields or the 2nd set of Non-CWT mark/count fields.)

The **number of fish released with a CWT** is the sum of CWT 1st Mark Count (F29) + CWT 2nd Mark Count (F31).

The **number of fish released without a CWT** is the sum of Non-CWT 1st Mark Count (F33) + Non-CWT 2nd Mark Count (F35).

The **number of fish released with an adipose clip** is the sum of the Mark Counts where the related mark begins with a '5'.

The **number of fish released without an adipose clip** is the sum of the Mark Counts where the related Mark begins with a '0'.

The **number of CWT fish released with an adipose clip** is the sum of the CWT Mark Counts where the related CWT Mark begins with a '5'.

The **number of CWT fish released without an adipose clip** is the sum of the CWT Mark Counts where the related CWT Mark begins with a '0'.

The **number of Non-CWT fish released with an adipose clip** is the sum of the Non-CWT Mark Counts where the related CWT Mark begins with a '5'.

The **number of Non-CWT fish released without an adipose clip** is the sum of the Non-CWT Mark Counts where the related CWT Mark begins with a '0'.

The **total number of fish released** can be calculated by summing the Mark Counts (1st Mark Count (F29) + CWT 2nd Mark Count (F31) + Non-CWT 1st Mark Count (F33) + Non-CWT 2nd Mark Count (F35)).

The **number of fish that were tagged and shed CWT** must be calculated from the Tag Loss Rate (F37) and the **number of fish released with a CWT** (CWT 1st Mark Count (F29) + CWT 2nd Mark Count (F31)). The formula is:

= Tag Loss Rate (F37) * (CWT 1st Mark Count (F29) + CWT 2nd Mark Count (F31)) / (1 - Tag Loss Rate (F37))

- f. For **Unassociated Release Records**, Non-CWT 1st Mark (F32) and Non-CWT 2nd Mark (F34) are used to report the marks. Non-CWT 1st Mark Count and Non-CWT 2nd Mark Count are used to report the counts. Other fields (CWT 1st Mark (F28), CWT 1st Mark Count (F29), CWT 2nd Mark (F30), CWT 2nd Mark Count (F31), Tag Loss Rate (F37)) are required to be blank for unassociated releases.

If all fish have the same mark, only Non-CWT 1st Mark (F32) and Non-CWT 1st Mark Count (F33) are used. If fish have 2 different marks, Non-CWT 1st Mark (F32), Non-CWT 1st Mark Count (F33), Non-CWT 2nd Mark (F34) and Non-CWT 2nd Mark Count (F35) are used. **No specific information** is implied by using the 1st or 2nd set of Non-CWT mark/count fields when both sets of fields are used.

The **number of fish released with an adipose clip** is the sum of the Mark Counts where the related Mark begins with a '5'.

The **number of fish released without an adipose clip** is the sum of the Mark Counts where the related Mark begins with a '0'.

The **total number of fish released** can be calculated by summing the Mark Counts.

H. Version 3.2 / Version 4.0 Mark and Count Fields - Examples

Table 1: Examples of Version 3.2 Release Mark & Count Fields

#	Example	No. Released With CWT (F13)	No. Shed CWT (F14)	No. Non-CWT Released (F15)	CWT Mark ID (F31)	Non-CWT Mark ID (F32)	Calculated Tag Loss Rate = F14 / (F13 + F14)
1	Typical (pre mass-marking) CWT Release where CWT fish have ADclip, Shed CWT fish have ADclip, and Associated fish are not marked. e.g., 1,000 CWT fish with ADclip, 25 Shed CWT fish with ADclip, and 90,000 associated fish with no mark.	1,000	25	90,000	5000	0000	= 25 / (1,000 + 25) = 0.0244
2	Typical (pre mass-marking) CWT Release as above but 50 of the 1000 CWT fish have bad Adclips.	This could not be reported under version 3.2 specifications					
3	Double Index Tagging / Mass Marking where all fish have ADclip. e.g., 1,000 CWT fish with ADclip, 25 Shed CWT with ADclip, and 90,000 associated fish with ADclip.	1,000	25	90,000	5000	5000	= 25 / (1,000 + 25) = 0.0244

4	Double Index Tagging where no fish have ADclip. e.g., 1,000 CWT fish with no mark, 25 shed CWT fish with no mark, and 90,000 associated fish with no mark.	1,000	25	90,000	0000	0000	$= 25 / (1,000 + 25)$ $= 0.0244$
5	Unassociated Release where all fish have one mark code. e.g., 90,000 LV.	not applicable	not applicable	90,000	not applicable	0001	not applicable
6	Unassociated Release where fish have two mark codes. e.g., 60,000 LV, 30,000 no mark.	This could not be reported under version 3.2 specifications in one release record.					

