

ALASKA DEPARTMENT OF FISH AND GAME
Tagging And Release Information Form
Instructions

General Instructions:

The Tagging & Release Information Form is divided into five sections from top to bottom. These sections can briefly be described as follows:

1. Tag Code and Page information
2. General Information - fish identification
3. Tagging Information - the actual daily tagging records
4. Release Information - record of releases including adjusted tagging counts
5. Comments

By convention items that are printed in **BOLD UPPER CASE** font refer to specific named items on the form. All numbered instructions refer to numbered boxes or columns on the form itself. Item numbers (1), (2),... refer to numbered items on form.

Reporting Requirements:

When the tagging operation using this particular tag code is complete and prior to the release of these fish, the original form with the first three sections completed must be sent to the tag lab. Wire samples must be attached to the form at that time. Be sure to keep a copy of the original form for your records. The lab will decode the sample of wire, verify that the code is the same as the one listed on the form, enter reported data on our database and return the original to you.

As soon as the fish are released, complete the last two sections of the form and send the original to the lab. The completed form must be sent to the lab within two weeks of release. The information will be entered on our database and can be reviewed on our webpage. We are also required to report this information to the Pacific States Marine Fish Commission (PSMFC) which provides relevant data on all anadromous releases of salmon on the west coast.

Detailed instructions:

I. TAG CODE and PAGE INFORMATION

TAG CODE: remember, only one tag code per form. Full length tag codes begin with a two digit agency code followed by data1 and data2 codes of two digits each, for a total of six digits; half length tags begin with a two digit agency code followed by data1, data2, data3, and data4 codes of two digits each, for a total of ten digits. (e.g. full length codes: 041616, 310920; half length codes: 0401010309, 1301010314.)

BEGINNING SEQUENCE and ENDING SEQUENCE: record the sequence values decoded from the saved first tag (Beginning Sequence) and last tag (Ending Sequence) you would have injected into the group (see the note below on Sequential Wire Samples). Routinely tag lab staff will decode the wire samples you attach and record these values here.

PAGE __ OF __: when more than one page is needed for the daily enumeration of the tagging activities, number the pages sequentially, beginning with PAGE 1 OF 2 pages. Continuation pages must show the TAG CODE, PAGE number and Daily Tagging Records. It is not necessary to repeat General Information or Release Information beyond PAGE 1.

FOR TAG LAB USE ONLY: do not write in this area, please.

WIRE SAMPLE: attach one wire sample per spool of wire from a particular code, e.g., a coded wire tag group of 60K will probably have six pieces of wire (6x10K spools). Attach a half inch sample of wire per spool, please.

SEQUENTIAL WIRE SAMPLES: sequential wire is a type of coded wire tag that permits the user to keep track of tagged individuals or small experimental groups of fish within a single tag code. To learn more about this type of tag, please call the tag lab. This type of wire requires detailed record keeping and special handling on your part and its use must be approved by Alaska's Coded Wire Tag Coordinator. For sequential codes, the starting and ending sequence numbers must be reported to Pacific States Marine Fisheries Commission. In order to do that, you must attach the first and last tags you would have injected into the release group as a whole. This will bracket the sequence numbers actually injected. Rather than inject the first and last tags, cycle the machine and attach the cut tags to the appropriate box on the tagging form. When the form is sent to the tag lab, the sequence values will be decoded and written on the form. A copy of the form will be returned to you. You will be responsible for keeping track of the tags that bracket unique groups or individuals within the tag code.

II. GENERAL INFORMATION

PROJECT LEADER: the person in charge of the tagging project and not necessarily the person in charge of the actual tagging. This is the person to whom the recovery data should be reported.

AGENCY: four (4) letter abbreviation for AGENCY which conducts the tagging and is responsible for the project. (e.g. ADFG, VFDA, SSRA, etc.) Refer to enclosed list of standardized agency abbreviations. If your AGENCY is not listed, call the tag lab.

