1998 PIT TAG SPECIFICATION DOCUMENT

COLUMBIA RIVER BASIN

PIT TAG INFORMATION SYSTEM

DATA SOURCE INPUT SPECIFICATIONS

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The *1998 PIT Tag Specifications Document* is available on the internet at
`www.psmfc.org/ptagis/Software_and_Documentation`

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1998 CHANGES

The following is a list of significant changes that have been recommended by the PIT-Tag Steering Committee and made to the *PIT Tag Specification Document*. These changes are effective now.

1. **New tagging, release and collection sites have been added.**
2. **New tagging coordinators have been added.**
3. **New capture methods (HATCH, SURVEY) have been added.**
4. **New species code (0=Unknow) has been added.**
5. **New flag codes have been added (RF=Returning Fish; e.g., at hatcheries)**
6. **Release location PELTON was changed to PELT to conform to four character nomenclature for hatchery locations.**
7. **New John Day system has been added.**

To get copies of the new valid codes list or the river kilometer list for use by PITVAL.EXE, download the following:

`http://www.psmfc.org/pittag/Software_and_Documentation/rkmcodes.txt`

`http://www.psmfc.org/pittag/Software_and_Documentation/validtbl.txt`

1998 PIT TAG SPECIFICATION DOCUMENT

Section I. Rationale

This specification document has been prepared to ensure interagency continuity of PIT-tag data as well as facilitate data entry and retrieval to and from the Columbia River Basin PIT-Tag Information System (PTAGIS). Some flexibility exists to modify data inputs as the system evolves. However, all proposed changes to this document must be reviewed annually by the PIT-Tag Steering Committee. Reviewing and changing this specification document will occur annually prior to February. Questions concerning this document should be addressed to the PIT-Tag Steering Committee members (See L. on page 49).

Section II. Data Files

There are six file types that are recognized by the PTAGIS system. These are **Tagging, Release Information, Interrogation, Monitored Release, Mortality and Test Tag.** All files must be in ASCII format and comply with the following specifications. The first record of each of these files will be the "FILE TYPE" record.

Format: **"FILE TYPE"** starting in column 5; a colon (:) in column 36; and the File Type Name (as listed below) starting in column 38 ("TAGGING", "RELEASE INFORMATION", "INTERROGATION", "MONITORED RELEASE", "MORTALITY" or "TEST TAG".

See Figures 1-5 (examples) for additional information.

A. Tagging File

Tagging files are created using the program **PITTAG.EXE** or an equivalent program that is 100% compatible. Only the most current version of the program (02/01/96 Version 7.1) should be used. This document refers to features not found in previous versions of the program. Older versions of the program should be discarded. Updated programs are available through Pacific States Marine Fisheries Commission (See PIT-Tag Steering Committee Members, 1997 on page 49).

NOTICE ABOUT Recaptures Events: A **recaptured** fish is a fish, with a PIT-tag, that is handled subsequent to the release event. Cases where it is known that only PIT-Tagged fish will be handled are commonly referred to as **Recapture Events**. **The tagging file is used to record recaptures**. The flag code **RE** must be added to each recapture tag record in the Tagging file. Tagging files in which each tagging record contains an RE flag are processed the same way as Tagging files. In the Header records described below, references will be made to substitute information about the recapture event into the appropriate Tagging Header records. For example, during a recapture event, use the name of the person handling or scanning fish for the recapture event in the field called Tagger. In cases where there is a question about how to set a Header Record value, defer to the judgement of the tagging coordinator or study designer.

A tagging file consists of seven record categories: **File Type, Program Version, Session or Project Message, Header, Tag, Note,** and **Additional Record Types.** All records must have at least four characters (even blank records will have four spaces). Any number of TAG and

NOTE records are allowed. A HEADER record is distinguished by spaces in columns 1-4 and a colon (:) in column 36. The first 19 HEADER records must match this specification document in format and order. A TAG record is distinguished by at least one right-justified integer (0-9) in columns 1-4. NOTE, HEADER, and SESSION MESSAGE records are distinguished by spaces in columns 1-4.

Tagging Headers can be generated with PITTAG.EXE Version 7.1.

1. **File Type Record** (Format description, See "Data Files" on page 7.)

   FILE TYPE: TAGGING (Computer generated, **mandatory**)

2. **Program Version Record** (See Figure 1. Example Tagging File on page 70.)

   PROGRAM VERSION: PITTAG.EXE 7.1; PITVAL.EXE 2.1
   (Computer generated, presence of PITVAL.EXE V2.1 is **mandatory**)

3. **Session or Project Message:** TEXT, 76 characters max., optional, entered when in initialization portion of PITTAG.EXE program.

4. Header Records The HEADER format used during the PIT tagging process will be provided by PTAGIS. The format of the header is standardized and cannot be changed. If the format is changed, it will not be recognized by the PTAGIS data system. The Mutable/Immutable designator (M/I) can be modified as necessary by the individual researcher and the default contents of the fields can also be modified to reflect individual data requirements as long as the format of the HEADER Record is not changed. Data should be entered using the following format: Data (columns 38 on to end) follows the colon (:) in column 36. Lines of alternate dashes and spaces bracket the Session Message on line 4.

a. **FILE TITLE:** xxxYYDDD.zzz **Mandatory** format, includes a three character (xxx) ID (initials) of the individual tagging supervisor and the julian date (YYDDD). The extension (zzz) is optional, variable, and up to the discretion of the tagging supervisor.
b. **TAG DATE:** MM/DD/YY HH:MM (Computer generated, **mandatory**. This is the default Tagging Date.) In the case of a recapture event, this is the date of that event. This date is computer generated. The time is Pacific Standard Time and is **mandatory**.
c. **TAGGER:** Primary tagger, last name followed by a space and first initial of first name, 15 characters max. In the event of a recapture event, this is the name of the person scanning or handling fish. This is determined by the supervisor on site at the time data is collected. **Mandatory**.
d. **HATCHERY SITE:** Four characters max. See F. on page 25 for codes. Leave blank if not tagged at hatchery. **Mandatory** if tagging occurs at a hatchery.
e. **STOCK:** 15 characters max. Optional.
f. **BROOD YR:** Last two digits of calendar year when eggs were collected. Optional.
g. **MIGRATORY YR:** Last two digits of earliest possible calendar year when fish will out-migrate. **Mandatory**. During a recapture event use the current year.
h. **TAG SITE:** Six characters max. See "Tag, Release, and Collection Site Codes and Associated River KMs:" on page 29. for valid codes. **Mandatory**. During a recapture event this code designates the recapture site.
i. **RACEWAY/TRANSECT:** Six characters max. Optional.

j. **CAPTURE METHOD:** Six characters max. See "Capture Method Codes" on page 27. for codes. **Mandatory.**
k. **TAGGING TEMP:** nn.n, temperature (°C) in tagging troughs. **Mandatory**.
l. **POST TAGGING TEMP:** nn.n, temperature (°C) of water in post-tagging holding facilities (*e.g.*-- an outdoor raceway). Optional.
m. **RELEASE WATER TEMP:** nn.n, temperature (°C) of water in stream fish were released into. Required when fish are released to the stream and Tagging file will act as a Release Information File. During a recapture event this is the temperature of the water where recaptured fish are released. Otherwise, optional.
n. **TAGGING METHOD:** AUTO, HAND or NONE. **Mandatory**. During a recapture event, use NONE.
o. **ORGANIZATION:** Six characters max. See Organization Codes on page 27 **Mandatory**.
p. **COORDINATOR ID:** See Coordinator ID Code Description on page 20 for codes. **Mandatory**.
q. **RELEASE DATE:** MM/DD/YY HH:MM. Required when fish are released to the stream and the Tagging File will act as a Release Information File (not needed if using Variable Release Times, see below). The time is in Pacific Standard Time.
r. **RELEASE SITE:** Six characters max. See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 for correct codes. Required when fish are released to the stream and Tagging File will act as a Release Information File.
s. **RELEASE RIVER KM**: See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 for codes. Required when fish are released to the stream and Tagging File will act as a Release Information File. 27 characters maximum.

5. **Tag Records** (**Mandatory**)
   a. **SEQUENCE NUMBER:** Columns 1-4, numeric. **Mandatory**.
   b. PITCODE: Columns 7-16, alpha-numeric. Mandatory.[1]
   c. **CHECKSUM:** Columns 19-20, alpha-numeric. Optional. (Automatically generated by some scanners)
   d. **FORKLENGTH:** Columns 21-28, integer numeric and right-justified, in millimeters. Optional**.**
   e. **WEIGHT:** Columns 29-38, floating point numeric with one digit to the right of the decimal point and right-justified, in grams. Optional.
   f. **COMMENTS:** Three types: specific comments for individual fish.

      (1) **POSITIONAL COMMENTS** (normally entered via the digitizer). Only Positional Comments defined in this specification document can be used in columns 41-45. Additional Positional Comments, required by individual research projects can be added after column 45, up to the maximum total of 50 columns, but will not be recognized by PTAGIS without prior PIT-Tag Steering Committee approval. Positional Comments will overwrite corresponding header information for the individual tag record it is assigned to when the tagging file is loaded into the central data base. The Positional Comments currently specified are as follows:

         (a). **SPECIES:** Column 41, numeric, **Mandatory**. See Species Codes on page 21 for codes.

         (b). **RUN:** Column 42, numeric, **Mandatory**. See Run Codes on page 21 for codes.

         (c). **REARING TYPE:** Column 43, alpha-numeric, **Mandatory**. See Rearing Type Codes on page 22 for codes.

         (d). **VARIABLE RELEASE TIME = 01...99:** Columns 44-45. Each unique release time variable must have a corresponding accompanying note record that reports the actual date and time of release (See Section II.6. on page 11 “Note Records”). Required if fish are released after tagging to a stream and Tagging File will double as a Release Information File and a time (HH:MM) does not follow the RELEASE DATE (MM/DD/YY) in the Header Records of this file.

      (2) **CONDITIONAL COMMENTS** (normally entered via the digitizer). Only approved Flag Codes will be recognized as Conditional Comments (See Flag Codes on page 22). Conditional Comments, if present, are preceded by a vertical bar symbol “ | ” and are separated by spaces[2]. Space is allocated for up to 50 characters in this field.

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[1] **PIT tags can only be re-used in the Columbia River system if the Tag is removed from a fish and the tag code with check sum are changed to ten periods followed by a space and two periods (..... ..) prior to the tagging file being submitted to PTAGIS. All other fields in the record must remain intact for future reference.**

[2] When this document refers to a space or spaces as characters within a file, it means the ASCII character code 32 decimal (0x20 i.e. 20 hexadecimal).

(3) **TEXTUAL COMMENTS** (entered via the keyboard). Textual Comments are separated from Conditional Comments by a single vertical bar, " | "[3]. If no Conditional Comments are present, Textual Comments are preceded by two vertical bar symbols " | | " and consist of information specific to the individual fish. Space is allocated for up to 50 characters in this field.

6. Note Records (Optional)

Note Records are defined as all text comments beginning in column five. Note Records are entered via the keyboard. All notes of a non-specific nature, or those pertaining to previous or subsequent fish recorded in the file, can be entered from the keyboard starting at column five.

VARIABLE RELEASE TIME Required if Tagging File doubles as a Release Information File and a time (HH:MM) does not follow the RELEASE DATE (MM/DD/YY) in the Header Records of this file. The record begins with an upper case "V" in column five, followed by the two digit release variable in columns six and seven, an equals sign "=" in column eight, the two digit month "MM" in columns nine and ten, a slash "/" in column 11, the two digit day "DD" in columns 12 and 13, a slash "/" in column 14, the two digit year "YY" in columns 15 and 16, a space in column 17, the two digit military-style hour of release, in Pacific Standard time, in column 18 and 19, a colon (:) in column 20, and the two digit minutes of release in columns 21 and 22:

e.g: V01=04/08/91 16:45

Only one Variable Release Time per line in the NOTE Record.

7. Additional Record Types Additional Record Types include Time Stamp (pre-formatted), blank lines, and Closing records. All Additional Record types start in column five. The Closing records are the same format as HEADER records and are created by the PITTAG.EXE program and are **mandatory**.

CLOSE DATE, beginning in column 5, (:) at column 36, MM/DD/YY HH:MM starting at column 38.

[3] When the vertical bar character "|" is referred to in this document, it means the ASCII character code 124 decimal (0x7C). This character is sometimes referred to as a "pipe" character.

B. Release Information File

A **Release Information File** consists of information about a Tagging file, or a group of Tagging files, which was not available at the time of tagging. This type of file contains five record categories: **File Type, Header, Tag File Name(s)**, **Release Remarks,** and **Additional Record Types.** The FILE TYPE record must be formatted as previously mentioned (section II. Data Files). The HEADER records are formatted with the description beginning in column five, the colon (:) at column 36, and the data beginning in column 38. TAG FILE NAME records are formatted the same as the previously mentioned HEADER records. Additional Tag file titles must form a column, each with the same format (See Figure 2. Example Release Information File on page 71.) **The Release Information File must be created and sent to PTAGIS prior to any of the fish from the tagging files reaching any interrogation site.**

Release files associated with a MONITORED RELEASE must be sent to PTAGIS and successfully processed prior to sending in the MONITORED RELEASE files.

1. **File Type Record** (For format, see Section II. on page 7.)

   FILE TYPE: RELEASE INFORMATION (**Mandatory**)

2. **Header Records**
   a. **FILE TITLE:** RELYYXXX.ZZZ Format includes REL, year of release (two digits), and the coordinator ID (XXX). The extension ZZZ is up to the tagging coordinator and is optional.
   b. **RELEASE DATE:** MM/DD/YY HH:MM **Mandatory** unless the release event is a Monitored Release in which case the value of Release Date is blank or null. Time is Pacific Standard time
   c. **RELEASE SITE:** Name, six characters max., See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29, **Mandatory**.
   d. **MONITORED RELEASE: Mandatory**. Use YES if this is a Monitored Release, NO if it is not. If MONITORED RELEASE is YES then MONITORED RELEASE SITE CODE is **mandatory** otherwise Monitored Release Site Code is blank or null.
   e. **MONITORED RELEASE SITE CODE: Mandatory** if MONITORED RELEASE is YES. See "Monitored Release Codes" on page 28. for list of valid three character codes.
   f. **RELEASE RIVER KM:** See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29. 27 Characters Maximum. **Mandatory**.
   g. **TRANSPORT DURATION:** HH:MM Time elapsed while fish are being transported. Optional.
   h. **TRANSPORT TYPE:** Ten characters. Optional.
   i. **RELEASE WATER TEMP:** nn.n, (°C) **Mandatory**.
   j. **ASSOCIATED MARK:** (TEXT) Optional. 76 characters max.

3. **Tag File List**

TAG FILE NAME: Name of tag file associated with release tags (12 characters max.). Follows the naming convention in section II.A.2.b. One or more tag file records are allowed. For example;

TAG FILE NAME : CSM88189.FC1
TAG FILE NAME : CSM88188.BS1
TAG FILE NAME : CSM88189.BS2

4. Release Remarks Note field begins in column 5, up to 10 lines with no more than 200 characters total.

5. Additional Record Types Additional Record Types include Time Stamp (pre-formatted), blank lines, and Closing records. All Additional Record types start in column five.

CLOSE DATE, (:) at column 36, MM/DD/YY HH:MM starting at column 38.

C. Interrogation Files

Interrogation files are created at the monitor sites by the automatic detection equipment. The format is explained below, See Figure 3. Example Interrogation and Monitored Release File on page 72. All records are computer generated. Interrogation site codes (See PIT-Tag System Codes on page 50), system ID codes, and coil ID codes (See PIT-Tag System Codes on page 50) are assigned by PTAGIS when a new system is installed.

Interrogation files consist of four categories of records: **File Type, Start** and **End Messages, Interrogation Data Records,** and **Other Record Types.**

1. **File Type Record** (For format, See "Data Files" on page 7.)
   FILE TYPE: INTERROGATION (**Mandatory**)

2. **Start and End Message** R**ecords**
   a. **FILE TITLE:** File name. **Mandatory**. File Titles are 12 characters (format includes a three character site code and the julian date. The extension is reserved for partitions -- *e.g.* PRJ89114.A).
   b. **FILE CREATED:** date and time (*e.g.* 24 April 1989 at 16:45). **Mandatory**.
   c. **FILE CLOSED:** date and time (*e.g.* 25 April 1989 at 16:45). **Mandatory**.

3. **Interrogation Data Records** Computer generated. **Mandatory**.
   a. | Column 1
   b. **CONTROLLER**: Columns 3-4, alpha-numeric.
   c. **DATE**: MM/DD/YY Columns 6-13.
   d. **TIME**: HH:MM:SS Columns 15-22, Pacific Standard Time
   e. **PITCODE**: Columns 24-33, alpha-numeric.
   f. **CHECKSUM**: Columns 35-36, alpha-numeric.
   g. **COILID**: Columns 39-40, 42-43, 45-46, 48-49, 51-52, 54-55, 57-58, and 60-61; alpha-numeric.

4. **Other Record Types** (Do not begin with "|" in column 1).
   a. System checks.
   b. Time Checks.
   c. Blank Lines.

D. Monitored Release File

Same format as interrogation file, except that first record is **FILE TYPE: MONITORED RELEASE**.

Monitored release files are created by the MONITOR.EXE program which is available from the PIT Tag Operations Center. When these files are sent to PTAGIS, the date and time stamps associated with individual tag codes are used to update the release date associated with the individual tag code in the tag_data table.

PTOC is not responsible for the operation of any interrogation units used in monitored release events. Therefore, coil identification codes, monitor efficiency and other attributes of a monitored release not related to tag codes and date/time stamps are the responsibility of the organization managing the monitored release event.

The naming convention used for these files (the file names are automatically generated by the MONITOR.EXE program) are of the form: **XXXYYDDD.A**. XXX is the Monitored Release Site Code (See on page 28), YY is the last two digits of the year and DDD is the day of the year number.

A RELEASE INFORMATION FILE must be sent to PTAGIS prior to submission of MONITORED RELEASE files.

Monitored Release Site Codes are coordinated through PTOC.

E. Mortality File

Mortality files are created using PITTAG.EXE. A mortality file consists of the following categories: **File Type Record; Header Records; Mortality Records; Note Records; and Additional Record Types** (See Figure 4. Example Mortality File on page 73.)

1. **File Type Record** (For format, see Section II. on page 7.)
   a. By typing "PITTAG /M" (PITTAG <space> /capital M) to start the PITTAG.EXE program, the file type MORTALITY will automatically be entered.

2. **SESSION or PROJECT MESSAGE:** Text; 76 characters max. **Mandatory**.

3. **Header Records**
   a. **FILE TITLE**: xxxYYDDD.zzz Format includes a 3 character (xxx) ID (initials) of the individual creating the mortality file and the julian date (YYDDD). The extension (zzz) is up to the coordinator and is optional.
   b. **CREATION DATE**: MM/DD/YY HH:MM. **Mandatory**.
   c. **COLLECTION SITE**: 6 character max. See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 for correct code list. **Mandatory**.
   d. **COLLECTION RIVER KM**: See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29. **Mandatory**.
   e. **CAPTURE METHOD**: 6 character max. See Capture Method Codes on page 27. **Mandatory**.
   f. **RECOVERY ORGANIZATION**: Organization creating mortality file. 6 character max. See Organization Codes on page 27. **Mandatory**.
   g. **COORDINATOR ID**: See Coordinator ID Code Description on page 20. **Mandatory**.