Table 2: Examples of Version 4.0 Release Mark & Count Fields

#	Example	CWT 1 st Mark (F28)	CWT 1 st Mark Count (F29)	CWT 2 nd Mark (F30)	CWT 2 nd Mark Count (F31)	Non-CWT 1 st Mark (F32)	Non-CWT 1 st Mark Count (F33)	Non-CWT 2 nd Mark (F34)	Non-CWT 2 nd Mark Count (F35)	Tag Loss Rate (F37)	Calculated Number Shed CWT $= (F29 + F30) * F37 / (1 - F37)$
1	Typical (pre mass-marking) CWT Release where CWT fish have ADclip, Shed CWT fish have ADclip, and Associated fish are not marked. e.g., 1,000 CWT fish with ADclip, 90,000 associated (Non-CWT) fish with no mark, and 25 Shed CWT (Non-CWT) fish with ADclip.	5000	1,000			0000	90,000	5000	25	0.0244	$= 1000 * 0.0244 / (1 - 0.0244)$ $= 25$
2	Typical (pre mass-marking) CWT Release as above but 50 of the 1000 CWT fish have bad Adclips.	5000	950	0000	50	0000	90,000	5000	25	0.0244	$= (950 + 50) * 0.0244 / (1 - 0.0244)$ $= 25$

3	Double Index Tagging / Mass Marking where all fish have Adclip. e.g., 1,000 CWT fish with ADclip, 90,025 Non-CWT fish with ADclip (25 shed CWT fish + 90,000 associated fish).	5000	1,000			5000	90,025			0.0244	= 1000 * 0.0244 / (1-.0244) = 25
4	Double Index Tagging where no fish have ADclip: e.g., 1,000 CWT fish with no mark, 90,025 Non-CWT fish with no mark (25 shed CWT fish + 90,000 associated fish).	0000	1,000			0000	90,025			0.0244	= 1000 * 0.0244 / (1-.0244) = 25
5	Unassociated Release where all fish have one mark code. e.g., 90,000 LV.	not applicable	not applicable	not applicable	not applicable	0001	90,000			not applicable	not applicable
6	Unassociated Release where fish have two mark codes. e.g., 60,000 LV, 30,000 no mark.	not applicable	not applicable	not applicable	not applicable	0001	60,000	0000	30,000	not applicable	not applicable

CHAPTER 16

Pseudo Tags (Blank or Agency-Only Wire)

Blank wire tags and agency-only wire tags are not coded wire tags (CWTs). They physically look like CWTs, are injected in the same manner as CWTs and have similar magnetic properties enabling them to trigger automatic diversion gates and electronic CWT detectors; However, blank wire and agency-only wire tags do not possess a specific etched binary or decimal code and, upon recovery, can not be resolved to a specific tag code. Throughout this document, the term "pseudo tag" is used for blank wire tags and agency-only tags.

Pseudo tags placed in the head or snout region must be reported due to the desequestering of the adipose clip and the advent of electronic tag detection. Body-placed pseudo tags are not reported.

I. How to report Pseudo Tag Releases

All release groups possessing pseudo tags must be tagged entirely with the same type of wire. Mixing of blank wire and agency-only wire, pseudo tags and CWTs, or pseudo tags and non-tagged fish in the same release group is not permitted.

A release group containing pseudo tags is reported as a **non-associated release record** (Figure 1). It is not a CWT release group. All CWT release fields (CWT 1st Mark Count, CWT 1st Mark, CWT 2nd Mark Count, CWT 2nd Mark, Tag Loss Rate, Tag Loss Days, Tag Loss Sample Size, Tag Reused) must be blank.