DIVISION: if agency is not ADFG, leave this field blank. If agency is ADFG, list the Alaska Department of Fish & Game DIVISION which conducts the tagging and is responsible for project (e.g. CF, SF, etc).

FACILITY: hatchery or facility where fish are reared. The facility may be a remote site or a satellite site of parent facility. If you are tagging a wild stock, leave this field blank. Refer to the enclosed list of standardized facility/hatchery names. If your facility is not listed, call the tag lab.

RUN: defined as the season in which the majority of broodstock adults leave a marine environment and enter fresh water on the spawning migration.

Spring: Chinook which enter rivers in May-June. All Alaskan Chinook are classed as spring Chinook.

Summer: Steelhead, Chum and Coho which enter rivers in July-August.

Fall: Chum and Coho which enter rivers in September-November. Most Alaskan Coho are classed as fall Coho.

Winter: Coho stocks which spawn in December-January. Steelhead which enter rivers in December-February and spawn April-May.

Hybrid: an individual or group resulting from parents of different stocks (interracial), species (interspecific), or genus (intergeneric).

Landlocked: fish unable to reach ocean because of lack of adequate passage.

SPECIES (common name): Chinook, Chum, Coho, Pink, Sockeye, Steelhead.

BROOD YEAR: the year when the adults, producing the progeny now being tagged, returned to spawn. If more than one brood year is present, e.g. wild stock tagging projects, use the dominant or first brood year and report range of years in comment section. (e.g. 2002-2004 brood years were tagged with the predominant year being 2003. List 2003 here and report "2002-2004 broods marked" in COMMENT section.)

STOCK: a group of fish originating from a single river. If a stock is transplanted to another system or facility for release, it retains the original stock name until eggs taken from progeny of the original release are returning to the new system. At that point, the stock designation of the eggs is the name of the new system. As used on this form, it refers to the name of the wild broodstock or a name referring to the hatchery. There are very specific rules as to which case to use. If the fish being marked were hatched in a wild stream or if they were hatched from eggs taken from the wild, then you must supply the wild broodstock name. If they originated from eggs taken at a hatchery rack, then a name associated with the hatchery must be used. Refer to the enclosed list of standardized stock names. If the stock you are using is not listed, call the tag lab.

If fish are produced by a cross of gametes from two different stocks, both stocks should be listed, separated by an "X". (e.g. MONTANA X SALMON, for eggs from Montana Creek crossed with sperm from Salmon Creek.)

Sometimes a single tag code will represent fish from more than one distinct stock. In these cases fish are not the result of crossing gametes from two stocks but are the result of combining fish from several distinct stocks in the hatchery to form one heterogeneous release group. Each unique stock should be listed and separated by a '+' (e.g. Neka River Chum fry are combined with fry produced from returns to Snettisham to form one heterogeneous release group. Stock name would be NEKA+SNETTISHAM.)

ANCESTRAL STOCK: supply the name of the original wild broodstock from which these fish originated, if known. (e.g. stock is Whitman Lake; ancestral stock is Unuk River.)

THERMAL MARK: report all thermal mark releases in RBr notation. RBr stands for "Region", "Band", "rings". For example, an RBr code of "1:1.5, 2.2n" indicates the following:

- The "1:" at the beginning of the code indicates that the first band ("1.5") occurs prior to the hatch mark.
- The "1.5" indicates five rings occur in the band closest to the otolith center.
- The ";" (comma) means that the second band ("2.2") occurs prior to hatchmark. (a "+" would mean that the band occurs after hatch mark)
- The "2.2" indicates a second band of two rings occurs after the first band. "n" means spacing of rings in band is narrow.

Please see the table below for more Thermal Mark examples in RBr notation.

RBr Code	Pre-Hatch Graphic	Post-Hatch Graphic
1: 1.5, 2.2		
1: 1.5, 2.2, 3.2		
1: 1.4, 2.3n		
1: 1.5 + 2.2n		
2: 1.6		

STATISTICAL REPLICATES (not embedded): list all other tag codes that represent identical groups of unmarked fish. Conditions for (unmarked and tagged) fish from replicate codes must be as identical as possible. Any effects of tagging must be identical among all codes. As a result all fish tagged within replicate groups will be treated similarly and any effects of tagging should impact each code identically. Treatment, release-date, release size, stock, etc. are identical and at return recoveries can be analyzed together.