4. **Mortality Records**
   a. **SEQUENCE NUMBER**: Columns 1-4, numeric. **Mandatory**.
   b. **PITCODE**: Columns 7-16, alpha-numeric. **Mandatory**.
   c. **CHECKSUM**: Columns 19-20, alpha-numeric. Optional.
   d. **FORKLENGTH**: Columns 21-28, numeric. Optional.
   e. **WEIGHT**: Columns 29-38, numeric with 1 digit right of the decimal point. Optional.
   f. **MORT. DATE**: MM/DD/YY Columns 41-48. Optional.
   g. **COMMENTS**: Conditional (Flag Codes, See Flag Codes on page 22) and textual, See Section II.A.5.f.(3) for format. Optional.

5. **Note Records** See Section II.A.5. on page 16 Note Records.

6. **Additional Record Types** See Section II.A.7. on page 11 Additional Record Types.

NOTE: ANY TAGS USED IN MORTALITY FILES CANNOT BE RE-USED. ALL MORTALITY TAGS ARE TO BE RETURNED TO PTOC.

F. Test Tag File

Test Tags are used to determine the health of an interrogation unit. There are two types of test tags. The first type of test tag is referred to colloquially as ***stick tags*** or formally as variable reference tags. These tags are usually embedded in a piece of wood and passed through the detection field of a monitor. The second type of test tag is referred to colloquially as ***timer tags*** or ***spider tags***, or formally as fixed reference tags. These "tags" are a passive, electronic device that is powered by the electro-magnetic field of the interrogation unit they are testing. The timer tag fires at a frequency of every four hours. **ALL TEST TAGS MUST BE REGISTERED WITH PTOC VIA THE TEST TAG FILE TYPE.**

At least 10 test tags should be passed through remote interrogation systems daily, if possible, to ensure the system is functioning.

Please contact PTOC to coordinate submission of these files.

1. **File Type Record**
   a. **FILE TYPE: TEST TAGS** (Computer generated, **mandatory**)

2. **ORGANIZATION: Six characters max. See Organization Codes on page 27 Mandatory**

3. **Tag Records**
   a. **SEQUENCE NUMBER:** Columns 1-4, numeric. Optional.
   b. **PITCODE:** Columns 7-16, alpha-numeric. **Mandatory**.
   c. **CHECKSUM:** Columns 19-20, alpha-numeric. Optional.

4. **CLOSE DATE**, beginning in column 5, (:) at column 36, MM/DD/YY HH:MM starting at column 38.

Section III. Code Lists

The following are lists of standardized codes that must be used in the Columbia River Basin PIT Tag Information System (PTAGIS). If tagging coordinators have additional codes they would like to use, please submit these to your organization's PIT-Tag Steering Committee member for review by the PIT-Tag Steering Committee and inclusion in the next Specification Document.

Note: Remember, all code lists in the *1997 PIT TAG Specification Document* can be generated from the PTAGIS application. To see the list of valid river reach codes in the PTAGIS application, go to:

Reports --> Reference/Lookup --> Run Report --> A: River Reach Codes

To see any of the other codes, go to:

Reports --> Reference/Lookup --> Run Report --> B: Validation Codes

Section IV. Code Lists

The following are lists of standardized codes that must be used in the Columbia River Basin PIT Tag Information System (PTAGIS). If tagging coordinators have additional codes they would like to use, please submit these to your organization's PIT-Tag Steering Committee member for review by the PIT-Tag Steering Committee and inclusion in the next Specification Document.

Note: Remember, all code lists in the *1997 PIT TAG Specification Document* can be generated from the PTAGIS application. To see the list of valid river reach codes in the PTAGIS application, go to:

Reports --> Reference/Lookup --> Run Report --> A: River Reach Codes

To see any of the other codes, go to:

Reports --> Reference/Lookup --> Run Report --> B: Validation Codes

A. Coordinator ID Code Description

Coordinator ID codes are the initials (use all, three max.) for the person or project leader responsible for the PIT Tag data (not necessarily the person conducting the tagging or creating the tagging file). Only codes reported in this specification document will be recognized. (The date column of the following table represents the dates of responsibility for the associated agency of these tag coordinators.):

Tag Coordinator Identification Codes

Coord ID	Name	Org	From	To
AAB	ALAN BYRNE	IDFG	1993	PRESENT
BCJ	BRIAN JONASSON	ODFW	1992	PRESENT
BDA	BILL ARNSBERG	NPT	1992	PRESENT
BDW	BRUCE WATSON	YINN	1997	PRESENT
BPH	BRUCE HANSEN	USDA	1996	PRESENT
BRB	BRIAN BECKMAN	NMFS	1993	PRESENT
CAR	CHRIS REIGHN	SHOBAN	1997	PRESENT
CFM	CHARLES MORRILL	WDFW	1993	PRESENT
CSM	SCOTT MCCUTCHEON	NMFS	1985	1990
CSM	SCOTT MCCUTCHEON	BIOMRK	1991	PRESENT
DAC	DAVE CANNAMELA	IDFG	1990	1996
DAN	DUANE NEITZEL	PNL	1991	PRESENT
DBJ	DAVID JOHNSON	NPT	1996	1997
DDT	DOUG TAKI	SHOBAN	1993	PRESENT
DJN	DOUG NEMETH	IDFG	1993	PRESENT
DMM	DOUG MARSH	NMFS	1993	PRESENT
DPC	DOUG CRAMER	PGE	1992	PRESENT
EEH	ERIC HOCKERSMITH	NMFS	1997	PRESENT
EFP	EARL PRENTICE	NMFS	1989	PRESENT
EJL	ERIC LEITZINGER	IDFG	1991	1994
EMD	EARL DAWLEY	NMFS	1996	PRESENT
EWB	ED BEUTTNER	IDFG	1987	PRESENT
FSE	STEVE ELLE	IDFG	1994	PRESENT
HLB	HOWARD BURGE	USFWS	1992	PRESENT
JAH	JAY HESSE	NPT	1996	PRESENT
JJP	JAY PRAVECEK	IDFG	1997	PRESENT
JKB	JODY BROSTROM	IDFG	1993	PRESENT
JPW	JODY WALTERS	IDFG	1998	PRESENT
JSS	SCOTT SPALDING	SHOBAN	1993	PRESENT
JVT	VINCE TRANQUILLI	ODFG	1996	PRESENT
KAA	KIM APPERSON	IDFG	1993	PRESENT
KB	KENT BALL	IDFG	1992	PRESENT
KEP	KURTIS PLASTER	IDFG	1996	PRESENT
KMC	KEN COLLIS	CRITFC	1996	PRESENT
LCS	LOWELL STUEHRENBURG	NMFS	1987	1989
LRB	LARRY BASHAM	FPC	1988	PRESENT
MBE	BRAD EPPARD	NMFS	1998	PRESENT
MHG	MICHAEL GESSEL	NMFS	1996	PRESENT
MLS	MARK SCHUCK	WDFW	1996	PRESENT
PAK	PAUL KUCERA	NPT	1992	PRESENT
PKL	PAUL KLEIN	IDFG	1994	PRESENT
PMS	PAUL SANKOVICH	ODFW	1996	PRESENT
PTL	PETER LOFY	CTUIR	1993	PRESENT
RBK	RUSS KIEFER	IDFG	1988	PRESENT
RBR	RALPH ROSEBERG	USFWS	1993	PRESENT
RDM	RICK MARTINSON	NMFS	1996	PRESENT

Tag Coordinator Identification Codes (Continued)

Coord ID	Name	Org	From	To
RFA	RANDY ABSOLON	NMFS	1997	PRESENT
RMK	ROBERT KEITH	SHOBAN	1993	1996
RNI	ROBERT IWAMOTO	NMFS	1993	PRESENT
SA	STEVE ACHORD	NMFS	1987	PRESENT
SCS	SHERMAN SPRAGUE	NPT	1997	PRESENT
SGH	STEVE HAYES	CPUD	1996	PRESENT
SMF	SHANNON FOCHER	ODFW	1997	PRESENT
SPR	STEVE RUBIN	NBS	1995	PRESENT
TAF	TOM FLAGG	NMFS	1989	PRESENT
TBH	TERRY HOLUBETZ	IDFG	1994	PRESENT
TCB	TED BJORNN	ICFWRU	1991	PRESENT
TDH	TODD HILLSON	WDFW	1997	PRESENT
TDR	DEAN RHINE	IDFG	1993	PRESENT
TER	TOM RUEHLE	NMFS	1990	PRESENT
TGC	TIM COCHNAUER	IDFG	1989	PRESENT
TRW	TIM WALTERS	ODFW	1993	1995
TSC	TOM CURET	IDFG	1993	PRESENT
WAC	WILL CAMERON	ODFW	1997	PRESENT
WDM	WILLIAM MUIR	NMFS	1990	PRESENT
WPC	WILLIAM CONNOR	NPT	1990	1991
WPC	WILLIAM CONNOR	USFWS	1991	PRESENT

B. Species Codes

0 = Unknown
1 = Chinook
2 = Coho
3 = Steelhead
4 = Sockeye
5 = Chum
9 = Non-Salmonid or Other Species

C. Run Codes

0 = N/A
1 = Spring
2 = Summer
3 = Fall
4 = Winter
5 = Unknown (use for river migrants or mixed stock rearing areas where run is unknown).

D. Rearing Type Codes

H	=	Hatchery reared fish
W	=	Wild fish or natural production
U	=	Unknown

E. Flag Codes

Code		Comment
0	=	POSSIBLE 0 AGED CHINOOK
1<	=	DESCALED LESS THAN 10 PERCENT
1>	=	DESCALED GREATER THAN 10 PERCENT
1P	=	DESCALED - PATCHY
1S	=	DESCALED - SCATTERED
<2	=	DESCALING BETWEEN 11 AND 20%
>2	=	DESCALING GREATER THAN 20%
AD	=	ADIPOSE FIN CLIP
AF	=	ADIPOSE FIN DAMAGE
AN	=	ANAL FIN DAMAGE
AT	=	TAGGED AS ADULT
B	=	BLEEDING AFTER TAGGED
BL	=	BLOATED
BR	=	BROOD STOCK
BS	=	BODY SCARS
CA	=	CAUDAL FIN DAMAGE
CW	=	CODED WIRE TAG
CY	=	CYST
D	=	DROPPED
DB	=	DOUBLE TAGGED
DF	=	DORSAL FIN DAMAGE
DI	=	DEEP INSERTION
DK	=	DARK
DO	=	DIS-ORBITED EYE
DT	=	DUPLICATE TAG
EB	=	ELECTRO-SHOCKER BURN
EJ	=	ELASTOMER JET / PHOTONIC FIN MARK
EL	=	DAMAGED EYE - LEFT - AFTER TAGGING
EM	=	EXCESSIVE MUCOUS
ER	=	DAMAGED EYE - RIGHT - AFTER TAGGING
FE	=	FEMALE
FU	=	FUNGUS
FX	=	FISH EXAMINATION
GB	=	GAS BUBBLE TRAUMA
GS	=	GILL SAMPLE
HE	=	HEMMORHAGE
I	=	BODY INJURY - PRIOR TO TAGGING

E. Flag Codes (Continued)

Code		Comment
IM	=	IMMATURE
JA	=	JACK
JW	=	JAW DAMAGE
KD	=	POSSIBLE BKD
L	=	FISH LOST/REJECTED TAG BEFORE RELEASE
LA	=	LACERATIONS
LF	=	LARGE FLUME FROM SEPARATOR
LP	=	LEFT PECTORAL FIN RAY SAMPLE
LT	=	LIGHT BODY COLOR
LV	=	LEFT VENTRAL FIN CLIP
M	=	MORTALITY
MA	=	MALE
MB	=	BLEEDING AT TAGGING/DIED PRE-REL
MK	=	REMOVED FROM RELEASE GROUP(KILLED)
MS	=	SAMPLE MORT (INTENTIONAL SACRIFICE)
MT	=	MATURE
NF	=	NON-FUNCTIONAL TAG ALSO IN FISH
NM	=	NO MUCOUS
OP	=	OPERCULE DAMAGE
PA	=	PARASITE
PB	=	PREVIOUSLY BRANDED
PR	=	PRECOCIOUS
PT	=	PECTORAL FIN DAMAGE
PV	=	PELVIC FIN DAMAGE
Q1	=	COMPLETE AND LEDGIBLE FREEZE BRAND
Q2	=	BRAND IS LEDGIBLE BUT INCOMPLETE
Q3	=	BRAND IS NOT LEDGIBLE
Q4	=	BRAND ROTATION OR POSITION WRONG
Q5	=	NO BRAND
Q6	=	BRAND CAUSED LT. TO EXCESSIVE BURN
RE	=	RECAPTURE
RF	=	RETURNING FISH
RP	=	RIGHT PECTORAL FIN RAY SAMPLE
RT	=	RADIO TAGGED
RV	=	RIGHT VENTRAL FIN CLIP
SC	=	SCOLIOSIS
SF	=	SMALL FISH FLUME FROM SEPARATOR
SM	=	SUBSEQUENT MORT
SU	=	SURGERY
SV	=	SILVERY BODY COLOR
TM	=	TAGGED IN MUSCLE
UL	=	ULCER
VI	=	VISUAL IMPLANT / EYE ADIPOSE
WD	=	POSSIBLE WHIRLING DISEASE

E. Flag Codes (Continued)

Code		Comment
X	=	DUPLICATE TAG FOR PRE-RELEASE MORT
Y	=	POSSIBLE AGE ONE (YEARLING)

F. Hatchery Codes

Code	Hatchery Name
ABEH	ABERNATHY HATCHERY
BEAH	BEAVER CREEK HATCHERY
BIGC	BIG CREEK HATCHERY
BONH	BONNEVILLE HATCHERY
CARS	CARSON HATCHERY
CARS	CARSON NATIONAL FISH HATCHERY
CASC	CASCADE HATCHERY
CASS	CASSIMAR BAR HATHERY
CHEL	CHELAN PUD HATCHERY
CLAH	CLACKAMAS HATCHERY
CLWH	CLEARWATER HATCHERY
COWH	COWLITZ HATCHERY
COWS	COWLITZ SALMON HATCHERY
COWT	COWLITZ TROUT HATCHERY
CROP	CROOKED RIVER REARING POND
DEXT	DEXTER POND
DWOR	DWORSHAK NATIONAL FISH HATCHERY
EAGH	EAGLE CREEK NATIONAL FISH HATCHERY
EAGL	EAGLE HATCHERY
EBNK	EAST BANK HATCHERY FACILITY
ELOK	ELOKOMIN HATCHERY
ENTH	ENTIAT NATIONAL FISH HATCHERY
GNAT	GNAT CREEK HATCHERY
GRAY	GRAYS RIVER HATCHERY
HAGE	HAGERMAN NATIONAL FISH HATCHERY
IRRI	IRRIGON HATCHERY
KALA	KALAMA FALLS HATCHERY
KLAS	KLASKANINE HATCHERY
KLIH	KLICKITAT HATCHERY
KOOS	KOOSKIA NATIONAL FISH HATCHERY
LEAB	LEABURG HATCHERY
LEAV	LEAVENWORTH NATIONAL FISH HATCHERY
LEWH	LEWIS RIVER HATCHERY
LOOH	LOOKINGGLASS HATCHERY
LOWK	LOWER KALAMA HATCHERY
LWSH	LITTLE WHITE SALMON HATCHERY
LYFE	LYONS FERRY HATCHERY
MARI	MARION FORKS HATCHERY
MAVA	MAGIC VALLEY HATCHERY
MCCA	MCCALL HATCHERY
MCKE	MCKENZIE HATCHERY
METH	METHOW HATCHERY
MONT	MONTLAKE HATCHERY

F. Hatchery Codes (Continued)

Code	Hatchery Name
NCHH	NACHES HATCHERY
NISP	NIAGARA SPRING HATCHERY
OASP	OAK SPRINGS HATCHERY
OXBO	OXBOW HATCHERY
PAHH	PAHSIMEROI HATCHERY
POWP	POWELL REARING POND
PRDH	PRIEST RAPIDS HATCHERY
RAPH	RAPID RIVER HATCHERY
REDP	RED RIVER REARING POND
RINH	RINGOLD HATCHERY
ROAR	ROARING RIVER HATCHERY
ROBU	ROUND BUTTE HATCHERY
RRHH	ROCKEY REACH HATCHERY
SAND	SANDY HATCHERY
SAWT	SAWTOOTH HATCHERY
SIMP	SIMILKAMEEN POND/HATCHERY
SKAM	SKAMANIA HATCHERY
SOSA	SOUTH SANTIAM HATCHERY
SPEE	SPEELYAI HATCHERY
SPRC	SPRING CREEK NATIONAL FISH HATCHERY
STAY	STAYTON POND
SWSP	SWEETWATER SPRINGS HATCHERY
TOUT	TOUTLE HATCHERY
TRAS	TRASK HATCHERY
TROJ	TROJAN POND
TUCH	TUCANNON HATCHERY
TURO	TURTLE ROCK HATCHERY
VANC	VANCOUVER HATCHERY
WAHA	WASHOUGAL HATCHERY
WAHK	WAHKEENA POND
WALH	WALLOWA HATCHERY
WELH	WELLS HATCHERY, WDFW
WILH	WILLAMETTE/DEXTER HATCHERY
WILL	WILLARD NATIONAL FISH HATCHERY
WINT	WINTHROP NATIONAL FISH HATCHERY
WSPH	WARM SPRINGS HATCHERY
YAKH	YAKIMA HATCHERY

G. Capture Method Codes

BPRCOL	=	Bypass Facility Raceway Collection
BPSUB	=	Bypass facility sub-sample
BSEINE	=	Beach Seine
BTRAP	=	Box Trap
CMTRAP	=	Cray-Meeken Trap
DIPNET	=	Dip Net
DIPTRP	=	Dipper Trap
DIVSYS	=	PIT Tag diversion system
FYKENET	=	Fyke Net
GWAIRL	=	Gatewell Air Lift
GWDIP	=	Gatewell Dip net
GWFYKE	=	Gatewell Fyke net
HATCH	=	Hatchery Returns
HATRAK	=	Hatchery Rack
HOOK	=	Hook and line
MTRAP	=	Minnow Trap
PSEINE	=	Purse Seine
PRED	=	Predation Mark Recovery
PSEINE	=	Purse Seine
SCOTRP	=	Scoop Trap
SCREWT	=	Screw Trap
SHOCK	=	Electro-Shock
SURVEY	=	Spawning Survey
WTRAP	=	Weir Trap

H. Tagging Method Codes

AUTO	=	Automatic Tag Injector
HAND	=	Hand Operated Syringe
NONE	=	Not Tagging -- Use for Recapture Events
SURG	=	Surgically Implanted

I. Organization Codes

BIOMRK	=	Biomark
CPUD	=	Chelan Public Utility District
CTUIR	=	Confederated Tribes of Umatilla I.R.
FPC	=	Fish Passage Center

I. Organization Codes

ICFWRU	=	Idaho Cooperative Fish and Wildlife Research Unit
IDFG	=	Idaho Dept. of Fish and Game
NMFS	=	National Marine Fisheries Service
NPT	=	Nez Perce Tribe
ODFW	=	Oregon Dept. of Fish and Wildlife
PGE	=	Portland General Electric
PNL	=	Pacific Northwest Laboratory
PSMFC	=	Pacific States Marine Fisheries Commission
SHOBAN	=	Shoshone-Bannock Indian Nation
USFWS	=	U.S. Fish and Wildlife Service
WDFW	=	Washington Dept. of Fish & Wildlife
YINN	=	Yakama Indian Nation

J. Monitored Release Codes

Code	Monitored Release Name
CAR	CARLTON ACCLIMATION POND
CHI	CHIWAWA REARING POND
DRY	DRYDEN ACCLIMATION POND
LFH	LYONS FERRY ACCLIMATION
TUC	TUCANNON ACCLIMATION POND

K. Tag, Release, and Collection Site Codes and Associated River KMs:

1. Site Codes - The site code is, at maximum, a six character field. A site descriptor will always be found in the last position (the last two positions for two character site descriptors). For all site codes that replicate an already established code, a number (2 through 0) will immediately proceed the site descriptor. For example,

ELKC	Elk Creek
ELK2C	a second Elk Creek
ELK3C	a third Elk Creek
BEARVC	Bear Valley Creek
BEAR2C	a second Bear Valley Creek

The following are valid site descriptors:

R	river
C	creek
T	trap
W	weir
D	dam
FK	fork (a fork of a river, not part of a name, e.g., Salmon River, East Fork, but not Brushy Fork Creek)
P	pond
B	bridge
S	screen
CN	canal

2. River kilometer - Hierarchical coding scheme: Kilometers from mouth of Columbia to Tag, Release or Collection site or (up to 7th order stream for point release sites), with each tributary delimited with a period.(eg. code for location of Lower Granite dam is 522.173 = 522 km from the mouth of the Columbia to the mouth of the Snake, and 173 km from the mouth of the Snake to the dam.) Each segment of the code is three characters long, zero padded from the left. If additional sites are required contact PIT-Tag Steering Committee member to add requests to the list. PTAGIS supports 27 characters in the Tagging and Release Information File headers, and twenty three characters in the following tables.