Figure 1: Version 4.0 Release Fields Used to Report Pseudo Tags

Field No.	PSC Format Name	Description	Required Value
F1	Record Code	Code to indicate the CWT data file classification (class) of the individual record.	'N' - non-associated release record
F7	Tag Code or Release ID	Unique Release ID to identify the release group.	Column 1 must be ' Columns 2 and 3 must match one of the valid coordinator codes for the Releases Coordinator field
F8	Tag Type	Code to indicate type of tag used for release group	'16' - Pseudo tag, blank wire
F32	Non-CWT 1 st Mark	Mark(s) on fish corresponding to count value in Non CWT 1 st Mark Count (F33)	
F33	Non-CWT 1 st Mark Count	Number of fish with Non-CWT 1 st Mark (F32)	

F34	Non-CWT 2 nd Mark	Mark(s) on fish corresponding to count value in Non CWT 2 nd Mark Count (F35)	(only used if fish have 2 different mark codes)
F35	Non-CWT 2 nd Mark Count	Number of fish with Non-CWT 2 nd Mark (F34)	(only used if fish have two different mark codes)

Table 1: Examples of Version 4.0 Release Fields Used to Report Pseudo Tags

Example	Record Code (F1)	Tag Code or Release ID (F7)	Tag Type (F8)	Non-CWT 1 st Mark (F32)	Non-CWT 1 st Mark Count (F33)	Non-CWT 2 nd Mark (F34)	Non-CWT 2 nd Mark Count (F35)
All fish in release group are tagged with blank wire and have one mark. e.g., 9000 fish tagged with blank wire and LV marked.	N	!ccxxxxxxxx, where 'cc' is a valid coordinator code and 'xxxxxxxx' is unique, e.g., !040001, for WDFW blank wire release	16	0001	9,000		
All fish in release group are tagged with agency-only wire and have one mark. e.g., 9000 fish tagged with agency-only wire and LV marked.	N	!ccxxxxxxxx, e.g., !040002, for WDFW blank wire release	16	0001	9,000		
All fish in release group are tagged with blank wire. Fish have two mark codes. e.g., All fish tagged with blank wire: 6000 LV, 3000 no mark.	N	!ccxxxxxxxx, e.g., !040003, for WDFW agency-only wire	16	5001	6,000	0000	3,000
All fish in release group are tagged with agency-only wire. Fish have two mark codes. e.g., All fish tagged with blank wire: 6000 LV, 3000 no mark.	N	!ccxxxxxxxx, e.g., !040004, for WDFW agency-only wire	16	5001	6,000	0000	3,000
Fish in release group are tagged with agency-only wire and blank wire.	This can not be reported in one release record -- The release group must be separated into two non-associated release records. The relationship can be reported using the Related Group Type (F11) and Related Group ID (F12) fields.						
Fish in release group are tagged with pseudo tags and CWTs	This can not be reported in one release record -- The release group must be separated into a CWT release record and a non-associated release record. The relationship can be reported using the Related Group Type (F11) and Related Group ID (F12) fields.						
Some fish in release group are tagged with pseudo tags. Other fish are not tagged.	This can not be reported in one release record -- The release group must be separated into two non-associated release records. The relationship can be reported using the Related Group Type (F11) and Related Group ID (F12) fields.						

J. How to Report Pseudo Tag Recoveries

Pseudo tag recoveries are reported using three **Recovery** fields (Figure 2).

Figure 2: Version 4.0 Recovery Fields Used to Report Psuedo Tags

Field No.	PSC Format Name	Description	Required Value
F28	Tag Status	Code to indicate status of the tag recovery	'9' - Pseudo tag, blank wire
F29	Tag Code	Identifier coded on a tag to denote a release group	'BLANK' - for blank wire tag 'D1BLANK', where 'D1' is the numeric agency wire prefix (i.e. Data 1) - for agency-only wire tag
F30	Tag Type	Code to indicate type of tag wire found in the recovery snout	'16' - Pseudo tag, blank wire

Table 2: Examples of Version 4.0 Recovery Fields Used to Report Psuedo Tags

Example	Tag Status (F28)	Tag Code (F29)	Tag Type (F30)
Blank wire recovery	9	BLANK	16
Agency only wire recovery	9	D1BLANK, where 'D1' is the numeric agency wire prefix (i.e. Data 1) e.g., 63BLANK, for WDFW agency-only wire	16

Pseudo tag recoveries in sampled fisheries are reported using only one **Catch Sample** field (Figure 3).