In your estimation and for your analyses there may be groups of fish you feel are nearly identical and should be evaluated together but do not meet this strict definition of STATISTICAL REPLICATES. The codes representing these very similar fish should be listed in the comment section and not here. (e.g. combine 041957 and 041958.)

REARING TYPE: circle one. Defined as:

H - Hatchery: hatchery reared fish, includes any wild fish incubated and/or reared in a hatchery even if they are ultimately returned as fry or smolt to their natal system.

W - Wild: wild fish

M - Mixed: mixed hatchery and wild. (e.g. tagging downstream migrants which could either be wild stocks or hatchery stocks.)

TYPE OF RELEASE: circle one. (Note: This field is usually used for hatchery releases only. Wild stock tagging projects do not fit any of these categories except I-Index (not PSC) or K-PSC Key and will usually be left blank. Defined as:

E - experimental: fish released from hatcheries primarily for providing information and secondarily for harvest by user groups. Any group of fish that have been purposely treated different than is usual for that facility such that the effect of the new treatment (variable) can be compared to lots not having that treatment or to lots receiving a different treatment.

P - production: fish released from hatcheries for eventual harvest by user groups. Such fish are propagated using what was considered "normal" methods for that hatchery and that species during that year. No variables will be compared among fish in that lot. Coded Wire Tag production lots do not necessarily represent total production of a facility. Some production lots may not be represented by Coded Wire Tags.

B - both: fish released from hatcheries primarily for eventual harvest by user groups, and secondarily for providing information. A rule of thumb for distinguishing this class from experimental is if experimental protocols are violated, experimental lots will be destroyed while both lots will be released anyway.

I - index (not PSC): stocks that may be viewed by the department as an indicator of production or harvest rate of other similar systems or an area as a whole. Usually these systems are monitored over a number of years.

K - PSC Key: stocks used for joint US and Canadian salmon stock assessments through the Pacific Salmon Commission (PSC). Formal designation of a stock by a PSC Technical Committee is required.

O - other: release does not fit into one of the categories listed above.

Note: if **both** or **experimental** are selected, then EXPERIMENTAL CLASS and EXPERIMENTAL NARRATIVE must be completed.

EXPERIMENTAL CLASS: circle one or leave blank for non-experimental releases. If this code does not represent an experimental group leave this field blank. (e.g. if this code represents a production lot of fish that were tagged to estimate contribution to fisheries, leave blank.) This list may not exactly match what you consider the predominant experiment to be, but please choose the closest. If one of the defined classes does not adequately represent the predominant experiment that was being performed on this lot, choose **other** and write a brief title. EXPERIMENTAL CLASSES are defined as:

A - adult return timing: marked fish have been subjected to a treatment designed specifically to affect the timing of fish through fisheries and/or timing of their return to a hatchery or natural system.

B - brood selection: marked fish originate from outside the primary incubation facility and are evaluated to determine suitability as production stock.

C - colonization: fish are released in a habitat having marginal or non-existent current stocks in order to increase production from that system or establish a new run. (e.g. stocking of fish above a fish ladder in an area where fish were not previously found.) Recoveries are used to determine success of this strategy.

D - diet trial: marked fish are fed different diets. Recoveries are typically used to determine relative success of a particular formula or regimen.

E - rearing strategy: marked fish represent fish subjected to a specific rearing strategy. This category would include fish reared in different types of rearing units, fish introduced into saltwater rearing pens earlier than normal, etc. Recoveries are typically used to determine relative success of a particular strategy.

G - genetic study: marked fish of specific genetic character which are evaluated at recovery for such things as survivability.