For in-river marking specify river kilometers using the mouth of the stream in this list that is closest down-stream. Then, append an additional suffix to the release river kilometer that represents the distance (in kilometers) of your marking from that release site.

For example, for a project that is tagging 10 Kilometers above the Salmon River South Fork confluence, the correct codes to use would be:

SALRSF	522.303.215.010

3. GIS Hydrounits - See Appendix B for a more formal treatment of this topic. For the purposes of this system, this is an eight digit number assigned to areas of land based on drainages. The GIS Hydrounits for the recognized site codes are listed below. However, there are several rivers (Columbia, Snake, Middle Fork of the Salmon) that flow through more than one drainage. The hydrounit codes listed below for these rivers only contain the digits that are common to all drainages along that river. For example, for the tag site COLR (Columbia River), only the first three digits, 170, are common to all the areas drained by the Columbia river. To determine the complete GIS Hydrounit code for the site you are tagging at, you need to know the precise point along the river where you are tagging, and then locate that point on a GIS map (see Appendix D for these maps). Your state or federal representative on the PIT-Tag Steering Committee should be able to aid in this. Also known as USGS Hydro-unit.

4. Point Release Sites vs. Fixed Release Sites

In the following two tables, the column labeled **I** contains an N or Y. This indicator specifies 'Y' if the associated Tag, Release or Collection site is a "Point Release Site", otherwise the indicator specifies 'N'.

A point release site cannot be modified with an additional suffix or segment. Examples of point release sites are dams, weirs, traps, bridges etc. For release locations upstream from point release sites, find the code for the confluence of the first stream down from the point release site and then append the suffix you need to that River KM value.

5. List of Tag, Release or Collection Sites - With associated River Kilometer and GIS Hydrounit.

a. Tag, Release or Collection Site by Site Code

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	4JULYC	FOURTH OF JULY C	522.303.630	N	1455	17060201
3/1/94	ALTULC	ALTURAS L C	522.303.633	N	1458	17060201
7/8/97	ALTURL	ALTURUS L	522.303.633.011	N	1469	17060201
3/1/94	AMERR	AMERICAN R	522.224.120.101	N	967	17060305
7/31/96	BARGAC	BARGAMIN C	522.303.255	N	1080	17060207
3/1/94	BBC	BIG BEEF C		Y		17110018
3/1/94	BCANF	BIG CANYON FACILITY	522.271.131.018.001	Y	943	17060105
2/24/98	BCKROC	BUCKAROO C	464.117	N	581	17070103
3/1/94	BEARC	BEAR C	522.224.120.037.081	N	984	17060301
3/1/94	BEARVC	BEAR VALLEY C	522.303.319.170	N	1314	17060205
3/1/94	BEAVEC	BEAVER C	522.303.642	N	1467	17060201
3/1/94	BEDRKC	BEDROCK C	522.224.042	N	788	10760306
3/1/94	BIGC	BIG C	522.303.319.029	N	1173	17060206
3/1/94	BIGCAC	BIG CANYON C	522.224.057	N	803	10760306
3/1/94	BIGFLC	BIG FLAT C	522.224.120.037.113.026	N	1042	17060204
2/24/98	BIRCHC	BIRCH C	464.077	N	541	17070103
2/24/98	BIRCHE	BIRCH C, E FK	464.077.026	N	567	17070103
2/24/98	BIRCHW	BIRCH C, W FK	464.077.026	N	567	17070103
3/1/94	BO1	BONNEVILLE D PH1	234	Y	234	17080001

a. Tag, Release or Collection Site by Site Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	BO2	BONNEVILLE D PH2	234	Y	234	17080001
3/27/96	BONH	BONNEVILLE H	234.001	Y	235	17080001
12/10/97	BONP	BONIFER SPRINGS ACCLI-MATION P	465.127.003	Y	595	17070101
2/24/98	BOSTCC	BOSTON CANYON C	464.127.003	N	594	17070103
3/1/94	BOUNDC	BOUNDARY C	522.303.319.154	N	1298	17060205
3/1/94	BRUSHC	BRUSHY FORK C	522.224.120.037.113.011	N	1027	17060303
3/1/94	BSHEEC	BIG SHEEP C	522.308.032	N	862	17060102
2/24/98	BUCKC	BUCK C	464.145.002	N	611	17070103
3/1/94	BURNLC	BURNT LOG C	522.303.215.060.024.024	N	1148	17060208
2/24/98	BUTCHC	BUTCHER C	464.127.034	N	625	17070103
3/1/94	CAMASC	CAMAS C	522.303.319.057	N	1011	17060206
2/24/98	CAMPC	CAMP C	464.127.018	N	609	17070103
3/1/94	CAPEHC	CAPEHORN C	522.303.319.170.010	N	1324	17060205
12/11/95	CARP	CARLTON ACCLIMATION P	843.058	Y	902	17020008
2/26/97	CARS	CARSON H	251.028	Y	279	17070105
6/17/96	CASS	CASSIMAR BAR H	*	N		N/A
3/1/94	CATCMF	CATHERINE CREEK, M FK	522.271.232.052.005	N	1082	17060104
3/1/94	CATCNF	CATHERINE CREEK, N FK	522.271.232.052	N	1077	17060104
3/1/94	CATCSF	CATHERINE CREEK, S FK	522.271.232.052	N	1077	17060104
3/1/94	CATHEC	CATHERINE C	522.271.232	N	1025	17060104
3/1/94	CFCTRP	CROOKED FK C T	522.224.120.037.113.003	Y	1019	17060303
3/1/94	CHAMBC	CHAMBERLAIN C	522.303.282	N	1107	17060207
3/1/94	CHAMPC	CHAMPION C	522.303.631	N	1456	17060201
3/1/94	CHAMWF	CHAMBERLAIN C WF	522.303.282.024	N	1131	17060207
3/1/94	CHANDL	CHANDLER CANAL	539.076	N	615	17030003
12/11/95	CHIP	CHIWAWA REARING P	754.077.002	Y	834	17020011
3/1/94	CLEARC	CLEAR C	522.224.120.004	N	870	17060305
3/1/94	CLELMD	CLE ELUM D	539.299.013	Y	851	17030001
3/1/94	CLELMR	CLE ELUM R	539.299	N	838	17030001
12/20/95	CLWH	CLEARWATER H	*	N		N/A
3/1/94	CLWR	CLEARWATER R	522.224	N	746	17060306
3/1/94	CLWRNF	CLEARWATER R, N FK	522.224.065	N	811	17060308
3/1/94	CLWRSF	CLEARWATER R, S FK	522.224.120	N	866	17060305
3/1/94	CLWTRP	CLEARWATER T	522.224.010	Y	756	17060306
12/20/95	COLR	COLUMBIA R	*	N		170
3/1/94	COLTC	COLT C	522.224.120.037.113.020	N	1036	17060303
2/24/98	COONSC	COONSKIN C	464.109	N	573	17070103
3/1/94	COTNWC	COTTONWOOD C	522.224.031	N	777	17060306
2/24/98	COTTWC	COTTONWOOD C (UMAT)	464.105	N	569	17070103
2/8/97	COWS	COWLITZ SALMON H	111.080	Y	191	17080005
2/8/97	COWT	COWLITZ TROUT H	111.071	Y	182	17080005
2/24/98	COYOTC	COYOTE C	464.145.005	N	614	17070103
7/31/96	CROOC	CROOKED C	522.303.200	N	1025	17060207
3/1/94	CROOKC	CROOKED FORK C	522.224.120.037.113	N	1016	17060303

a. Tag, Release or Collection Site by Site Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
12/11/95	CROOKP	CROOKED RIVER P	522.224.120.094.015	Y	975	17060305
3/1/94	CROOKR	CROOKED R	522.224.120.094	N	960	17060305
3/1/94	CROTRP	CROOKED RIVER T	522.224.120.094.001	Y	961	17060305
4/17/97	CURP	CURL LAKE REARING P	522.100.066	Y	701	17060107
3/1/94	DAGGEC	DAGGER C	522.303.319.155	N	1299	17060205
4/17/97	DAYP	DAYTON ACCLIMATION POND	502.026.085	Y	613	17060107
3/1/94	DECKEC	DECKER C	522.303.624.001	N	1450	17060201
4/23/96	DESCHR	DESCHUTES R	328	N	328	170703
3/1/94	DRYP	DRYDEN ACCLIMATION P	754.026	Y	780	17020011
3/1/94	DWOR	DWORSHAK H	522.224.065	Y	811	17060306
12/20/95	EAGL	EAGLE H	*	N		N/A
3/1/94	EAGLEC	EAGLE C	522.224.120.037.253.003	N	1159	17060301
12/20/95	EBNK	EAST BANK H	*	N		N/A
3/1/94	ELDORC	ELDORADO C	522.224.087.041	N	874	17060304
3/1/94	ELKC	ELK C	522.303.319.170.014	N	1328	17060205
3/1/94	ENTH	ENTIAT H	778.017	Y	795	17020010
3/1/94	FALLC	FALL C	522.303.319.163	N	1307	17060205
3/1/94	FISHC	FISH C	522.224.120.037.039	N	942	17060303
3/1/94	FISHEC	FISHER C	522.303.628	N	1453	17060201
3/1/94	FISTRP	FISH C T	522.224.120.037.039.002	Y	1044	17060303
3/1/94	FIVEMC	FIVE MILE C	522.224.120.094.018	N	978	17060305
3/1/94	FLOSSC	FLOSSIE C	522.303.282.027	N	1134	17060207
3/1/94	FRENCC	FRENCHMAN C	522.303.647	N	1472	17060201
3/1/94	GEDCWF	GEDNEY C W FK	522.224.120.037.029.005	N	937	17060302
3/1/94	GEDNEC	GEDNEY C	522.224.120.037.029	N	932	17060302
3/1/94	GOLDC	GOLD C	522.303.621	N	1446	17060201
3/1/94	GRANDR	GRANDE RONDE R	522.271	N	793	17060106
12/20/95	HAGE	HAGERMAN H	*	N		N/A
3/1/94	HAZARC	HAZARD C	522.303.140.031	N	996	17060209
3/1/94	HCD	HELLS CANYON D	522.397	Y	919	17050201
3/1/94	HELLRC	HELL ROARING C	522.303.631	N	1456	17060201
11/25/97	HERDC	HERD C	522.303.552.014	N	1391	17060201
3/1/94	HUCKLC	HUCKELBERRY C	522.303.624	N	1449	17060201
3/1/94	HWY93B	US HWY 93 BRIDGE	522.303.647	Y	1472	17060201
3/1/94	ICICLC	ICICLE C	754.041	N	795	17020011
3/1/94	IHR	ICE HARBOR D	522.016	Y	538	17060110
3/1/94	IMNAHR	IMNAHA R	522.308	N	830	17060102
3/1/94	IMNAHW	IMNAHA R W	522.308.074	Y	904	17060102
3/1/94	IMNTRP	IMNAHA T	522.308.007	Y	837	17060102
12/10/97	IMQP	IMEQUES ACCLIMATION P	465.123	Y	588	17070101
12/20/95	IRRI	IRRIGON H	*	N		N/A
12/11/95	JACKSC	JACKS C	522.225.047	N	793	17060306
3/1/94	JDA	JOHN DAY D	347	Y	347	17070101
3/1/94	JOHNC	JOHNS C	522.224.120.056	N	922	17060305

a. Tag, Release or Collection Site by Site Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	JOHNSC	JOHNSON C	522.303.215.060.024	N	1124	17060208
3/1/94	KNAPPC	KNAPP C	522.303.319.170.015	N	1329	17060205
3/1/94	KNOXB	KNOX BRIDGE	522.303.215.112	Y	1152	17060208
3/1/94	KOOS	KOOSKIA H	522.224.120.004.001	Y	871	17060305
3/1/94	LAKEC	LAKE C	522.303.215.059.045	N	1144	17060208
3/1/94	LEAB	LEABURG H	163.282.056	Y	501	17090004
3/1/94	LEAV	LEAVENWORTH H	754.041.005	Y	800	17020011
3/1/94	LEMHIR	LEMHI R	522.303.416	N	1241	17060204
3/1/94	LEMHIW	LEMHI W	522.303.416.049	Y	1290	17060204
3/1/94	LGR	LOWER GRANITE D	522.173	Y	695	17060107
3/1/94	LGS	LITTLE GOOSE D	522.113	Y	635	17060107
10/20/97	LICKC	LICK C	522.303.215.059.008	N	1107	17060208
2/24/98	LINEC	LINE C	464.127.008	N	599	17070103
12/11/95	LITCAC	LITTLE CANYON C	522.224.057.005	N	808	17060306
3/1/94	LMN	LOWER MONUMENTAL D	522.067	Y	589	17060110
3/1/94	LOLOC	LOLO C	522.224.087	N	833	17060306
3/1/94	LOOH	LOOKINGGLASS H	522.271.137.003	Y	933	17060106
3/1/94	LOOKGC	LOOKING GLASS C	522.271.137	N	930	17060106
3/1/94	LOONC	LOON C	522.303.319.073	N	1217	17060205
3/1/94	LOSTIR	LOSTINE R	522.271.131.042	N	966	17060105
3/1/94	LSALR	LITTLE SALMON R	522.303.140	N	825	170602
10/20/97	LSFTRP	SALMON R S FK T LOWER	522.303.215.058	N	1098	17060208
3/1/94	LSHEEF	LITTLE SHEEP FACILITY	522.308.032.005.008	Y	875	17060102
3/1/94	LYFE	LYONS FERRY H	522.095	Y	617	17060107
3/1/94	MARSHC	MARSH C	522.303.319.170	N	1314	17060205
3/1/94	MARTRP	MARSH C T	522.303.319.170.011	Y	1325	17060205
12/20/95	MAVA	MAGIC VALLEY H	*	N		N/A
2/8/97	MAYD	MAYFIELD DAM	111.085	Y	196	17080005
3/1/94	MAYSC	MAYS C	522.303.631	N	1456	17060201
12/20/95	MCCA	MCCALL H	*	N		N/A
2/24/98	MCKAYC	MCKAY C	464.082	N	546	17070103
3/1/94	MCKE	MCKENZIE H	163.282.053	Y	498	1709004
3/1/94	MCKER	MCKENZIE R	163.282	N	445	1709004
3/1/94	MCN	MCNARY D	470	Y	470	17070101
2/24/98	MEACHC	MEACHAM C	464.127	N	591	17070103
2/24/98	MEACHE	MEACHAM C, E FK	464.127.031	N	622	17070103
2/24/98	MEACHN	MEACHAM C, N FK	464.127.024	N	615	17070103
3/1/94	MEADOC	MEADOW C	522.224.120.037.031	N	934	17060302
7/1/96	METH	METHOW H	843.085	Y	928	1702000
3/1/94	MINAMR	MINAM R	522.271.131.016	N	940	17060106
12/10/97	MINP	MINTHORN ACCLIMATION P	465.109	Y	574	17070101
12/11/95	MISSC	MISSION C	522.224.018.016	N	780	17060306
2/24/98	MISSNC	MISSION C (UMAT)	464.098	N	562	17070103
12/20/95	MONT	MONTLAKE H	*	N		N/A
2/24/98	MOONSC	MOONSHINE C	464.108	N	572	17070103