Figure 3: Version 4.0 Catch Sample Fields Used to Report Psuedo Tags

Field No.	PSC Format Name	Description
F34	Number Recovered Pseudo Tags	Number of pseudo tag recoveries in sampling stratum (# of recoveries in sample with tag_status = '9')

ADDENDUM A

CHANGE LOG

2004-12-15 Modifications To Chapter 9 Fishery and Gear Codes.

Upon request by NMFS-Alaska, we have made the following changes to Fishery and Gear codes in Chapter 9.

- 1) For juvenile trawling ('70' series) add:
fishery code "74- Juvenile Sampling - Trawl (Marine)", with gear code 74- Juvenile sampling- trawl,
- 2) For juvenile trawling on the high seas ('80' series) add:
fishery code "88 Juvenile Sampling", and gearcode 74- Juvenile sampling- trawl.
- 3) Under the 80s series: high seas fishery codes:
Eliminate gearcodes 80, 81, 82, 83, 86, 90, 91 as they are now written.
- 4) For existing fishery codes 80, 81, 82 add gearcode:
801 (High seas trawl bycatch)
- 5) For existing fishery code 83 add gearcodes:
831 (Research gillnet)
832 (Research longline)
833 (Research trawl)
834 (Research squid driftnet)
835 (Research squid gillnet)
- 6) For existing fishery code 84 add gearcodes:
841 (Salmon gillnet)
842 (Research gillnet)

Upon request by WDFW-Washington, we have made the following changes to Fishery and Gear codes in Chapter 9.

- 1) For Test Fisheries ('60' series) existing fishery code 61 add gears:
14 Non-Treaty Drift Gillnet
16 Set Gillnet

2005-02-11 Modifications To Chapter 5 Catch & Effort Data

Changed Chapter NOTES to include catch_location_code as part of the description of a catch stratum.

2005-03-14 Modifications To Chapter 3 Recovery Data

Added Tag Status '5' - Unclipped, positive-signal, head not taken

2005-03-31 Modifications To Chapter 1 Introduction, Definitions, and Rules Section E Item 1 (Methods of file transfer)

Updated the Data Upload ftp link description from <ftp.psmfc.org> to <ftp.rmisis.org>.

2005-08-05 Modifications To Chapter 8 Agency Coding and Chapter 9 Fishery Coding

Added New Release Agencies (CRFC, CTWS, HFAC, PLCO, SYCL, UPSK)

Removed MIC as a Reporting Agency

Updated Fishery Gear Codes for CDFO, FWS, NIFC, NMFS, ODFW, & WDFW

2005-08-12 Modifications To Chapter 9 Fishery Coding

Updated Fishery 80 (Groundfish Observer) Gear codes for NMFS.

2005-10-26 Added Chapters 15 "Release Count and Mark Code Fields" & 16 "Pseudo Tags (Blank or Agency-Only Wire)"

Updated Chapter 2 "Releases Data" to reference new chapters.

2005-11-16 Modifications To Chapter 9 Fishery Coding

Updated Fishery 80 Fishery or Gear codes and Added Fisheries 802, 803, 804, & 805.

2005-12-16 Modifications To Chapter 9 Fishery Coding

Added Fishery 25 Gear 11_1 and Fishery 91 Gear 21_N for NMFS reporting of ADFG sampled recoveries.

2007-03-26 Modifications To Chapter 1 Introduction, Definitions, and Rules Section E Item 1 (Methods of file transfer)

Update the RMPC/RMIS Internet web-site address from <http://www.rmisis.org> to <http://www.rmipc.org>

Updated the Data Upload ftp link description from <ftp.rmisis.org> to <ftp.rmipc.org> or <ftp.rmisis.org>