M - mass marking: coded wire tagged fish are used to positively identify groups of fish that have been subjected to some treatment that may introduce a mass mark to the entire treated population. Testing of mass marking technologies such as thermal marking of otoliths, genetic stock identification, elemental marking, etc. are included here. The type of mark applied should be noted in EXPERIMENTAL NARRATIVE section.

R - remote stocking: fish are released at site other than incubation facility usually to increase fishing opportunity to an area or to disperse fleet. Recoveries are used to evaluate the success of this release strategy.

S - size of release: marked fish are released at a specific size. Recoveries are used to determine relative success of strategy.

T - time of release: marked fish are released at a specific time of year. Recoveries are used to determine relative success of release timing.

Y - rearing density: marked fish have been reared and/or incubated at different densities. Recoveries are used to determine relative success of regimen.

Z - zero check: growth has been accelerated and marked fish were released before normal release time. Fish are not reared over winter. These smolt will have a freshwater age of zero (e.g., no freshwater checks), when released. Recoveries will determine relative success of this regimen.

Other: if none of the above fit the major thrust of experiment, then write in a brief title.

If you circle an EXPERIMENTAL CLASS, then EXPERIMENTAL NARRATIVE must be included. Also, TYPE OF RELEASE must be either Experimental or Both.

EXPERIMENTAL NARRATIVE: include a brief description of tagging design including reference to all codes involved in study. (e.g. Diet Trial comparing survival of fish fed with OMP (code 042222), ADP (code 042223), control (code 042224).) This section should only be completed if this code represents an experimental group. Production releases tagged to determine contribution to the fishery are not considered to be experimental groups, accordingly this field should be left blank.

MARK TYPE: Circle one. This field flags the type of external mark used to identify this group of tagged fish and also identify thermally marked groups. If thermally marked, include reference to the thermal mark "RBR" code induced in these fish in the comment section.

AD	adipose
AD+ VI	adipose+visual implant
AD+LV	adipose+left ventral
AD+TM	adipose+thermal mark
AD+LV+TM	adipose+left ventral+thermal mark
AD+RV	adipose+right ventral
AD+RV+TM	adipose+right ventral+thermal mark

III. TAGGING INFORMATION:

TAGGING SUPERVISOR: the person in charge of the actual tagging operation.

SIZE OF TAGGED FISH: the size of the fish being tagged measured to the nearest 0.01 gram.

NATURALLY MISSING AD FINS: the total number of Adipose (Ad) fins observed as missing when this group of fish was being Ad clipped and tagged. (e.g. you find 6 of 11,321 fish during marking had a naturally missing Adipose fin.)

Daily Tagging Records:

- 1) **DATE:** the date(s) actual tagging occurred. If you are using more than one machine, tagger or shift you may have more than one line of information per day. If more than seven machine days were involved, use additional forms.
- 2) **MACHINE NUMBER:** serial number of the tagging machine (not the property number).
- 3) **NUMBER INJECTED:** the number of tags injected (fish tagged) by a specific machine, tagger or shift on a particular day. Any tagged fish that died during the daily tagging operation should be subtracted prior to entering this number. This number should exclude any rejects.

- 4) **OVERNIGHT MORTALITY:** some or all of the fish tagged during a shift may not be immediately ponded with Cohorts. If any of these marked fish die during the time period after a shift's tagging is complete until fish are ponded (usually just overnight), count and record that number here (column #4). Instruct hatchery personnel to keep track of the number of adipose clipped fish that die during rearing. This number will later be recorded as OVERNIGHT MORTS (column #21).
- 5) **GOOD FIN CLIP SAMPLE RATIO:** record the number of good clips and the number of fish examined for clip quality. A sample of 50 fish/machine, clipper or crew/day is probably adequate. Instructions for this test are described in the "Mark Tag Manual".