a. Tag, Release or Collection Site by Site Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	MOOSEC	MOOSE C	522.303.282.031	N	1138	17060207
3/1/94	NATCHR	NATCHES R	539.187	N	726	17030002
3/1/94	NEWSOC	NEWSOME C	522.224.120.084	N	950	17060305
12/20/95	NISP	NIAGARA SPRINGS H	*	N		N/A
12/11/95	OROFC	OROFINO C	522.224.072	N	818	17060306
6/17/96	OSOL	OSOYOOS L	858.130	Y	988	17020006
3/1/94	PAHP	PAHSIMEROI P	522.303.489.011	N	1325	17060202
3/1/94	PAHSIR	PAHSIMEROI R	522.303.489	N	1314	17060202
12/20/95	PAHSIW	PAHSIMEROI W	522.303.489.002	Y	1316	17060202
3/1/94	PAHTRP	PAHSIMEROI R T	522.303.489.002	Y	1316	17060202
3/1/94	PAPOOC	PAPOOSE C	522.224.120.037.105	N	1008	17060303
2/24/98	PEARSC	PEARSON C	464.077.026.018	N	585	17070103
3/19/98	PELT	PELTON LADDER	328.161	Y	489	17070306
3/1/94	PETEKC	PETE KING C	522.224.120.037.003	N	906	17060303
8/1/95	PETTL	PETTIT LAKE	522.303.633.002.002	Y	1462	17060201
3/1/94	PETTLC	PETTIT L C	522.303.633.002	N	1460	17060201
3/1/94	POLEC	POLE C	522.303.642	N	1467	17060201
12/11/95	POTR	POTLATCH R	522.224.024	N	770	17060306
12/11/95	POWP	POWELL REARING P	522.224.120.037.113	Y	1016	17060302
3/1/94	PRD	PRIEST RAPIDS D	639	Y	639	17020016
12/11/95	PRDH	PRIEST RAPIDS H	639	Y	639	17020016
3/1/94	PROSRD	PROSSER D	539.076	Y	615	17030003
12/20/95	PROTRP	PROSSER T	539.076	Y	617	17030003
3/1/94	RAPH	RAPID R H	522.303.140.007.006	Y	978	17060210
3/1/94	RAPIDR	RAPID R	522.303.140.007	N	972	17060210
11/13/97	RAPIWF	RAPID R W FK	522.303.140.007.012	N	984	17060210
3/1/94	REDFL	REDFISH L	522.303.615.005	N	1445	17060201
3/1/94	REDFLC	REDFISH L C	522.303.615	N	1440	17060201
3/1/94	REDP	RED R REARING P	522.224.120.101.027	N	994	17060305
3/1/94	REDR	RED R	522.224.120.101	N	967	17060305
3/1/94	REDRSF	RED R, S FK	522.224.120.101.028	N	995	17060305
4/3/96	REDTRP	RED R T	522.224.120.101.006	Y	973	17060305
3/1/94	RELIEC	RELIEF C	522.224.120.094.013	N	973	17060305
10/29/96	RICEIS	RICE ISLAND	034	Y	34	17080000
6/16/95	RINH	RINGOLD H	567	Y	567	17020016
3/1/94	RIS	ROCK ISLAND D	730	Y	730	17020010
3/1/94	RLCTRP	REDFISH L C T	522.303.615.003	Y	1443	17060201
3/1/94	ROSAD	ROSA D	539.206	Y	745	17030001
3/1/94	RPDTRP	RAPID R T	522.303.140.007.007	Y	979	17060210
3/1/94	RRE	ROCKY REACH D	763	Y	763	17020010
3/1/94	RUNNIC	RUNNING C	522.224.120.037.253	N	1156	17060301
3/1/94	RUSHC	RUSH C	522.303.319.029.011	N	1184	17060206
2/24/98	RYANC	RYAN C	464.132	N	596	17070103
3/1/94	SALEFT	SALMON R E FK T	522.303.552.029	Y	1406	17060201
11/25/97	SALEFW	SALMON R E FK W	522.303.552.030	Y	1407	17060201

a. Tag, Release or Collection Site by Site Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	SALR	SALMON R	522.303	N	825	17060209
11/25/97	SALREF	SALMON R E FK	522.303.552	N	1377	17060201
3/1/94	SALRMF	SALMON R M FK	522.303.319	N	1144	17060206
11/25/97	SALRNF	SALMON R N FK	522.303.381	N	1206	17060203
3/1/94	SALRSF	SALMON R S FK	522.303.215	N	1040	17060208
3/1/94	SALSFW	SALMON R S FK W	522.303.215.111	Y	1151	17060202
3/1/94	SALTRP	SALMON T	522.303.103	Y	910	17060209
3/1/94	SAWT	SAWTOOTH H	522.303.617	Y	1442	17060201
3/1/94	SAWTRP	SAWTOOTH T	522.303.617	Y	1442	17060201
3/1/94	SECESR	SECESH R	522.303.215.059	N	1099	17060208
2/19/98	SELWYR	SELWAY R	522.224.120.037	N	903	17060302
4/17/97	SELWYR	SELWAY R	522.224.120.037	N	903	17060302
10/20/97	SFSTRP	SALMON R S FK T	522.303.215.115	Y	1155	17060202
7/31/96	SHEEPC	SHEEP C	522.303.188	N	1013	17060207
2/24/98	SHIMC	SHIMMIHORN C	464.145.008	N	617	17070103
3/1/94	SIMP	SIMILKAMEEN P/H	941.121.008	Y	1070	17020007
3/1/94	SLATEC	SLATE C	522.303.106	N	931	17060209
3/1/94	SMILEC	SMILEY C	522.303.644	N	1469	17060201
3/1/94	SNAKER	SNAKE R	522	N	522	17060110
3/1/94	SNKTRP	SNAKE T	522.225	Y	747	17060103
2/24/98	SQUAWC	SQUAW C (UMAT)	464.124	N	588	17070103
3/1/94	SQUAWC	SQUAW C	522.224.120.037.096	N	999	17060303
3/1/94	SSD	SUNNYSIDE D	539.167	Y	706	17030003
3/1/94	SSIDEC	SUNNYSIDE CANAL	539.167	N	706	17030003
3/1/94	SSIDES	SUNNYSIDE SCREEN	539.167.001	Y	707	17030003
3/1/94	STANLC	STANLY L C	522.303.609.009	N	1443	17060201
3/1/94	STANLE	STANLEY (GAGE2945)	522.303.609	Y	1434	17060201
11/25/97	STOLP	STOLLE P	522.303.215.125	Y	1165	17060208
3/1/94	SUL	SULLIVAN D	163.043	Y	206	17090102
3/1/94	SULFUC	SULFER C	522.303.319.150	N	1294	17060205
12/11/95	SWSP	SWEETWATER SPRINGS H	522.224.012.006.010.004	Y	778	17060306
3/1/94	TDA	THE DALLES D	308	Y	308	17070101
7/31/96	TENMIC	TENMILE C	522.224.120.076	N	942	17060305
2/24/98	THOMC	THOMAS C	464.145.005	N	614	17070103
12/10/97	THOP	THORNHOLLOW ACCLIMATION P	465.113	Y	578	17070101
4/17/97	TUCH	TUCANNON RIVER H	522.100.058	Y	691	17060107
12/11/95	TUCR	TUCANNON R	522.100	N	622	17060107
3/1/94	TURO	TURTLE ROCK P	765	Y	765	17020010
2/24/98	TUTUIC	TUTUILLA C	464.084	N	548	17070103
12/10/97	UMAH	UMATILLA H	*	Y		17070101
12/10/97	UMAR	UMATILLA R	465	N	465	17070101
2/24/98	UMATNF	UMATILLA R, N FK	464.145	N	609	17070103
2/24/98	UMATR	UMATILLA R	464	N	464	17070103
2/24/98	UMATSF	UMATILLA R, S FK	464.145	N	609	17070103

a. Tag, Release or Collection Site by Site Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	VALEYC	VALLEY C	522.303.609	N	1434	17060201
3/1/94	VATC	VAT C	522.303.633.003	N	1461	17060201
3/1/94	VGISNB	VAN GIESSEN BRIDGE	539	Y	539	17030003
3/1/94	WALH	WALLOWA H	522.271.131.063.001	Y	988	17060105
3/1/94	WALLOR	WALLOWA R	522.271.131	N	924	17060106
3/1/94	WAPATC	WAPATO CANAL	539.171	N	710	17030003
3/1/94	WAPATD	WAPATO D	539.172	Y	711	17030003
3/1/94	WAPATS	WAPATO SCREEN	539.172.001	Y	712	17030003
12/11/95	WELH	WELLS H	830	Y	830	17020005
3/1/94	WENATR	WENATCHEE R	754	N	754	17020011
3/1/94	WENR	WENAHA R	522.271.073	N	866	17060106
3/1/94	WENRNF	WENAHA R, N FK	522.271.073.035	N	901	17060106
3/1/94	WENRSF	WENAHA R, S FK	522.271.073.035	N	901	17060106
3/1/94	WHITCC	WHITE CAP C	522.224.120.037.264	N	1167	17060303
3/1/94	WHITSC	WHITE SAND C	522.224.120.037.113	N	1016	17060303
3/1/94	WILLIC	WILLIAMS C	522.303.622	N	1447	17060201
3/1/94	WILLR	WILLAMETTE R	163	N	163	17090012
7/31/96	WINDR	WIND R	522.303.177	N	1002	17060207
3/1/94	WINT	WINTHROP H	843.081	Y	924	17020005
3/1/94	WOPTXD	WOPATOX D	539.187.028	Y	754	17030002
3/1/94	WPOOSH	WISH POOSH C	539.299.004	N	852	17030001
3/1/94	YAKIMR	YAKIMA R	539	N	539	17030003
3/1/94	YANKWF	YANKEE FK, W FK	522.303.591.011	N	1427	17060201
3/1/94	YELLLC	YELLOWBELLY L C	522.303.633.001	N	1459	17060201

b. Tag, Release or Collection Site by River Kilometer Code

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
12/20/95	NISP	NIAGARA SPRINGS H	*	N		N/A
12/20/95	COLR	COLUMBIA R	*	N		170
12/20/95	EAGL	EAGLE H	*	N		N/A
12/20/95	IRRI	IRRIGON H	*	N		N/A
12/20/95	CLWH	CLEARWATER H	*	N		N/A
6/17/96	CASS	CASSIMAR BAR H	*	N		N/A
12/20/95	HAGE	HAGERMAN H	*	N		N/A
12/20/95	MCCA	MCCALL H	*	N		N/A
12/20/95	MONT	MONTLAKE H	*	N		N/A
12/20/95	EBNK	EAST BANK H	*	N		N/A
12/20/95	MAVA	MAGIC VALLEY H	*	N		N/A
10/29/96	RICEIS	RICE ISLAND	034	Y	34	17080000
2/8/97	COWT	COWLITZ TROUT H	111.71	Y	182	17080005
2/8/97	COWS	COWLITZ SALMON H	111.80	Y	191	17080005
2/8/97	MAYD	MAYFIELD DAM	111.85	Y	196	17080005
3/1/94	WILLR	WILLAMETTE R	163	N	163	17090012
3/1/94	SUL	SULLIVAN D	163.043	Y	206	17090102
3/1/94	MCKER	MCKENZIE R	163.282	N	445	1709004
3/1/94	MCKE	MCKENZIE H	163.282.053	Y	498	1709004
3/1/94	LEAB	LEABURG H	163.282.056	Y	501	17090004
3/1/94	BO2	BONNEVILLE D PH2	234	Y	234	17080001
3/1/94	BO1	BONNEVILLE D PH1	234	Y	234	17080001
3/27/96	BONH	BONNEVILLE H	234.001	Y	235	17080001
3/1/94	TDA	THE DALLES D	308	Y	308	17070101
4/23/96	DESCHR	DESCHUTES R	328	N	328	170703
3/1/94	JDA	JOHN DAY D	347	Y	347	17070101
3/1/94	MCN	MCNARY D	470	Y	470	17070101
3/1/94	SNAKER	SNAKE R	522	N	522	17060110
3/1/94	IHR	ICE HARBOR D	522.016	Y	538	17060110
3/1/94	LMN	LOWER MONUMENTAL D	522.067	Y	589	17060110
3/1/94	LYFE	LYONS FERRY H	522.095	Y	617	17060107
12/11/95	TUCR	TUCANNON R	522.100	N	622	17060107
4/8/96	CURP	CURL LAKE REARING P	522.100.058	Y	701	17060107
4/8/96	TUCH	TUCANNON RIVER H	522.100.066	Y	691	17060107
3/1/94	LGS	LITTLE GOOSE D	522.113	Y	635	17060107
3/1/94	LGR	LOWER GRANITE D	522.173	Y	695	17060107
3/1/94	CLWR	CLEARWATER R	522.224	N	746	17060306
3/1/94	CLWTRP	CLEARWATER T	522.224.010	Y	756	17060306
12/11/95	SWSP	SWEETWATER SPRINGS H	522.224.012.006.010.004	Y	778	17060306
12/11/95	MISSC	MISSION C	522.224.018.016	N	780	17060306
12/11/95	POTR	POTLATCH R	522.224.024	N	770	17060306
3/1/94	COTNWC	COTTONWOOD C	522.224.031	N	777	17060306

b. Tag, Release or Collection Site by River Kilometer Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	BEDRKC	BEDROCK C	522.224.042	N	788	10760306
3/1/94	BIGCAC	BIG CANYON C	522.224.057	N	803	10760306
12/11/95	LITCAC	LITTLE CANYON C	522.224.057.005	N	808	17060306
3/1/94	DWOR	DWORSHAK H	522.224.065	Y	811	17060306
3/1/94	CLWRNF	CLEARWATER R, N FK	522.224.065	N	811	17060308
12/11/95	OROFC	OROFINO C	522.224.072	N	818	17060306
3/1/94	LOLOC	LOLO C	522.224.087	N	833	17060306
3/1/94	ELDORC	ELDORADO C	522.224.087.041	N	874	17060304
3/1/94	CLWRSF	CLEARWATER R, S FK	522.224.120	N	866	17060305
3/1/94	CLEARC	CLEAR C	522.224.120.004	N	870	17060305
3/1/94	KOOS	KOOSKIA H	522.224.120.004.001	Y	871	17060305
3/1/94	PETEKC	PETE KING C	522.224.120.037.003	N	906	17060303
3/1/94	GEDNEC	GEDNEY C	522.224.120.037.029	N	932	17060302
3/1/94	GEDCWF	GEDNEY C W FK	522.224.120.037.029.005	N	937	17060302
3/1/94	MEADOC	MEADOW C	522.224.120.037.031	N	934	17060302
3/1/94	FISHC	FISH C	522.224.120.037.039	N	942	17060303
3/1/94	FISTRP	FISH C T	522.224.120.037.039.002	Y	1044	17060303
3/1/94	BEARC	BEAR C	522.224.120.037.081	N	984	17060301
3/1/94	SQUAWC	SQUAW C	522.224.120.037.096	N	999	17060303
3/1/94	PAPOOC	PAPOOSE C	522.224.120.037.105	N	1008	17060303
3/1/94	CROOKC	CROOKED FORK C	522.224.120.037.113	N	1016	17060303
3/1/94	WHITSC	WHITE SAND C	522.224.120.037.113	N	1016	17060303
12/11/95	POWP	POWELL REARING P	522.224.120.037.113	Y	1016	17060302
3/1/94	CFCTRP	CROOKED FK C T	522.224.120.037.113.003	Y	1019	17060303
3/1/94	BRUSHC	BRUSHY FORK C	522.224.120.037.113.011	N	1027	17060303
3/1/94	COLTC	COLT C	522.224.120.037.113.020	N	1036	17060303
3/1/94	BIGFLC	BIG FLAT C	522.224.120.037.113.026	N	1042	17060204
3/1/94	RUNNIC	RUNNING C	522.224.120.037.253	N	1156	17060301
3/1/94	EAGLEC	EAGLE C	522.224.120.037.253.003	N	1159	17060301
3/1/94	WHITCC	WHITE CAP C	522.224.120.037.264	N	1167	17060303
3/1/94	JOHNC	JOHNS C	522.224.120.056	N	922	17060305
7/31/96	TENMIC	TENMILE C	522.224.120.076	N	942	17060305
3/1/94	NEWSOC	NEWSOME C	522.224.120.084	N	950	17060305
3/1/94	CROOKR	CROOKED R	522.224.120.094	N	960	17060305
3/1/94	CROTRP	CROOKED RIVER T	522.224.120.094.001	Y	961	17060305
3/1/94	RELIEC	RELIEF C	522.224.120.094.013	N	973	17060305
12/11/95	CROOKP	CROOKED RIVER P	522.224.120.094.015	Y	975	17060305
3/1/94	FIVEMC	FIVE MILE C	522.224.120.094.018	N	978	17060305
3/1/94	AMERR	AMERICAN R	522.224.120.101	N	967	17060305
3/1/94	REDR	RED R	522.224.120.101	N	967	17060305
4/3/96	REDTRP	RED R T	522.224.120.101.006	Y	973	17060305
3/1/94	REDP	RED R REARING P	522.224.120.101.027	N	994	17060305
3/1/94	REDRSF	RED R, S FK	522.224.120.101.028	N	995	17060305
3/1/94	SNKTRP	SNAKE T	522.225	Y	747	17060103
12/11/95	JACKSC	JACKS C	522.225.047	N	793	17060306

b. Tag, Release or Collection Site by River Kilometer Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	GRANDR	GRANDE RONDE R	522.271	N	793	17060106
3/1/94	WENR	WENAHA R	522.271.073	N	866	17060106
3/1/94	WENRNF	WENAHA R, N FK	522.271.073.035	N	901	17060106
3/1/94	WENRSF	WENAHA R, S FK	522.271.073.035	N	901	17060106
3/1/94	WALLOR	WALLOWA R	522.271.131	N	924	17060106
3/1/94	MINAMR	MINAM R	522.271.131.016	N	940	17060106
3/1/94	BCANF	BIG CANYON FACILITY	522.271.131.018.001	Y	943	17060105
3/1/94	LOSTIR	LOSTINE R	522.271.131.042	N	966	17060105
3/1/94	WALH	WALLOWA H	522.271.131.063.001	Y	988	17060105
3/1/94	LOOKGC	LOOKING GLASS C	522.271.137	N	930	17060106
3/1/94	LOOH	LOOKINGGLASS H	522.271.137.003	Y	933	17060106
3/1/94	CATHEC	CATHERINE C	522.271.232	N	1025	17060104
3/1/94	CATCSF	CATHERINE CREEK, S FK	522.271.232.052	N	1077	17060104
3/1/94	CATCNF	CATHERINE CREEK, N FK	522.271.232.052	N	1077	17060104
3/1/94	CATCMF	CATHERINE CREEK, M FK	522.271.232.052.005	N	1082	17060104
3/1/94	LSALR	LITTLE SALMON R	522.303	N	825	170602
3/1/94	SALR	SALMON R	522.303	N	825	17060209
3/1/94	SALTRP	SALMON T	522.303.103	Y	910	17060209
3/1/94	SLATEC	SLATE C	522.303.106	N	931	17060209
3/1/94	RAPIDR	RAPID R	522.303.140.007	N	972	17060210
3/1/94	RAPH	RAPID R H	522.303.140.007.006	Y	978	17060210
3/1/94	RPDTRP	RAPID R T	522.303.140.007.007	Y	979	17060210
3/1/94	HAZARC	HAZARD C	522.303.140.031	N	996	17060209
7/31/96	WINDR	WIND R	522.303.177	N	1002	17060207
7/31/96	SHEEPC	SHEEP C	522.303.188	N	1013	17060207
7/31/96	CROOC	CROOKED C	522.303.200	N	1025	17060207
3/1/94	SALRSF	SALMON R S FK	522.303.215	N	1040	17060208
3/1/94	SECESR	SECESH R	522.303.215.059	N	1099	17060208
3/1/94	LAKEC	LAKE C	522.303.215.059.045	N	1144	17060208
3/1/94	JOHNSC	JOHNSON C	522.303.215.060.024	N	1124	17060208
3/1/94	BURNLC	BURNT LOG C	522.303.215.060.024.024	N	1148	17060208
3/1/94	SFSTRP	SALMON R S FK T	522.303.215.111	Y	1151	17060202
3/1/94	SALSFW	SALMON R S FK W	522.303.215.111	Y	1151	17060202
3/1/94	KNOXB	KNOX BRIDGE	522.303.215.112	Y	1152	17060208
7/31/96	BARGAC	BARGAMIN C	522.303.255	N	1080	17060207
3/1/94	CHAMBC	CHAMBERLAIN C	522.303.282	N	1107	17060207
3/1/94	CHAMWF	CHAMBERLAIN C WF	522.303.282.024	N	1131	17060207
3/1/94	FLOSSC	FLOSSIE C	522.303.282.027	N	1134	17060207
3/1/94	MOOSEC	MOOSE C	522.303.282.031	N	1138	17060207
3/1/94	SALRMF	SALMON R M FK	522.303.319	N	1144	17060206
3/1/94	BIGC	BIG C	522.303.319.029	N	1173	17060206
3/1/94	RUSHC	RUSH C	522.303.319.029.011	N	1184	17060206
3/1/94	CAMASC	CAMAS C	522.303.319.057	N	1011	17060206
3/1/94	LOONC	LOON C	522.303.319.073	N	1217	17060205
3/1/94	SULFUC	SULFER C	522.303.319.150	N	1294	17060205

b. Tag, Release or Collection Site by River Kilometer Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	BOUNDC	BOUNDARY C	522.303.319.154	N	1298	17060205
3/1/94	DAGGEC	DAGGER C	522.303.319.155	N	1299	17060205
3/1/94	FALLC	FALL C	522.303.319.163	N	1307	17060205
3/1/94	MARSHC	MARSH C	522.303.319.170	N	1314	17060205
3/1/94	BEARVC	BEAR VALLEY C	522.303.319.170	N	1314	17060205
3/1/94	CAPEHC	CAPEHORN C	522.303.319.170.010	N	1324	17060205
3/1/94	MARTRP	MARSH C T	522.303.319.170.011	Y	1325	17060205
3/1/94	ELKC	ELK C	522.303.319.170.014	N	1328	17060205
3/1/94	KNAPPC	KNAPP C	522.303.319.170.015	N	1329	17060205
3/1/94	SALRNF	SALMON R N FK	522.303.381	N	1206	17060204
3/1/94	LEMHIR	LEMHI R	522.303.416	N	1241	17060204
3/1/94	LEMHIW	LEMHI W	522.303.416.049	Y	1290	17060204
3/1/94	PAHSIR	PAHSIMEROI R	522.303.489	N	1314	17060202
3/1/94	PAHTRP	PAHSIMEROI R T	522.303.489.002	Y	1316	17060202
12/20/95	PAHSIW	PAHSIMEROI W	522.303.489.002	Y	1316	17060202
3/1/94	PAHP	PAHSIMEROI P	522.303.489.011	N	1325	17060202
3/1/94	SALREF	SALMON R E FK	522.303.552	N	1377	17060202
3/1/94	HERDC	HERD C	522.303.552.014	N	1391	17060202
3/1/94	SALEFT	SALMON R E FK T	522.303.552.029	Y	1406	17060201
3/1/94	SALEFW	SALMON R E FK W	522.303.552.030	Y	1407	17060202
3/1/94	YANKWF	YANKEE FK, W FK	522.303.591.011	N	1427	17060201
3/1/94	VALEYC	VALLEY C	522.303.609	N	1434	17060201
3/1/94	STANLE	STANLEY (GAGE2945)	522.303.609	Y	1434	17060201
3/1/94	STANLC	STANLY L C	522.303.609.009	N	1443	17060201
3/1/94	REDFLC	REDFISH L C	522.303.615	N	1440	17060201
3/1/94	RLCTRP	REDFISH L C T	522.303.615.003	Y	1443	17060201
3/1/94	REDFL	REDFISH L	522.303.615.005	N	1445	17060201
3/1/94	SAWTRP	SAWTOOTH T	522.303.617	Y	1442	17060201
3/1/94	SAWT	SAWTOOTH H	522.303.617	Y	1442	17060201
3/1/94	GOLDC	GOLD C	522.303.621	N	1446	17060201
3/1/94	WILLIC	WILLIAMS C	522.303.622	N	1447	17060201
3/1/94	HUCKLC	HUCKELBERRY C	522.303.624	N	1449	17060201
3/1/94	DECKEC	DECKER C	522.303.624.001	N	1450	17060201
3/1/94	FISHEC	FISHER C	522.303.628	N	1453	17060201
3/1/94	4JULYC	FOURTH OF JULY C	522.303.630	N	1455	17060201
3/1/94	CHAMPC	CHAMPION C	522.303.631	N	1456	17060201
3/1/94	MAYSC	MAYS C	522.303.631	N	1456	17060201
3/1/94	HELLRC	HELL ROARING C	522.303.631	N	1456	17060201
3/1/94	ALTULC	ALTURAS L C	522.303.633	N	1458	17060201
3/1/94	YELLLC	YELLOWBELLY L C	522.303.633.001	N	1459	17060201
3/1/94	PETTLC	PETTIT L C	522.303.633.002	N	1460	17060201
8/1/95	PETTL	PETTIT LAKE	522.303.633.002.002	Y	1462	17060201
3/1/94	VATC	VAT C	522.303.633.003	N	1461	17060201
3/1/94	BEAVEC	BEAVER C	522.303.642	N	1467	17060201
3/1/94	POLEC	POLE C	522.303.642	N	1467	17060201

b. Tag, Release or Collection Site by River Kilometer Code (Continued)

Rev Date	Codes	Tag, Release or Collection Site	River Kilometer	I	Total Rkm	GIS Hydrounit
3/1/94	SMILEC	SMILEY C	522.303.644	N	1469	17060201
3/1/94	HWY93B	US HWY 93 BRIDGE	522.303.647	Y	1472	17060201
3/1/94	FRENCC	FRENCHMAN C	522.303.647	N	1472	17060201
3/1/94	IMNAHR	IMNAHA R	522.308	N	830	17060102
3/1/94	IMNTRP	IMNAHA T	522.308.007	Y	837	17060102
3/1/94	BSHEEC	BIG SHEEP C	522.308.032	N	862	17060102
3/1/94	LSHEEF	LITTLE SHEEP FACILITY	522.308.032.005.008	Y	875	17060102
3/1/94	IMNAHW	IMNAHA R W	522.308.074	Y	904	17060102
3/1/94	HCD	HELLS CANYON D	522.397	Y	919	17050201
3/1/94	YAKIMR	YAKIMA R	539	N	539	17030003
3/1/94	VGISNB	VAN GIESSEN BRIDGE	539	Y	539	17030003
12/20/95	PROTRP	PROSSER T	539.076	Y	617	17030003
3/1/94	PROSRD	PROSSER D	539.076	Y	615	17030003
3/1/94	CHANDL	CHANDLER CANAL	539.076	N	615	17030003
3/1/94	SSIDEC	SUNNYSIDE CANAL	539.167	N	706	17030003
3/1/94	SSD	SUNNYSIDE D	539.167	Y	706	17030003
3/1/94	SSIDES	SUNNYSIDE SCREEN	539.167.001	Y	707	17030003
3/1/94	WAPATC	WAPATO CANAL	539.171	N	710	17030003
3/1/94	WAPATD	WAPATO D	539.172	Y	711	17030003
3/1/94	WAPATS	WAPATO SCREEN	539.172.001	Y	712	17030003
3/1/94	NATCHR	NATCHES R	539.187	N	726	17030002
3/1/94	WOPTXD	WOPATOX D	539.187.028	Y	754	17030002
3/1/94	ROSAD	ROSA D	539.206	Y	745	17030001
3/1/94	CLELMR	CLE ELUM R	539.299	N	838	17030001
3/1/94	WPOOSH	WISH POOSH C	539.299.004	N	852	17030001
3/1/94	CLELMD	CLE ELUM D	539.299.013	Y	851	17030001
6/16/95	RINH	RINGOLD H	567	Y	567	17020016
12/11/95	PRDH	PRIEST RAPIDS H	639	Y	639	17020016
3/1/94	PRD	PRIEST RAPIDS D	639	Y	639	17020016
3/1/94	RIS	ROCK ISLAND D	730	Y	730	17020010
3/1/94	WENATR	WENATCHEE R	754	N	754	17020011
3/1/94	DRYP	DRYDEN ACCLIMATION P	754.026	Y	780	17020011
3/1/94	ICICLC	ICICLE C	754.041	N	795	17020011
3/1/94	LEAV	LEAVENWORTH H	754.041.005	Y	800	17020011
12/11/95	CHIP	CHIWAWA REARING P	754.077.002	Y	834	17020011
3/1/94	RRE	ROCKY REACH D	763	Y	763	17020010
3/1/94	TURO	TURTLE ROCK P	765	Y	765	17020010
3/1/94	ENTH	ENTIAT H	778.017	Y	795	17020010
12/11/95	WELH	WELLS H	830	Y	830	17020005
12/11/95	CARP	CARLTON ACCLIMATION P	843.058	Y	902	17020008
3/1/94	WINT	WINTHROP H	843.081	Y	924	17020005
7/1/96	METH	METHOW H	843.085	Y	928	1702000
6/17/96	OSOL	OSOYOOS L	858.130	Y	988	17020006
3/1/94	SIMP	SIMILKAMEEN P/H	941.121.008	Y	1070	17020007
3/1/94	BBC	BIG BEEF C		Y		17110018

c. Intra-Site Release Locations by Site

Rev Date	Codes	Intra Site Release Location	River Kilometer	Parent Site	Total Rkm	GIS Hydrounit
3/1/95	LGRBPS	RELEASE INTO PIT-TAG DIVERSION SYSTEM BETWEEN THE DIVERSION GATE AND THE FURTHEST DOWNSTREAM PIT DETECTOR	522.173	LGR	695	17060107
3/1/95	LGRBYP	RELEASE INTO THE FACILITY BYPASS FLUME/PIPE	522.173	LGR	695	17060107
3/1/95	LGRCOL	RELEASE INTO THE COLLECTION CHANNEL UPSTREAM OF THE DEWATERING FACILITY	522.173	LGR	695	17060107
3/1/95	LGRDTG	RELEASE INTO THE COLLECTION FLUME/PIPE BETWEEN THE DEWATERING FACILITY AND THE FACILITYSCOLLECTION/BYPASSGATE'	522.173	LGR	695	17060107
3/1/95	LGRDWT	RELEASE INTO THE DEWATERING FACILITY	522.173	LGR	695	17060107
3/1/95	LGRFBY	RELEASE INTO FOREBAY WITHIN 0.5 KM UPSTREAM OF DAM	522.173	LGR	695	17060107
3/1/95	LGRGAT	RELEASE INTO FLUME BETWEEN SEPARATOR EXIT AND THE PRIMARY PIT-TAG DIVERSION GATE	522.173	LGR	695	17060107
3/1/95	LGRGWL	RELEASE INTO THE GATEWELL	522.173	LGR	695	17060107
3/1/95	LGRICE	RELEASE INTO THE ICE/TRASH SLUICEWAY	522.173	LGR	695	17060107
3/1/95	LGROFL	RELEASE INTO PIT-TAG DIVERSION SYSTEM DOWNSTREAM OF THE LAST PIT DETECTOR	522.173	LGR	695	17060107
3/1/95	LGRORI	RELEASE INTO THE ORIFICE	522.173	LGR	695	17060107
3/1/95	LGRRBR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT BARGE TRANSPORTATION FROM THE FACILITY	522.173	LGR	695	17060107
3/1/95	LGRRRR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT RETURN TO THE RIVER AT THE FACILITY	522.173	LGR	695	17060107
3/1/95	LGRRTR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRUCK TRANSPORTATION FROM THE FACILITY	522.173	LGR	695	17060107
3/1/95	LGRRXR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRANSPORTATION FROM THE FACILITY	522.173	LGR	695	17060107
3/1/95	LGRSEP	RELEASE INTO FLUME DOWNSTREAM OF COLLECTION/BYPASS GATE OR INTO THE SEPARATOR	522.173	LGR	695	17060107

c. Intra-Site Release Locations by Site (Continued)

Rev Date	Codes	Intra Site Release Location	River Kilometer	Parent Site	Total Rkm	GIS Hydrounit
3/1/95	LGRSPL	RELEASE INTO SPILL BAY	522.173	LGR	695	17060107
3/1/95	LGRSTS	RELEASE ONTO THE SUBMERGED TRAVELING SCREEN	522.173	LGR	695	17060107
3/1/95	LGRTAL	RELEASE INTO THE TAILRACE WITHIN 0.5 KM DOWNSTREAM OF DAM	522.173	LGR	695	17060107
3/1/95	LGRTRB	RELEASE INTO TURBINE	522.173	LGR	695	17060107
3/1/95	LGSBPS	RELEASE INTO PIT-TAG DIVERSION SYSTEM BETWEEN THE DIVERSION GATE AND THE FURTHEST DOWNSTREAM PIT DETECTOR	522.113	LGS	635	17060107
3/1/95	LGSBYP	RELEASE INTO THE FACILITY BYPASS FLUME/PIPE	522.113	LGS	635	17060107
3/1/95	LGSCOL	RELEASE INTO THE COLLECTION CHANNEL UPSTREAM OF THE DEWATERING FACILITY	522.113	LGS	635	17060107
3/1/95	LGSDTG	RELEASE INTO THE COLLECTION FLUME/PIPE BETWEEN THE DEWATERING FACILITY AND THE FACILITYSCOLLECTION/BYPASSGATE'	522.113	LGS	635	17060107
3/1/95	LGSDWT	RELEASE INTO THE DEWATERING FACILITY	522.113	LGS	635	17060107
3/1/95	LGSFBY	RELEASE INTO FOREBAY WITHIN 0.5 KM UPSTREAM OF DAM	522.113	LGS	635	17060107
3/1/95	LGSGAT	RELEASE INTO FLUME BETWEEN SEPARATOR EXIT AND THE PRIMARY PIT-TAG DIVERSION GATE	522.113	LGS	635	17060107
3/1/95	LGSGWL	RELEASE INTO THE GATEWELL	522.113	LGS	635	17060107
3/1/95	LGSICE	RELEASE INTO THE ICE/TRASH SLUICEWAY	522.113	LGS	635	17060107
3/1/95	LGSOFL	RELEASE INTO PIT-TAG DIVERSION SYSTEM DOWNSTREAM OF THE LAST PIT DETECTOR	522.113	LGS	635	17060107
3/1/95	LGSORI	RELEASE INTO THE ORIFICE	522.113	LGS	635	17060107
3/1/95	LGSRBR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT BARGE TRANSPORTATION FROM THE FACILITY	522.113	LGS	635	17060107
3/1/95	LGSRRR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT RETURN TO THE RIVER AT THE FACILITY	522.113	LGS	635	17060107
3/1/95	LGSRTR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRUCK TRANSPORTATION FROM THE FACILITY	522.113	LGS	635	17060107
3/1/95	LGSRXR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRANSPORTATION FROM THE FACILITY	522.113	LGS	635	17060107

c. Intra-Site Release Locations by Site (Continued)

Rev Date	Codes	Intra Site Release Location	River Kilometer	Parent Site	Total Rkm	GIS Hydrounit
3/1/95	LGSSEP	RELEASE INTO FLUME DOWNSTREAM OF COLLECTION/BYPASS GATE OR INTO THE SEPARATOR	522.113	LGS	635	17060107
3/1/95	LGSSPL	RELEASE INTO SPILL BAY	522.113	LGS	635	17060107
3/1/95	LGSSTS	RELEASE ONTO THE SUBMERGED TRAVELING SCREEN	522.113	LGS	635	17060107
3/1/95	LGSTAL	RELEASE INTO THE TAILRACE WITHIN 0.5 KM DOWNSTREAM OF DAM	522.113	LGS	635	17060107
3/1/95	LGSTRB	RELEASE INTO TURBINE	522.113	LGS	635	17060107
3/1/95	LMNBPS	RELEASE INTO PIT-TAG DIVERSION SYSTEM BETWEEN THE DIVERSION GATE AND THE FURTHEST DOWNSTREAM PIT DETECTOR	522.067	LMN	589	17060110
3/1/95	LMNBYP	RELEASE INTO THE FACILITY BYPASS FLUME/PIPE	522.067	LMN	589	17060110
3/1/95	LMNCOL	RELEASE INTO THE COLLECTION CHANNEL UPSTREAM OF THE DEWATERING FACILITY	522.067	LMN	589	17060110
3/1/95	LMNDTG	RELEASE INTO THE COLLECTION FLUME/PIPE BETWEEN THE DEWATERING FACILITY AND THE FACILITYSCOLLECTION/BYPASSGATE'	522.067	LMN	589	17060110
3/1/95	LMNDWT	RELEASE INTO THE DEWATERING FACILITY	522.067	LMN	589	17060110
3/1/95	LMNFBY	RELEASE INTO FOREBAY WITHIN 0.5 KM UPSTREAM OF DAM	522.067	LMN	589	17060110
3/1/95	LMNGAT	RELEASE INTO FLUME BETWEEN SEPARATOR EXIT AND THE PRIMARY PIT-TAG DIVERSION GATE	522.067	LMN	589	17060110
3/1/95	LMNGWL	RELEASE INTO THE GATEWELL	522.067	LMN	589	17060110
3/1/95	LMNICE	RELEASE INTO THE ICE/TRASH SLUICEWAY	522.067	LMN	589	17060110
3/1/95	LMNOFL	RELEASE INTO PIT-TAG DIVERSION SYSTEM DOWNSTREAM OF THE LAST PIT DETECTOR	522.067	LMN	589	17060110
3/1/95	LMNORI	RELEASE INTO THE ORIFICE	522.067	LMN	589	17060110
3/1/95	LMNRBR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT BARGE TRANSPORTATION FROM THE FACILITY	522.067	LMN	589	17060110
3/1/95	LMNRRR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT RETURN TO THE RIVER AT THE FACILITY	522.067	LMN	589	17060110
3/1/95	LMNRTR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRUCK TRANSPORTATION FROM THE FACILITY	522.067	LMN	589	17060110

c. Intra-Site Release Locations by Site (Continued)