It is important that the quality of fin clips be checked periodically during a tagging operation. These tests will help to ensure that good quality fin clipping is achieved and poor quality fin clipping is improved. Information from fin clip tests both during tagging and post tagging should be recorded on this form. However **the use of this information to adjust the number of tagged fish for poor quality fin clips is not an accepted methodology for any species or tagging study.** During routine sampling of all fisheries, samplers are instructed to collect heads from all adipose clipped fish regardless of the quality of the clip and record the quality of each clip on the sampling form. Therefore heads of all clipped fish regardless of clip quality will be recovered. Only those few fish whose adipose fins were missed entirely during the fin clipping operation will not be recovered. By adjusting release numbers for clip quality and collecting heads from adipose clipped fish, regardless of clip quality, we would be accounting for these fish twice.

- 6) **% GOOD FIN CLIPS:** from the GOOD FIN CLIP SAMPLE RATIO (column #5), the ratio of good clips to the total number of fish examined for clip quality expressed as a percentage to the nearest 0.1%.
 - 6A) **WEIGHTED AVERAGE - % GOOD FIN CLIPS:** once all fish in this group are tagged, calculate this item as the formula describes. The grand total of ADJUSTED TAGGED (column #7) divided by the grand total of NUMBER TAGGED (column #3) minus the grand total of OVERNIGHT MORTALITY (column #4) multiplied by 100 will give an overall average. Round it to the nearest 0.1%.
- 7) **ADJUSTED TAGGED:** compute each day as the formula describes. This item is the NUMBER INJECTED (column #3) minus the OVERNIGHT MORTALITY (column #4). **Currently the % GOOD FIN CLIPS is not used in the calculation of ADJUSTED TAGGED.** For rationale see instructions for GOOD FIN CLIP SAMPLE RATIO (column #5).
- 8) **TAG RETENTION SAMPLE RATIO:** is the ratio of the number of fish which retained their tags to the number of fish sampled for tag retention, determined from a sample of at least 200 fish/machine/day or 200 fish/tagger/day. Keep a random sample of at least 200 fish from throughout a day's production and if possible keep fish separate by machine and/or tagger. This test is performed primarily as a quality control check. Doing this on a daily basis is especially important for wild and fry tagging programs, where fish are released immediately or when a final, pre-release, tag retention test is not possible.
 - 8A) **# SAMPLED:** total number of fish examined for tag retention (sum the denominators).
- 9) **% TAG RETENTION:** the ratio of tagged fish to the number of fish tested in TAG RETENTION SAMPLE RATIO (column #8), expressed as a percentage to the nearest 0.1%.
 - 9A) **WEIGHTED AVERAGE - % TAG RETENTION:** once all fish in this group are tagged, calculate this item as the formula describes. The grand total of TOTAL VALID TAGGED (column #10) divided by the grand total of ADJUSTED TAGGED (column #7) multiplied by 100 will give an overall average. Round it to the nearest 0.1%. In wild stock and many fry tagging programs where fish are released immediately, or when conducting a final, pre-release, tag retention test is not practical, this percentage will become the BEST TAG RETENTION ADJUSTMENT (#25).
- 10) **TOTAL VALID TAGGED:** compute each day as the formula describes. Multiply the ADJUSTED TAGGED (column #7) by the % TAG RETENTION (column #9).

IV. RELEASE INFORMATION:

Each code can only have a single release record. Multiple release locations for a single code constitute an unauthorized re-use of a tag code and must be reported as such. Any re-use of a tag code requires that a separate Tagging and Release Information Form be completely filled out and submitted for each use of that code. Releases of tagged fish over a reasonable period of time at the same location are considered to be a single release.

SUPERVISOR OF RELEASE: person in charge of the release operations.

RELEASE SITE: body of water fish are being released into. Refer to the enclosed list of standardized release site names. If the site you are using is not listed, call the tag lab.

HABITAT STREAM #: enter the complete Habitat and Restoration Division Anadromous Stream Catalog number for the body of freshwater where tagged fish were released. If you don't know the HABITAT STREAM#, refer to the Habitat and Restoration Division's Anadromous Stream Catalog which lists code numbers for all salmon streams in the state. PDF files of the catalog are available online at http://www.sf.adfg.state.ak.us/SARR/FishDistrib/FDD_catalogs.cfm If you do not have access to the catalog, please call the tag lab for assistance. If you release directly into saltwater, list the statistical district and subdistrict (stat-area) instead.