Rev Date	Codes	Intra Site Release Location	River Kilometer	Parent Site	Total Rkm	GIS Hydrounit
3/1/95	LMNRXR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRANSPORTATION FROM THE FACILITY	522.067	LMN	589	17060110
3/1/95	LMNSEP	RELEASE INTO FLUME DOWNSTREAM OF COLLECTION/BYPASS GATE OR INTO THE SEPARATOR	522.067	LMN	589	17060110
3/1/95	LMNSPL	RELEASE INTO SPILL BAY	522.067	LMN	589	17060110
3/1/95	LMNSTS	RELEASE ONTO THE SUBMERGED TRAVELING SCREEN	522.067	LMN	589	17060110
3/1/95	LMNTAL	RELEASE INTO THE TAILRACE WITHIN 0.5 KM DOWNSTREAM OF DAM	522.067	LMN	589	17060110
3/1/95	LMNTRB	RELEASE INTO TURBINE	522.067	LMN	589	17060110
3/1/95	MCNBPS	RELEASE INTO PIT-TAG DIVERSION SYSTEM BETWEEN THE DIVERSION GATE AND THE FURTHEST DOWNSTREAM PIT DETECTOR	470	MCN	470	17070101
3/1/95	MCNBYP	RELEASE INTO THE FACILITY BYPASS FLUME/PIPE	470	MCN	470	17070101
3/1/95	MCNCOL	RELEASE INTO THE COLLECTION CHANNEL UPSTREAM OF THE DEWATERING FACILITY	470	MCN	470	17070101
3/1/95	MCNDTG	RELEASE INTO THE COLLECTION FLUME/PIPE BETWEEN THE DEWATERING FACILITY AND THE FACILITYSCOLLECTION/BYPASSGATE'	470	MCN	470	17070101
3/1/95	MCNDWT	RELEASE INTO THE DEWATERING FACILITY	470	MCN	470	17070101
3/1/95	MCNFBY	RELEASE INTO FOREBAY WITHIN 0.5 KM UPSTREAM OF DAM	470	MCN	470	17070101
3/1/95	MCNGAT	RELEASE INTO FLUME BETWEEN SEPARATOR EXIT AND THE PRIMARY PIT-TAG DIVERSION GATE	470	MCN	470	17070101
3/1/95	MCNGWL	RELEASE INTO THE GATEWELL	470	MCN	470	17070101
3/1/95	MCNICE	RELEASE INTO THE ICE/TRASH SLUICEWAY	470	MCN	470	17070101
3/1/95	MCNOFL	RELEASE INTO PIT-TAG DIVERSION SYSTEM DOWNSTREAM OF THE LAST PIT DETECTOR	470	MCN	470	17070101
3/1/95	MCNORI	RELEASE INTO THE ORIFICE	470	MCN	470	17070101
3/1/95	MCNRBR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT BARGE TRANSPORTATION FROM THE FACILITY	470	MCN	470	17070101
3/1/95	MCNRRR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT RETURN TO THE RIVER AT THE FACILITY	470	MCN	470	17070101

c. Intra-Site Release Locations by Site (Continued)

Rev Date	Codes	Intra Site Release Location	River Kilometer	Parent Site	Total Rkm	GIS Hydrounit
3/1/95	MCNRTR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRUCK TRANSPORTATION FROM THE FACILITY	470	MCN	470	17070101
3/1/95	MCNRXR	RELEASE BELOW THE PIT-TAG DIVERSION SYSTEM GATE, WITH SUBSEQUENT TRANSPORTATION FROM THE FACILITY	470	MCN	470	17070101
3/1/95	MCNSEP	RELEASE INTO FLUME DOWNSTREAM OF COLLECTION/BYPASS GATE OR INTO THE SEPARATOR	470	MCN	470	17070101
3/1/95	MCNSPL	RELEASE INTO SPILL BAY	470	MCN	470	17070101
3/1/95	MCNSTS	RELEASE ONTO THE SUBMERGED TRAVELING SCREEN	470	MCN	470	17070101
3/1/95	MCNTAL	RELEASE INTO THE TAILRACE WITHIN 0.5 KM DOWNSTREAM OF DAM	470	MCN	470	17070101
3/1/95	MCNTRB	RELEASE INTO TURBINE	470	MCN	470	17070101

L. PIT-Tag Steering Committee Members, 1997

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M. PIT-Tag System Codes

PIT-Tag System Codes are assigned by the agency maintaining the monitoring equipment. During 1997, the majority of the monitoring equipment will be maintained by PTOC. Therefore, any questions, changes, or corrections should be addressed to that agency.

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                PACIFIC STATES MARINE FISHERIES COMMISSION
                            PIT Tag Database

                        SITE CONFIGURATION HISTORY

                              As of 19-Mar-98


B2J - BONNEVILLE 2ND POWERHOUSE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 110 ->  8-Feb-97 To Present
     Comment: NMFS Installation to support The Dalles Survival Study.
              Replaces single coil subsample monitor.

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
        (Coil,Controller): (02,00) (04,00) (06,00) (08,00)

     Seq Nbr 100 ->  1-Apr-96 To  8-Feb-97
     Comment: NEW CONFIGURATION

     Monitors in Sort_Str sequence:

        Nbr  1 -> SUBSAMPLE
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
        (Coil,Controller): (D0,FF)


BVJ - BONNEVILLE DAM DMS1 SUBSAMPLE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? B, Poll? Y

  Configuration History:

     Seq Nbr 110 ->  1-Jan-94 To Present
     Comment: Single coil subsample monitor used to interrogate gate well
              dipped sub-sample in PH 1 DSM channel.

     Monitors in Sort_Str sequence:

        Nbr  1 -> SAMPLE ROOM
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (C0,C0)
```

```
      Seq Nbr 100 ->  1-May-92 To  1-Jan-94
      Comment: First configuration cloned from current config; dates
               correct, but equipment must be confirmed.

      Monitors in Sort_Str sequence:

         Nbr  1 -> SAMPLE ROOM
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
         (Coil,Controller): (C0,C0)


BVX - BONNEVILLE FLAT PLATE EXP
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

      Seq Nbr 100 ->  6-May-96 To Present
      Comment: NMFS pass-by (flat plate) interrogation experiment.

      Monitors in Sort_Str sequence:

         Nbr  1 -> FLAT PLATE
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
         (Coil,Controller): (01,00) (02,00)


CHN - CHALLIS DIVERSION NORTH
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

      Seq Nbr 110 -> 15-Sep-91 To Present
      Comment: Swapped CHN and CHS coils and controllers

      Monitors in Sort_Str sequence:

         Nbr  1 -> NORTH
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
         (Coil,Controller): (F1,FE)

      Seq Nbr 100 ->  1-Sep-91 To 15-Sep-91
      Comment: Initial configuration

      Monitors in Sort_Str sequence:

         Nbr  1 -> NORTH
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
         (Coil,Controller): (F5,FF)


CHS - CHALLIS DIVERSION SOUTH
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:
```

```
      Seq Nbr 110 -> 15-Sep-91 To Present
      Comment: Swapped CHN and CHS coils and controllers

      Monitors in Sort_Str sequence:
         Nbr  1 -> SOUTH
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A1
         (Coil,Controller): (F5,FF)

      Seq Nbr 100 ->  1-Sep-91 To 15-Sep-91
      Comment: Initial configuration

      Monitors in Sort_Str sequence:

         Nbr  1 -> SOUTH
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A1
         (Coil,Controller): (F1,FE)


CLJ - CLEARWATER RIVER TRAP JUVENILE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

      Seq Nbr 110 ->  1-Jan-94 To Present
      Comment: Operated by IDFG.

      Monitors in Sort_Str sequence:

         Nbr  1 -> MAIN
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
         (Coil,Controller): (D0,F0) (D2,F0)

      Seq Nbr 100 -> 30-Mar-89 To  1-Jan-94
      Comment: Initial configuration cloned from 1994 config; dates are
               correct but equip must be verified.

      Monitors in Sort_Str sequence:

         Nbr  1 -> MAIN
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
         (Coil,Controller): (D0,F0) (D2,F0)


GOJ - LITTLE GOOSE DAM JUVENILE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? Y, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

      Seq Nbr 110 ->  1-Apr-90 To Present
      Comment: Combined separator monitors into separator gate

      Monitors in Sort_Str sequence:

         Nbr  1 -> A-SEPARATOR GATE
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
         (Coil,Controller): (40,21) (42,21) (44,20) (46,20)
```

```
         Nbr  2 -> A-RACEWAY/EXIT
         Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A2
         (Coil,Controller): (90,25) (92,25) (94,24) (96,24)

         Nbr  3 -> A-DIVERSION
         Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
         (Coil,Controller): (A0,25) (A2,24) (A4,24)

         Nbr  4 -> B-SEPARATOR GATE
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: B1
         (Coil,Controller): (48,22) (4A,22) (4C,23) (4E,23)

         Nbr  5 -> B-RACEWAY/EXIT
         Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B2
         (Coil,Controller): (98,21) (9A,21) (9C,26) (9E,26)

         Nbr  6 -> B-DIVERSION
         Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
         (Coil,Controller): (A6,25) (A8,26) (AA,26)

         Nbr  7 -> SAMPLE ROOM
         Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
         (Coil,Controller): (50,22) (52,22)

         Nbr  8 -> DIVERSION EXIT
         Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C2
         (Coil,Controller): (54,25) (56,25) (58,26) (5A,26)

      Seq Nbr 100 ->  1-Jan-86 To  1-Apr-90
      Comment: First Little Goose Config in Old Goose Bypass Facility

      Monitors in Sort_Str sequence:

         Nbr  1 -> A-MAIN
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A1
         (Coil,Controller): (40,20) (42,20) (44,21) (46,21)

         Nbr  2 -> B-MAIN
         Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: B1
         (Coil,Controller): (90,25) (92,25) (94,24) (96,24)

         Nbr  3 -> SAMPLE ROOM
         Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
         (Coil,Controller): (A0,21) (A2,24) (A4,24)


GRA - LOWER GRANITE DAM ADULT
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 110 ->  1-Feb-95 To Present
     Comment: Added fifth coil to east and west monitors

     Monitors in Sort_Str sequence:

        Nbr  1 -> EAST
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (00,00) (02,00) (04,00) (06,00) (08,00)
```

```
          Nbr  2 -> WEST
          Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: B
          (Coil,Controller): (10,01) (12,01) (14,01) (16,01) (18,01)

       Seq Nbr 100 ->  1-Jan-87 To  1-Feb-95
       Comment: First installation of two four-coil monitors at adult ladder

       Monitors in Sort_Str sequence:

          Nbr  1 -> EAST
          Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
          (Coil,Controller): (00,00) (02,00) (08,00) (0A,00)

          Nbr  2 -> WEST
          Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: B
          (Coil,Controller): (04,01) (06,01) (0C,01) (0E,01)


GRJ - LOWER GRANITE DAM JUVENILE
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? Y, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 110 ->  1-Jan-94 To Present
     Comment: Configured for Separation by Code at the separator to
              support State hatchery transport study (1997)

     Monitors in Sort_Str sequence:

        Nbr  1 -> A-SEPARATOR GATE
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
        (Coil,Controller): (28,13) (2A,13)

        Nbr  2 -> B-SEPARATOR GATE
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: B1
        (Coil,Controller): (2C,14) (2E,14)

        Nbr  4 -> RACEWAY EAST/EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
        (Coil,Controller): (10,11) (12,11) (14,12) (16,12)

        Nbr  3 -> RACEWAY WEST/EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C2
        (Coil,Controller): (18,10) (1A,10) (1C,11) (1E,11)

        Nbr  5 -> DIVERSION 1
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D1
        (Coil,Controller): (36,11) (38,11) (3A,10)

        Nbr  6 -> DIVERSION 2
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D2
        (Coil,Controller): (30,12) (32,12) (34,10)

        Nbr  7 -> SUBSAMPLE
        Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: E1
        (Coil,Controller): (20,12) (22,12) (24,10) (26,10)

     Seq Nbr 100 -> 25-Mar-88 To  1-Jan-94
     Comment: Initial configuration cloned from 1994 config; dates are
```

```
                correct but equipment must be verified.

        Monitors in Sort_Str sequence:

           Nbr  1 -> A-SEPARATOR GATE
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
           (Coil,Controller): (28,13) (2A,13)

           Nbr  2 -> B-SEPARATOR GATE
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: B1
           (Coil,Controller): (2C,14) (2E,14)

           Nbr  4 -> RACEWAY EAST
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
           (Coil,Controller): (10,11) (12,11) (14,12) (16,12)

           Nbr  3 -> RACEWAY WEST/EXIT
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C2
           (Coil,Controller): (18,10) (1A,10) (1C,11) (1E,11)

           Nbr  5 -> DIVERSION 1
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D1
           (Coil,Controller): (36,11) (38,11) (3A,12)

           Nbr  6 -> DIVERSION 2
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D2
           (Coil,Controller): (30,10) (32,10) (34,12)

           Nbr  7 -> SUBSAMPLE
           Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: E1
           (Coil,Controller): (20,12) (22,12) (24,10) (26,10)


GRX - LOWER GRANITE EXPERIMENTAL
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 100 -> 27-Feb-96 To Present
     Comment: Separation by code experimental sub-site.

     Monitors in Sort_Str sequence:

        Nbr  1 -> DIVERSION RIVER GATE
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
        (Coil,Controller): (70,70) (72,70) (74,90) (76,90)

        Nbr  2 -> DIVERSION RIVER EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: 2
        (Coil,Controller): (80,80) (82,80) (84,80) (86,80)

        Nbr  3 -> DIVERSION HOLD TANK GATE
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: 3
        (Coil,Controller): (90,70) (92,70) (94,90) (96,90)


IMJ - IMNAHA RIVER TRAP JUVENILE
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
```

```
          Main? N, Active? Y, Parallel_A_B? A, Poll? N

     Configuration History:

        Seq Nbr 110 ->  1-Jan-95 To Present
        Comment: Coil ID changed from AA to B8; controller ID unchanged

        Monitors in Sort_Str sequence:

           Nbr  1 -> MAIN
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
           (Coil,Controller): (B8,F4)

        Seq Nbr 100 -> 12-Apr-94 To  1-Jan-95
        Comment: Dates and coil/controller data are accurate; monitor name
                 must be verified.

        Monitors in Sort_Str sequence:

           Nbr  1 -> MAIN
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
           (Coil,Controller): (AA,F4)


JDJ - JOHN DAY DAM JUVENILE
---------------------------------------------------------------------------

     Current Configuration -> Seq Nbr: 130
         Main? N, Active? Y, Parallel_A_B? A, Poll? N

     Configuration History:

        Seq Nbr 130 ->  2-Mar-98 To Present
        Comment: New Sampling and Detection Configuration

        Monitors in Sort_Str sequence:

           Nbr  1 -> SBC SEPARATOR
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
           (Coil,Controller): (00,00) (02,00) (04,00) (06,00)

           Nbr  2 -> SUBSAMPLE
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B1
           (Coil,Controller): (70,00) (72,00) (74,00) (76,00)

           Nbr  3 -> RIVER EXIT ISO
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B2
           (Coil,Controller): (20,00) (21,00) (22,00) (23,00)

           Nbr  4 -> SBC HOLD TANK
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
           (Coil,Controller): (10,00) (12,00) (14,00) (16,00)

           Nbr  5 -> SAMPLE ROOM RIVER EXIT 1 ISO
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
           (Coil,Controller): (90,00) (91,00)

           Nbr  6 -> SAMPLE ROOM RIVER EXIT 2
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C2
           (Coil,Controller): (94,00) (96,00)

           Nbr  7 -> SBC HOLD TANK 2
           Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: D1
```

```
            (Coil,Controller): (18,00) (1A,00)

            Nbr  8 -> SBC HOLD TANK 1
            Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: D2
            (Coil,Controller): (1C,00) (1E,00)

         Seq Nbr 120 ->  6-May-96 To  2-Mar-98
         Comment: Added second air lift.

         Monitors in Sort_Str sequence:

            Nbr  3 -> GATEWELL 3C
            Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 3
            (Coil,Controller): (F8,F4)

            Nbr  1 -> SAMPLE ROOM
            Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
            (Coil,Controller): (F4,F4)

            Nbr  2 -> GATEWELL 3B
            Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: B
            (Coil,Controller): (F6,F4)

         Seq Nbr 110 ->  1-Apr-95 To  6-May-96
         Comment: Remote monitor installed in Gatewell Air Lift.

         Monitors in Sort_Str sequence:

            Nbr  1 -> SAMPLE ROOM
            Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
            (Coil,Controller): (F4,F4)

            Nbr  2 -> SAMPLE BYPASS
            Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: B
            (Coil,Controller): (F6,F4)

         Seq Nbr 100 ->  1-Jan-92 To  1-Apr-95
         Comment: Remote monitor installed in Gatewell Air Lift Sample Room

         Monitors in Sort_Str sequence:

            Nbr  1 -> SAMPLE ROOM
            Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
            (Coil,Controller): (F4,F4)


   LMJ - LOWER MONUMENTAL DAM JUVENILE
   ------------------------------------------------------------------------

     Current Configuration -> Seq Nbr: 120
         Main? Y, Active? Y, Parallel_A_B? A, Poll? N

     Configuration History:

         Seq Nbr 120 -> 27-Feb-96 To Present
         Comment: Coils at A & B “separator” and “separator gate” merged to
                  form 4-coil A & B separator gate monitors.

         Monitors in Sort_Str sequence:

            Nbr  2 -> A-SEPARATOR GATE
            Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A2
            (Coil,Controller): (00,52) (02,52) (04,50) (06,50)
```

```
      Nbr  3 -> A-DIVERSION
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
      (Coil,Controller): (20,56) (22,56) (24,57) (26,57)

      Nbr  5 -> A-RACEWAY
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A4
      (Coil,Controller): (10,54) (12,54) (14,56) (16,56)

      Nbr  6 -> A-EXIT
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A5
      (Coil,Controller): (30,54) (32,54) (34,52) (36,52)

      Nbr  9 -> B-SEPARATOR GATE
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B2
      (Coil,Controller): (08,53) (0A,53) (0C,51) (0E,51)

      Nbr 10 -> B-DIVERSION
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
      (Coil,Controller): (28,55) (2A,55) (2C,56) (2E,56)

      Nbr 11 -> B-RACEWAY
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B4
      (Coil,Controller): (18,55) (1A,55) (1C,57) (1E,57)

      Nbr 12 -> B-EXIT
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B5
      (Coil,Controller): (38,53) (3A,53) (3C,52) (3E,52)

      Nbr  4 -> DIVERSION EXIT
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
      (Coil,Controller): (40,54) (42,54) (44,55) (46,55)

      Nbr  7 -> SAMPLE ROOM
      Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D1
      (Coil,Controller): (48,57) (4A,57)

   Seq Nbr 110 ->  1-Jan-94 To 27-Feb-96
   Comment: Conforms to 1995 PIT Tag Spec Document

   Monitors in Sort_Str sequence:

      Nbr  1 -> A-SEPARATOR
      Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
      (Coil,Controller): (00,52) (02,52)

      Nbr  2 -> A-SEPARATOR GATE
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A2
      (Coil,Controller): (04,50) (06,50)

      Nbr  3 -> A-DIVERSION
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
      (Coil,Controller): (20,56) (22,56) (24,57) (26,57)

      Nbr  5 -> A-RACEWAY
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A4
      (Coil,Controller): (10,53) (12,53) (14,56) (16,56)

      Nbr  6 -> A-EXIT
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A5
      (Coil,Controller): (30,54) (32,54) (34,55) (36,55)

      Nbr  8 -> B-SEPARATOR
```

```
   Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: B1
   (Coil,Controller): (08,53) (0A,53)

   Nbr  9 -> B-SEPARATOR GATE
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B2
   (Coil,Controller): (0C,51) (0E,51)

   Nbr 10 -> B-DIVERSION
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
   (Coil,Controller): (28,52) (2A,52) (2C,56) (2E,56)

   Nbr 11 -> B-RACEWAY
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B4
   (Coil,Controller): (18,52) (1A,52) (1C,57) (1E,57)

   Nbr 12 -> B-EXIT
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B5
   (Coil,Controller): (38,54) (3A,54) (3C,55) (3E,55)

   Nbr  4 -> DIVERSION EXIT
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
   (Coil,Controller): (40,54) (42,54) (44,55) (46,55)

   Nbr  7 -> SAMPLE ROOM
   Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D1
   (Coil,Controller): (48,57) (4A,57)

Seq Nbr 100 -> 25-Apr-93 To  1-Jan-94
Comment: Initial configuration cloned from 1994 config; dates are
         correct but equipment must be verified.