TIME OF RELEASE: in military time (e.g. 0800, 1300, 2230)

RELEASE STAGE: circle one. Defined as:

E - emergent fry: the stage from time of emergence to gain of less than 25% emergent weight.

F - fed fry: the stage bracketed by gains of 25% to 99% of emergent weight.

G - fingerling: the stage bracketed by gains of 100% to 200% of emergent weight.

P - presmolt: released into freshwater in fall/winter and expected to enter the marine environment the following spring/summer.

S - smolt: able to osmoregulate to a marine environment.

A - adult: 1-ocean or older fish.

UNMARKED FISH COUNTING METHOD: circle one. **If no unmarked fish are represented by this code, this field should be left blank.** Defined as:

B - book: counts derived by deducting mortalities from previous lifestage estimates.

C - physical count: counts where individual fish are tallied either electronically or by hand count.

F - feed conversion: population estimate derived from the amount of food fed, expected feed conversion rate, and average weight gain per fish. For example: if 100 kg of food was fed over a month, conversion rate was 1.25 (i.e. 1.25kg food : 1 kg of fish), and smolts gained 1 gram; than 100kg of feed equals 80 kg of net fish weight gain, and at a gain of 1 gram per fish there are an estimated 80,000 fish.

P - Petersen estimate: point estimate statistically calculated using a mark and recapture methodology.

V - volumetric: estimate of the number of fish derived by applying the average volume displaced per fish in sub-samples to the total volume of water displaced by the release group.

W - weight estimate: estimate of the number of fish derived by applying the average weight per fish from sub-samples to the total mass of the release group.

EXPECTED SURVIVAL: circle one. Defined as:

N - normal: normal or standard survival range expected.

D - fish destroyed: entire lot of fish were destroyed after tagging. Zero survival assumed.

W - serious problem: warning flag for serious problems, analyses of recoveries are not valid. A COMMENT must be provided. (e.g. Tagged fish that were probably killed by eruption of Mount St. Helens.)

HATCHERY RELEASE STRATEGY: circle one (for hatchery releases only).

F - forced release

M - mixed release strategies

V - volitional release

- 11) **DATE OF FINAL GOOD FIN CLIP TEST:** the date when the final, pre-release, good fin clip test for this particular group is performed. If a final, pre-release test was not performed or if tests were only performed during tagging leave items 11, 12, and 13 blank. If this test was performed, test data should be recorded even though the % GOOD FIN CLIPS will not be applied to release numbers. For rationale, see instructions for GOOD FIN CLIP SAMPLE RATIO (column #5).
- 12) **FINAL FIN CLIP SAMPLE RATIO:** the ratio of fish observed with good fin clips to the total number of fish examined for clip quality prior to release, based on sample size of at least 500 fish. For rationale, see instructions for GOOD FIN CLIP SAMPLE RATIO (column #5).
- 13) **% GOOD FIN CLIPS:** the quotient of FINAL FIN CLIP SAMPLE RATIO (#12) expressed as a percentage to the nearest 0.1%.
- 14) **DATE OF FINAL TAG RETENTION TEST:** the date when the final, pre-release, tag retention test for this particular group is performed. If a final, pre-release test was not performed or if tag retention tests were only performed during tagging, leave items 14, 15 and 16 blank.
- 15) **TAG RETENTION SAMPLE RATIO:** the ratio of fish detected with tags to the total number of fish sampled for tags, based on a sample size of at least 500 fish. (Note: both Washington and British Columbia recommend that more than 1,000 fish are sampled.)
- 16) **% TAG RETENTION:** for the final, pre-release, tag retention test, the quotient of the TAG RETENTION SAMPLE RATIO (#15) expressed as a percentage to the nearest 0.1%. In most cases when a final, pre-release, tag retention test is performed, this percentage will become the BEST TAG RETENTION ADJUSTMENT (#25).
- 17) **SIZE AT RELEASE:** record weight of fish to the nearest 0.01 gram and tip-of-snout to fork-of-tail length of fish in millimeters.
- 18) **RELEASE DATES:** dates covering the duration of release of this particular group of tagged fish and the untagged fish they represent. If all fish were released on a single date the beginning and ending date will be the same.
- 19) **TOTAL INJECTED:** the grand total for all pages of NUMBER INJECTED (column #3).
- 20) **OVERNIGHT MORTS:** the grand total for all pages of OVERNIGHT MORTALITY (column #4).
- 21) **MORTS AFTER TAGGING:** observed mortalities of tagged fish during rearing, after tagged fish were ponded and prior to release.
- 22) **SURVIVING TAGGED FISH:** as the formula describes, the TOTAL TAGGED (#19) fish remaining after subtracting all mortalities (OVERNIGHT MORTS (#20) and MORTS AFTER TAGGING (#21)).

- 23) **BEST ESTIMATOR OF GOOD CLIPS:** for now it has been decided that, regardless of species or size of fish tagged, release numbers should not be adjusted for clip quality. Therefore this value should always be 100%. For rationale see instructions for GOOD FIN CLIP SAMPLE RATIO (column #5). **Always enter 100%.**
- 24) **SURVIVING FISH WITH GOOD CLIPS:** the number of fish with good clips determined by multiplying SURVIVING TAGGED FISH (#22) by 100% (the BEST FIN CLIP ADJUSTMENT (#23)).
- 25) **BEST ESTIMATOR OF TAG RETENTION:** from WEIGHTED AVERAGE - % TAG RETENTION (#9A) or final % TAG RETENTION (#16). Value chosen should be the best estimator of true long term tag retention. Normally this will be from the final, pre-release, % TAG RETENTION test (#16). If a final, pre-release, tag retention test was not performed or if the fish were released immediately after tagging, then use the WEIGHTED AVERAGE % TAG RETENTION (#9A) performed during tagging.
- 26) **# OF MARKED FISH HAVING TAGS:** the number of fish with good clips that have tags. Determine this by multiplying SURVIVING FISH WITH GOOD CLIPS (#24) by BEST TAG RETENTION ADJUSTMENT (#25).
- 27) **# OF MARKED FISH THAT SHED TAGS:** the number of fish with good fin clips but not having coded wire tags. This must be calculated as the SURVIVING FISH WITH GOOD FIN CLIPS (#24) minus # OF MARKED FISH HAVING TAGS (#26).
- 28) **# OF FISH RELEASED NOT MARKED BUT REPRESENTED BY THIS CODE:** remember not all releases are represented by tagged fish. This item refers only to those unmarked fish released and represented by this single tag code.
- 29) **# OF FAILED MARKS:** this is the difference between the number of good versus unrecognizable fin clips determined by subtracting SURVIVING FISH WITH GOOD CLIPS (#24) from the number of SURVIVING TAGGED FISH (#22). This field will always be zero (0). For rationale, see instructions for GOOD FIN CLIP SAMPLE RATIO (column #5). **Always enter zero (0).**
- 30) **TOTAL UNMARKED FISH RELEASED:** # FISH RELEASED NOT MARKED BUT REPRESENTED BY THIS CODE (#28) plus # OF FAILED MARKS (#29).
- 31) **TOTAL NUMBER FISH RELEASED:** this is the total of all tagged, marked and unmarked fish represented by this tag code that were released. The computation is: # OF MARKED FISH HAVING TAGS (#26) plus # OF MARKED FISH THAT SHED TAGS (#27) plus TOTAL UNMARKED FISH RELEASED (#30).

V. COMMENTS:

Note anything that was unusual about the tagging operation, health of fish or release of these fish that will be of interest or concern to people doing tag decoding and performing recovery analyses in the future. Reference should be made to a tagging or project file for more details if necessary. If all fish were destroyed prior to release or if there was a serious problem that will likely produce poor survival of this group of fish, briefly indicate reason.