Monitors in Sort_Str sequence:

   Nbr  1 -> A-SEPARATOR
   Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
   (Coil,Controller): (00,52) (02,52)

   Nbr  2 -> A-SEPARATOR GATE
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A2
   (Coil,Controller): (04,50) (06,50)

   Nbr  3 -> A-DIVERSION
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
   (Coil,Controller): (20,56) (22,56) (24,57) (26,57)

   Nbr  5 -> A-RACEWAY
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A4
   (Coil,Controller): (10,53) (12,53) (14,56) (16,56)

   Nbr  6 -> A-EXIT
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A5
   (Coil,Controller): (30,54) (32,54) (34,55) (36,55)
   Nbr  8 -> B-SEPARATOR
   Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: B1
   (Coil,Controller): (08,53) (0A,53)

   Nbr  9 -> B-SEPARATOR GATE
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B2
   (Coil,Controller): (0C,51) (0E,51)

   Nbr 10 -> B-DIVERSION
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
   (Coil,Controller): (28,52) (2A,52) (2C,56) (2E,56)
```

```
          Nbr 11 -> B-RACEWAY
          Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B4
          (Coil,Controller): (18,52) (1A,52) (1C,57) (1E,57)

          Nbr 12 -> B-EXIT
          Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B5
          (Coil,Controller): (38,54) (3A,54) (3C,55) (3E,55)

          Nbr  4 -> DIVERSION EXIT
          Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
          (Coil,Controller): (40,54) (42,54) (44,55) (46,55)

          Nbr  7 -> SAMPLE ROOM
          Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: D1
          (Coil,Controller): (48,57) (4A,57)


MCJ - MCNARY DAM JUVENILE
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 130
      Main? Y, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 130 ->  2-Mar-98 To Present
     Comment: Added ISO monitors.

     Monitors in Sort_Str sequence:

        Nbr  2 -> A-SEPARATOR GATE
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A2
        (Coil,Controller): (00,60) (02,60) (50,66) (52,66)

        Nbr  3 -> A-SUBSAMPLE
        Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
        (Coil,Controller): (30,62) (32,62) (34,67)

        Nbr  4 -> A-RACEWAY
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A4
        (Coil,Controller): (10,65) (12,65) (14,64) (16,64)

        Nbr 12 -> A-DIVERSION
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A5
        (Coil,Controller): (20,62) (22,62) (24,63) (26,63)

        Nbr  6 -> RIVER-1
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A6
        (Coil,Controller): (40,63) (42,63) (44,65) (46,65)
        Nbr  8 -> B-SEPARATOR GATE
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B2
        (Coil,Controller): (08,61) (0A,61) (54,67) (56,67)

        Nbr  9 -> B-SUBSAMPLE
        Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
        (Coil,Controller): (36,64) (38,64) (3A,67)

        Nbr 10 -> B-RACEWAY
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B4
        (Coil,Controller): (18,63) (1A,63) (1C,66) (1E,66)

        Nbr 13 -> B-DIVERSION
```

```
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B5
   (Coil,Controller): (28,64) (2A,64) (2C,65) (2E,65)

   Nbr 11 -> RIVER-2
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B6
   (Coil,Controller): (48,62) (4A,62) (4C,66) (4E,66)

   Nbr  5 -> SAMPLE ROOM
   Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
   (Coil,Controller): (3C,67) (3E,67)

   Nbr 14 -> B-RACEWAY ISO
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: Z1
   (Coil,Controller): (A1,08) (A2,09) (A3,0A) (A4,0B)

   Nbr 15 -> RIVER-1 ISO
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: Z2
   (Coil,Controller): (B1,0C) (B2,0D) (B3,0E) (B4,OF)

   Nbr 16 -> RIVER-2 ISO
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: Z3
   (Coil,Controller): (C1,10) (C2,11) (C3,12) (C4,13)

Seq Nbr 120 -> 27-Feb-96 To  2-Mar-98
Comment: Combined separator monitors into separator gate.

Monitors in Sort_Str sequence:

   Nbr  2 -> A-SEPARATOR GATE
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A2
   (Coil,Controller): (00,60) (02,60) (50,66) (52,66)

   Nbr  3 -> A-SUBSAMPLE
   Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
   (Coil,Controller): (30,62) (32,62) (34,67)

   Nbr  4 -> A-RACEWAY
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A4
   (Coil,Controller): (10,65) (12,65) (14,64) (16,64)

   Nbr 12 -> A-DIVERSION
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A5
   (Coil,Controller): (20,62) (22,62) (24,63) (26,63)

   Nbr  6 -> RIVER-1
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A6
   (Coil,Controller): (40,63) (42,63) (44,65) (46,65)

   Nbr  8 -> B-SEPARATOR GATE
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B2
   (Coil,Controller): (08,61) (0A,61) (54,67) (56,67)

   Nbr  9 -> B-SUBSAMPLE
   Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
   (Coil,Controller): (36,64) (38,64) (3A,67)

   Nbr 10 -> B-RACEWAY
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B4
   (Coil,Controller): (18,63) (1A,63) (1C,66) (1E,66)

   Nbr 13 -> B-DIVERSION
   Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B5
   (Coil,Controller): (28,64) (2A,64) (2C,65) (2E,65)
```

```
      Nbr 11 -> RIVER-2
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B6
      (Coil,Controller): (48,62) (4A,62) (4C,66) (4E,66)

      Nbr  5 -> SAMPLE ROOM
      Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
      (Coil,Controller): (3C,67) (3E,67)

   Seq Nbr 110 ->  1-Jan-94 To 27-Feb-96
   Comment: Initial operation of new juvenile fish facility.

   Monitors in Sort_Str sequence:

      Nbr  1 -> A-SEPARATOR
      Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: A1
      (Coil,Controller): (50,66) (52,66)

      Nbr  2 -> A-SEPARATOR GATE
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A2
      (Coil,Controller): (00,60) (02,60)

      Nbr  3 -> A-SUBSAMPLE
      Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A3
      (Coil,Controller): (30,62) (32,62) (34,67)

      Nbr  4 -> A-RACEWAY
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A4
      (Coil,Controller): (10,65) (12,65) (14,64) (16,64)

      Nbr 12 -> A-DIVERSION
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: A5
      (Coil,Controller): (20,62) (22,62) (24,63) (26,63)

      Nbr  6 -> A-RIVER
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A6
      (Coil,Controller): (40,63) (42,63) (44,65) (46,65)

      Nbr  7 -> B-SEPARATOR
      Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: B1
      (Coil,Controller): (54,67) (56,67)

      Nbr  8 -> B-SEPARATOR GATE
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B2
      (Coil,Controller): (08,61) (0A,61)

      Nbr  9 -> B-SUBSAMPLE
      Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B3
      (Coil,Controller): (36,64) (38,64) (3A,67)

      Nbr 10 -> B-RACEWAY
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B4
      (Coil,Controller): (18,63) (1A,63) (1C,66) (1E,66)

      Nbr 13 -> B-DIVERSION
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B5
      (Coil,Controller): (28,64) (2A,64) (2C,65) (2E,65)

      Nbr 11 -> B-RIVER
      Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B6
      (Coil,Controller): (48,62) (4A,62) (4C,66) (4E,66)

      Nbr  5 -> SAMPLE ROOM
```

```
          Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
          (Coil,Controller): (3C,67) (3E,67)

          Nbr  0 -> UNKNOWN
          Mon_Ctgry_Str: ?  , Entry_Y_N? ?, Exit_Y_N? ?, Sort_Str: ZZ
          (Coil,Controller): (01,61) (07,61) (09,61)

       Seq Nbr 100 ->  1-Jan-86 To  1-Jan-94
       Comment: Initial implementation of PIT detectors at McNary.

       Monitors in Sort_Str sequence:

          Nbr  1 -> A-MAIN
          Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A1
          (Coil,Controller): (68,60) (6A,60) (6C,61) (6E,61)

          Nbr  3 -> B-MAIN
          Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: B1
          (Coil,Controller): (60,60) (62,60) (64,61) (66,61)

          Nbr  4 -> A-SUB
          Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? N, Sort_Str: B5
          (Coil,Controller): (70,60) (72,60) (74,61) (76,61)

          Nbr  2 -> SAMPLE ROOM
          Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: C1
          (Coil,Controller): (80,62) (82,62)


MCX - MCNARY JUVENILE EXPERIMENTAL
--------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? Y, Active? N, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 100 -> 20-Feb-98 To Present
     Comment: *Summarize distinguishing features of the new configuration*

     Monitors in Sort_Str sequence:

        Nbr  0 -> ISO B-RACEWAY
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: A1
        (Coil,Controller): (A1,00) (A2,01) (A3,02) (A4,03)

        Nbr  1 -> ISO RIVER-1
        Mon_Ctgry_Str: ALL, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: B1
        (Coil,Controller): (B1,04) (B2,05) (B3,06) (B4,07)


PRJ - PROSSER JUVENILE (CHAND DIV)
--------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? Y, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 110 ->  1-Jan-94 To Present
     Comment: Not used in 1995 and 1996. Electronics re-installed Feb-Mar
              1997.
```

```
        Monitors in Sort_Str sequence:

           Nbr  1 -> SEPARATOR
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: 1
           (Coil,Controller): (C8,F2) (CA,F2) (CC,F3) (CE,F3)

           Nbr  2 -> SAMPLE ROOM
           Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: 2
           (Coil,Controller): (C4,F2) (C6,F2)

        Seq Nbr 100 -> 25-Apr-89 To  1-Jan-94
        Comment: Initial configuration cloned from 1994 config; dates are
                 correct but equipment must be verified.

        Monitors in Sort_Str sequence:

           Nbr  1 -> SEPARATOR
           Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? N, Sort_Str: 1
           (Coil,Controller): (C8,F2) (CA,F2) (CC,F2) (CE,F2)

           Nbr  2 -> SAMPLE ROOM
           Mon_Ctgry_Str: SUB, Entry_Y_N? N, Exit_Y_N? Y, Sort_Str: 2
           (Coil,Controller): (C4,F3) (C6,F3)


RFA - REDFISH LK CR TRAP JUVENILE A
-----------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 100 -> 13-Apr-95 To Present
     Comment: Redfish Lake Creek Trap operated by IDFG.

     Monitors in Sort_Str sequence:

        Nbr  1 -> RIVER EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (F3,  )

RFB - REDFISH LK CR TRAP JUVENILE B
-----------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 100 -> 13-Apr-95 To Present
     Comment: Redfish Lake Creek Trap (B) operated by IDFG

     Monitors in Sort_Str sequence:

        Nbr  1 -> RIVER EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (F5,  )


ROZ - ROSA DAM JUVENILE
-----------------------------------------------------------------------
```

```
  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 100 -> 26-Mar-92 To 30-May-92
     Comment: Dates are accurate; equipment configuration must be
              established

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (C0,E0)


RRJ - ROCKY REACH DAM JUVENILE
--------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 120
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 120 -> 11-Mar-98 To Present
     Comment: *Summarize distinguishing features of the new configuration*

     Monitors in Sort_Str sequence:

        Nbr  1 -> SURFACE COLLECTOR 24 INCH
        Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
        (Coil,Controller): (11,01) (22,01) (33,01) (44,01)

        Nbr  2 -> GATEWELL SAMPLE
        Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 2
        (Coil,Controller): (A0,00) (A2,00) (A4,00) (A6,00)

        Nbr  3 -> BACKUP GATEWELL/SURF COLL 6 IN
        Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 3
        (Coil,Controller): (77,01) (88,01)
     Seq Nbr 110 ->  4-Apr-97 To 11-Mar-98
     Comment: 1997 ROCKY REACH CONFIGURATION

     Monitors in Sort_Str sequence:

        Nbr  1 -> SURFACE COLLECTOR 24 INCH
        Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
        (Coil,Controller): (11,01) (22,01) (33,01) (44,01)

        Nbr  2 -> GATEWELL COLLECTION 12 INCH
        Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 2
        (Coil,Controller): (05,01) (06,01)

        Nbr  3 -> BACKUP GATEWELL/SURF COLL 6 IN
        Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 3
        (Coil,Controller): (77,01) (88,01)

     Seq Nbr 100 -> 10-Apr-96 To  4-Apr-97
     Comment: Rocky Reach Juvenile opeated by Chelan PUD.

     Monitors in Sort_Str sequence:

        Nbr  1 -> SURFACE COLLECTOR 24 INCH
```

```
         Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 1
         (Coil,Controller): (11,01) (22,01) (33,01) (44,01)

         Nbr  2 -> GATEWELL COLLECTOR 6 INCH
         Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 2
         (Coil,Controller): (55,01) (88,01)

         Nbr  3 -> SURFACE COLLECTOR 6 INCH
         Mon_Ctgry_Str:    , Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 3
         (Coil,Controller): (66,01) (77,01)


SAJ - SALMON RIVER TRAP JUVENILE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 110 ->  1-Jan-94 To Present
     Comment: Salmon River Juvenile trap operated by IDFG.

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (D8,F1)

     Seq Nbr 100 -> 28-Mar-93 To  1-Jan-94
     Comment: Initial configuration cloned from 1994 config; dates are
              correct but equipment must be verified.

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (D8,F1)
SNJ - SNAKE RIVER TRAP JUVENILE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 110
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 110 ->  1-Jan-94 To Present
     Comment: Snake River Juvenile Trap operated by IDFG.

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (D4,F1) (D6,F1)

     Seq Nbr 100 -> 23-Mar-89 To  1-Jan-94
     Comment: Initial configuration cloned from 1994 data; dates are
              accurate but equipment must be verified.

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
```

```
        (Coil,Controller): (D4,F1) (D6,F1)


SSJ - SUNNYSIDE JUVENILE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 100 -> 11-Apr-91 To  5-Jun-91
     Comment: Dates and coil/controller data accurate; monitor name must
              be researched

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (FF,F5)


SUJ - SULLIVAN DAM JUVENILE
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 100 ->  1-Jan-94 To Present
     Comment: First use of this table: 4 Jan 95

     Monitors in Sort_Str sequence:

        Nbr  1 -> SAMPLE ROOM
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (AA,11)


TWX - ESTUARY TOWED ARRAY EXPERIMENT
------------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 100 -> 13-Apr-95 To Present
     Comment: NMFS interrogation trawl unit. Towed underwater near the
              Columbia river estuary.

     Monitors in Sort_Str sequence:

        Nbr  2 -> RIVER EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: 2
        (Coil,Controller): (20,01) (22,01)

        Nbr  1 -> RIVER EXIT
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (10,01) (12,01)
```

```
WAJ - WANAPUM DAM JUVENILE (G-DIP)
-----------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? A, Poll? N

  Configuration History:

     Seq Nbr 100 -> 28-Apr-94 To Present
     Comment: Date and coil/controller data accurate; monitor name must be
              verified

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (F0,F0)


WPJ - WAPATO DIVERSION JUVENILE
-----------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 100 ->  8-May-91 To  5-Jun-91
     Comment: Dates and coil/controller data are accurate; monitor name
              must be reviewed

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (FB,F6)


Y1J - YAKIMA RIVER TRAP JUVENILE
-----------------------------------------------------------------------

  Current Configuration -> Seq Nbr: 100
      Main? N, Active? Y, Parallel_A_B? B, Poll? N

  Configuration History:

     Seq Nbr 100 ->  4-May-90 To 11-Jun-90
     Comment: Dates and coil/controller data are correct; monitor name
              must be verified

     Monitors in Sort_Str sequence:

        Nbr  1 -> MAIN
        Mon_Ctgry_Str: ALL, Entry_Y_N? Y, Exit_Y_N? Y, Sort_Str: A
        (Coil,Controller): (B8,F4)
```

Figure 1. Example Tagging File.

```
FILE TYPE                       : TAGGING
PROGRAM VERSION                 : PITTAG.EXE 7.1; PITVAL.EXE 2.1
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
TAGGING FILE EXAMPLE FOR 1997 SPECIFICATION DOCUMENT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

FILE TITLE                      : ATL95118.KF1
TAG DATE                        : 04/28/95 04:30
TAGGER                          : LOSER A
HATCHERY SITE                   :
STOCK                           :
BROOD YR                        :
MIGRATORY YR                    : 95
TAG SITE                        : KILFAT
RACEWAY/TRANSECT                :
CAPTURE METHOD                  : SCREWT
TAGGING TEMP                    : 8.9
POST TAGGING TEMP               :
RELEASE WATER TEMP              : 8.9
TAGGING METHOD                  : HAND
ORGANIZATION                    : SPCA
COORDINATOR ID                  : ATL
RELEASE DATE                    : 04/28/95
RELEASE SITE                    : KILFAT
RELEASE RIVER KM                : 999.748.048

MARKING AT KILLUM FALLS TRAP FOR AMERICAN SPCA. ONLY SALMONIDS MARKED.
ALL FISH CAPTURED WERE TREATED WITH RESPECT AND WITHOUT CONSIDERATION OF
EXTERNAL APPEARANCE, ECONOMIC IMPORTANCE, OR POSITION IN FOOD CHAIN.

CLIP #Z194

 1 1F5F6B187F 80     231     25.2   32H01     | AD
 2 1F565D5A54 80     223            32H01     | AD LV | TEXT COMMENT
 3 .......... ..     133            32H01     | AD M

THE BRUTE RESPONSIBLE FOR THE MURDER ABOVE HAS BEEN FIRED.

 4 1F56304D0E 00     111            11H01     | AD RV
 5 200F03034B 80     118            11W01
 6 1F5F47310A 00     190            32H01     | AD 1>
 7 1F562F726A 80     213            32H01     | AD LV
 8 200F0E3112 80     240            32H01     | AD

V01=04/28/95 06:30

< TIME CHECK > 28 APRIL 1995 AT 07:02

 9 200F0E6E55 00     246            32W02
10 1F57080B77 00     262            32H02     | AD LV
11 200F1D072D 80     186            32W02     | GS

V02=04/28/95 07:20

CLOSE DATE                      : 04/28/95 14:52
```

Figure 2. Example Release Information File.

```
FILE TYPE                       : RELEASE INFORMATION
FILE TITLE                      : REL95ATL.COL
RELEASE DATE                    : 04/01/95 06:00
RELEASE SITE                    : COLR
MONITORED RELEASE               : NO
MONITORED RELEASE SITE CODE     :
RELEASE RIVER KM                : 774
TRANSPORT DURATION              : 1:30
TRANSPORT TYPE                  : TRUCK
RELEASE WATER TEMP              : 5.6
ASSOCIATED MARK                 : SOME AD & CWT
TAG FILE NAME                   : ATL94047.002
TAG FILE NAME                   : ATL94047.003
TAG FILE NAME                   : ATL94048.001

THESE FISH RELEASED PRIOR TO BEGINNING OF MID-COLUMBIA SPILL PROGRAM.
REFER TO TAGGING FILE FOR RACEWAY DISTRIBUTION AND ASSOCIATED MARK DATA.
ALL TAGGED FISH RELEASED WITH GENERAL PRODUCTION.

CLOSE DATE                      : 04/02/95 14:53
```

Figure 3. Example Interrogation and Monitored Release File.

Format is consistent for both files except the File Type is INTERROGATION for the Interrogation file and MONITORED RELEASE for the Monitored Release file. All times must be recorded in Pacific Standard Time even if the location of the Interrogation or Monitored Release is in Mountain Standard/Daylight or Pacific Daylight time.

```
    FILE TYPE                  : INTERROGATION
    FILE TITLE                 : SIT95114.A
    FILE CREATED               : 24 April 1995 AT 00:00

04/24/95 01:00:00
| F2 04/12/89 01:26:47 7F7E495445 DF C8 CA
04/24/95 02:00:00
| F2 04/12/89 02:26:49 7F7E4D1A30 94 C8 CA CC
04/24/95 03:00:00
04/24/95 04:00:00
04/24/95 05:00:00
04/24/95 06:00:00
04/24/95 07:00:00
04/24/95 08:00:00
SYSTEM ID
STATION #F2
04/12/89 14:26:38

TOTAL NUMBER ID CARDS = 04
CARD ADDRESSES|C8 CA CC CE

C8-SELFTEST|00

CA-SELFTEST|00

CC-SELFTEST|00

CE-SELFTEST|00
04/24/95 08:10:00
04/24/95 09:00:00
04/24/95 10:00:00
| F2 04/12/89 10:26:52 7F7E4D5236 D2 C8 CA CC CE
04/24/95 11:00:00
04/24/95 12:00:00
04/24/95 13:00:00
04/24/95 14:00:00
| F2 04/12/89 14:26:49 7F7E201243 72 CC CE
04/24/95 15:00:00
04/24/95 16:00:00
04/24/95 17:00:00
04/24/95 18:00:00
    FILE CLOSED                : 25 April 1996 AT 00:00
```

Figure 4. Ex**ample Mortality File**.

```
 FILE TYPE                      : MORTALITY
 PROGRAM VERSION                : PITTAG.EXE 7.1; PITVAL.EXE 2.1
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 MORTALITY FILE EXAMPLE FOR 1997 SPECIFICATION DOCUMENT
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 FILE TITLE                     : ATL95118.DED
 CREATION DATE                  : 04/28/95 04:30
 COLLECTION SITE                : KILFAT
 COLLECTION RIVER KM            : 999.748.048
 CAPTURE METHOD                 : SCREWT
 RECOVERY ORGANIZATION          : SPCA
 COORDINATOR ID                 : ATL

 THESE FISH DIED DUE TO UNAVOIDABLE TRAP OPERATIONS (M)
 OR WERE SACRIFICED (MS) AS PART OF AN ONGOING RESEARCH PROGRAM.

1 1F5F6B187F 80     231            04/21/95 | RE M
2 1F565D5A54 80     223       29.8 04/21/95 | RE MS FU | #95-103
3 200F0E3112 80     133            04/21/95 | RE M
4 1F56304D0E 00     111            04/22/95 | RE M
5 200F10023F 80      95        8.3 04/23/95 | RE MS | #95-107
6 1F56586D46 80     159       17.1 04/23/95 | RE MS <1 | #95-108
7 1F5F5B0324 00     152            04/27/95 | RE M
8 200F0F281A 80     103            04/28/95 | RE M | FOUND IN SM BASS

 CLOSE DATE                     : 04/28/95 07:32
```

GLOSSARY

ASSOCIATED MARKS: Other identification marks associated with the group of fish being released, such as freeze brand marks, fin clips, visible implant or coded wire tags.

BROOD YEAR : The last two digits of the calendar year when the eggs were laid.

CAPTURE METHOD: The abbreviated code (See Capture Method Codes on page 27) for the method used to collect the fish.

CHECKSUM: Value comprising the 11th and 12th characters of the PIT code. The Checksum is computer generated with the 11th character representing the last digit of the hex sum of the left most five characters of the PIT code and the 12th character representing the last digit of the hex sum of the right most five characters of the ten character PIT code.

COLLECTION SITE : The six character code of the collection site. See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 for the list of valid codes.

COIL : A loop antenna, made from a coil of wire, which transmits a signal that excites the PIT tag and receives the signal from the PIT tag. Coils or loops are found in all interrogation equipment from table top detectors to automatic interrogation systems.

COIL ASSEMBLY : A system of components used to create an electromagnetic field used to excite a PIT Tag and receive the signal sent by the PIT Tag. These components consist of 14-20 gauge insulated copper wire and a non-metallic pipe or flume used to pass fish.

COIL EFFICIENCY OR COIL READING EFFICIENCY : The number of PIT tags read (written onto a computer file) divided by the total number of tags that could have been read at that particular coil. See “Statistical Method of Determining PIT Tag Coil Reading Efficiency”, Benjamin Sandford, Prentice et.al. 1991. Produced by the **ANALYZER** report.

COIL ID : The unique identification number associated with each coil of the automatic interrogation systems.

CONTROLLER: The computer hardware in an automatic interrogation system that operates interrogation coils associated with an interrogation system. A unique identification number is associated with each controller.

CONDITIONAL COMMENT: A comment in the Tag Records section of the Tagging file that corresponds to an individual fish. A list of approved conditional comments appears in section III.E. (Flag Codes). They can be entered from either the keyboard or the digitizer during the operation of the PITTAG.EXE program. Other conditional comments, important to the individual researcher, can be used but will not be recognized by the PTAGIS data system.

COORDINATOR ID: A three letter code consisting of the initials of the coordinator. The coordinators are the individuals who are in charge of the research that the PIT tag is being used for. Coordinators are **not** necessarily the people doing the tagging.

CREATION DATE : Used as a header record in Mortality files (See Mortality File on page 16).

CREATION TIME: Obsolete. See TAGGER on page 81.

DETECTOR:A colloquial term used to describe one or more coil assemblies used to interrogate PIT Tagged fish.

DIVERSION EFFICIENCY: See SLIDE-GATE EFFICIENCY on page 80.

EPA-REACH: See USGS HYDROLOGIC UNIT on page 82.

FILE TITLE: The file ID or name given to the particular file created. Each File Title must be unique from all others in the Columbia River Basin and therefore it is very important to follow the formats described in the PIT tag Specification Document for each individual file type.

FILE TYPE RECORD: This record type designates the type of file being created. It is generated by the PITTAG.EXE program for Tagging and Mortality files and by the researcher creating the other types of files. See the Specification Document for the correct format.

FIXED REFERENCE TAG: A tag having a unique code and an internal clock that is permanently connected inside of the PIT-tag monitor and is used to test the performance of individual coils. It receives power from the excitation coil and automatically transmits its code one or more times daily.

FLAG CODE: A PIT Tag conditional comment code (See Flag Codes on page 22.) These codes are used to provide information about the health and condition of individual fish.

FORKLENGTH: The length of the fish from the tip of the snout to the fork of the tail, recorded to the nearest millimeter.

GIS HYDRO UNIT: See USGS HYDROLOGIC UNIT on page 82.

HATCHERY SITE: A four character abbreviation to represent the hatchery at which the fish were reared, if tagging is being done at a hatchery. See Hatchery Codes on page 25 for the approved list of hatchery abbreviations.

HEADER RECORD: A record found at the beginning of the file and describing general information representative of the whole file. Only Tagging, Release information, and Mortality files have header records.

INTERROGATION FILE: A file created at a monitoring site by the automatic detection equipment and containing the PIT tag codes, date and time of interrogation, and the coil ID on which the tag was interrogated.

INTERROGATION UNIT READING EFFICIENCY: This would be the combined reading efficiencies for one or more coils depending upon the type of interrogation unit being evaluated (*e.g.*, both coils in a dual coil monitor). Produced by the **ANALYZER** report.

ISO: International Standards Organization

ISO 11784 / 11785: These are the international standards related to Radio Frequency ID. 11784 defines the 128 bits of the tag telegram message, also referred to as the datagram. 11785 defines the technical parameters of the tag. For example the ISO tags activation frequency is 134.2kHz.

MAIN SITE: Each interrogation site is classified as either a "Main" site or not. To see the "Main" indicator (Y=Main, N=Not Main) See PIT-Tag System Codes on page 50. Special database processing occurs for sites that are classified as "Main" sites. Specifically, an interrogation of a PIT tag record at the first "Main" site, will create a "obs_main" record in the database. Subsequent interrogations of this PIT tag record at other "Main" sites will not generate further obs_main records. This obs_main information can be accessed via the "First Interrog Main" report pulldown in the PTAGIS 3 application. Please refer to the *PIT Tag Information System Users Manual* for details on extracting this data from PTAGIS.

MIGRATION YEAR: Last two digits of the earliest calendar year when fish are expected to smolt and out-migrate to the ocean.

MONITOR:A combination of two or more PIT Tag interrogation units. Also called a detector.

MONITORED RELEASE: A release situation in which the PIT-tagged fish are passively exposed to an interrogation system as they leave a holding area such as a hatchery. In a Monitored Release, all fish are interrogated as they leave a holding area so the individual PIT code of each fish leaving is recorded along with the date and time of interrogation.

MONITORED RELEASE FILE: A file containing release information from a monitored release.

MORTALITY FILE: A file that contains information and PIT codes for fish that died subsequent to a release event reported in a Release Information File. Mortality files are created for fish that die or are found dead somewhere along their migration path, like at one of the dams. Mortality files are also created for fish that are sacrificed for sampling purposes subsequent to their reported release.

MORTALITY RECORD: That portion of a Mortality file that contains the PIT tag code and any other pertinent information about the individual fish, such as fork length, weight, etc.

NOTE RECORDS: A comment section in the Tag Records portion of the Tagging file. Note records can pertain to a group of fish instead of an individual fish. The Variable Release Time notation is the most common type of Note Record.

OBSERVATION: A colloquial name for an interrogation event as recorded in an INTERROGATION FILE.

ORGANIZATION: The code for the agency or organization that is responsible for the data in a tagging, mortality, or release information file.

PASS-THROUGH REFERENCE TAG: A PIT Tag is embedded in a wooden block, which is periodically passed through the interrogation system to determine coil, interrogation unit and system reading efficiencies. Normally, 10 tags floated through the monitor on a daily basis. Also called STICK TAGS.

PIT-TAG DETECTOR: See DETECTOR on page 76.

PIT-TAG INTERROGATION NETWORK : All of the equipment related to exciting, detecting, and on-site recording of PIT tags at all detection sites within the river or monitoring system.

PIT-TAG INTERROGATION SYSTEM: All of the equipment related to exciting, detecting, and on-site recording of PIT tags.

PIT-TAG INTERROGATION UNIT: (Combination of individual equipment) Smallest independent unit that can excite and read a tag. The present configuration that meets this definition would include the RF-emission shield, excitation/detection coil(s), coil housing, tuner box, exciter, power supply, and controller. The multi-port, computer and printer are not included. Today, most of the interrogation units are dual coil PIT-tag interrogation units.

PIT-TAG (Passive Integrated Transponder Tag): A computer chip attached to a wire antenna and encapsulated in a glass tube. The tag is excited when it is passed through the electromagnetic field of a detector and the information on the computer chip is transmitted to the detector.

PIT-TAG SEPARATION EFFICIENCY: The effectiveness of the individual slide-gate assemblies. This term applies only to PIT-tagged fish that according to the computer program should have been separated. The number of tagged fish read and successfully separated, divided by the total number of tagged fish read. Contrast with Slide-Gate Efficiency. Different from CORP OF ENGINEERS SEPARATION.

PIT-TAG SEPARATION SUBSYSTEM: Presently, there are typically two PIT-tag separation subsystems (A and B) at each dam. In the future, there may be more if tagged fish were to get separated into multiple pathways. These subsystems include the flumes, the electronic and mechanical hardware including the computer program for controlling slide gates used to separate PIT-tagged fish.

PIT-TAG SEPARATION SYSTEM: (Entire site) This includes all components (*e.g.*, flumes, interrogation units, slide gates, electronic, computer-related) involved in separating PIT-tagged fish from un-tagged fish by any method. All of the PIT-tag interrogation units would also be part of the interrogation system.

PIT-TAG SLIDE-GATE ASSEMBLY: The electronic and mechanical hardware including the computer program for controlling an individual slide gate.

PIT-TAG STEERING COMMITTEE (PTSC) : A sub-committee of the Fish Passage Advisory Committee of the Columbia Basin Fish and Wildlife Authority. The committee is made up of representatives of the agencies and tribes. The committee's function is to provide guidance in the development of tagging methodologies and data standards and to serve as a technical forum for the operation of PTAGIS and the PIT-Tag data collection and data distribution system.

PIT-CODE: A unique ten character alpha-numeric hexadecimal code recorded on the computer chip in the PIT tag. PTAGIS applications refer to this as **tag_id**.

POSITIONAL COMMENT : A comment that has a designated and reserved location in the Tag Records section of the Tagging file and pertains to an individual fish. Such Positional comments are Species, Run, Rearing type, and Release Time Variable. Individual researchers can designate their own positional comments but the PTAGIS data system will not recognize them. Positional comments are entered from the keyboard or from the digitizer.

POST TAGGING TEMP: The temperature (C°) of the raceway or live box the fish are held in after tagging but prior to release to a stream. This variable should be left blank if the fish are released to the stream after tagging.

PTAGIS: The PIT Tag Information System (PTAGIS) is the central repository of all the information generated by the PIT tag system of the Columbia River basin. The PTAGIS is managed by the Pacific States Marine Fisheries Commission and funded by the Bonneville Power Administration.

PTOC: The PIT Tag Operations Center (PTOC), which operates and maintains the PTAGIS, all detection equipment on the dams, and creates and updates software for the Columbia River Basin-wide PIT tag system. Administrative management is through the Pacific States Marine Fisheries Commission.

RACEWAY/TRANSECT: The raceway number or designation, or the transect number or name where the fish being PIT tagged came from.

REARING TYPE: A one character code (See Rearing Type Codes on page 22) to indicate whether the fish was raised in a hatchery or reared in the wild. Use a rearing code of “U” (for unknown) when the rearing status of the fish is in question or can not be ascertained.

RECAPTURE: A recaptured fish is a fish that is handled subsequent to the release event. A recaptured fish is designated with the flag code RE. See Tagging File on page 7 of this document regarding tagging files.

RECOVERY ORGANIZATION: The organization creating the mortality file.

RELEASE DATE: The date fish were released to a stream to rear or out-migrate naturally. This variable is left blank in the header record of the tagging file if the fish are released at a later date. If fish are released at a later date this date is recorded in a Release Information or the Monitored Release file.

RELEASE RIVER KM: The location of release, in river kilometers from the mouth of the Columbia River. This is a hierarchical coding scheme from the mouth of the Columbia River to the release site (up to 7th order streams for point release sites) with each tributary delimited with a period. An example would be a Release KM for Lower Granite Dam is 522.173 which means that it is 522 km from the mouth of the Columbia River to the mouth of the Snake River and 173 km from the mouth of the Snake River to Lower Granite Dam. See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 in the PIT Tag Specification Document for a list of the release km for various Release sites. If you have additional release locations please provide your PIT-Tag Steering Committee Representative with the name of the location, a six character code and the release KM so the location can be added to the list.

RELEASE INFORMATION FILE: A Release Information File consists of information about a Tag file or a group of tag files which was not available at the time of tagging. The Release Information File must be created and sent to PTAGIS prior to any of the fish from the tagging files reaching any interrogation site. If fish are released at the time of tagging, the tagging file can double as the release information file. If you have additional release locations please provide PIT-Tag Steering Committee Representative with the name of the location, a six character code and the release KM so the location can be added to the list.

RELEASE SITE: The six character code of the site or body of water the fish are released into. See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 for the proper code of the release sites. If you have additional release locations please provide PIT-Tag Steering Committee Representative with the name of the location, a six character code and the release KM so the location can be added to the list.

RELEASE WATER TEMP : The temperature (C°) of the stream the fish are released into to rear naturally or migrate downstream. If the fish are released immediately after tagging and recovery, this variable should be filled out in the header record of the Tagging file. If the fish are released at a later date, then this temperature is recorded in the Release Information file or Monitored Release file and not in the Tagging file.

RIVER REACH: See Release River KM in See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29.

RUN: A one character code (See Run Codes on page 21) to continue the phylogenetic breakdown, to race, to describe the fish. Run is represented by spring, summer, etc. (Spring chinook, Summer steelhead, etc.).

SEQUENCE NUMBER: A sequential number from 1 to 9999 that individually identifies each tag record within the TAG RECORDS section of the tagging file; created by the PITTAG.EXE program.

SESSION MESSAGE: A textual comment at the beginning of the header record of the Tagging and Mortality files in which the researcher can record important information pertinent to that tagging session.

SLIDE GATE: A gate that slides open and shut on the bottom of a flume or pipe, causing the water and fish to enter a flume or pipe below the one they were flowing through. This would include all mechanical components immediately associated with gate operation.

SLIDE-GATE EFFICIENCY: The ratio of un-tagged fish diverted per diversion cycle. See Achord et.al., Nov. 1992. “Research Related to Transportation of Juvenile Salmonids on The Columbia and Snake Rivers 1991". This information can only be gathered by a qualified field researcher. PTOC cannot determine this information because of lack of data regarding non-PIT tagged fish.

SPECIES: A one character code (See Species Codes on page 21) representing the species of the fish being tagged.

SPIDER TAG: See FIXED REFERENCE TAG on page 76.

STICK TAG: See PASS-THROUGH REFERENCE TAG on page 77.

STOCK : An additional population describer but in this instance it has no defined codes. Examples would be entries such as Rapid River stock or Wells stock.

SWING GATE: A gate positioned in a flume where that flume splits into two. The gate selects one of the two by blocking the other and changes by swinging across the original flume.

SYSTEM READING EFFICIENCY: Overall reading efficiency for the interrogation system (all of the coils combined for an entire site). This is the reading efficiency that must meet the 95% criterion established for the individual Columbia River dams.

TAG DATE : The date the file was created. It will automatically be entered into the file by the computer and will be the current date on the computer. Therefore, it is important to have the proper date in your computer. The creation date is the default tagging date.

TAG RECORD: That portion of a Tagging file that contains the PIT tag code, length, weight, and comments associated with each individual tagged fish.

TAG SITE : A six character code representing the geographic location of the tagging operation. See Tag, Release, and Collection Site Codes and Associated River KMs: on page 29 for the correct Tag site code list. If you have additional Tag sites please submit the name, six character code, and river km for the site to PTAGIS so it can be added to the list.

TAGGER: The last name and initial of the first name of the primary person doing the tag injection for that specific file.

TAGGING FILE: A file that contains information from a PIT tagging session during which PIT tags are implanted in fish. The file consists of five record category types: File type, Header record, Tag record, Notes, and Additional record types. The tagging file is created by the PITTAG.EXE program. The Tagging file can double as a Release file if the fish are released immediately after tagging and the release parameters in the Header Record of the Tagging file are filled out.

TAGGING METHOD: There are two methods of injecting tags into fish. One uses a hand held tagging needle (HAND) and the other uses a tagging machine that is fastened to a platform and has a clip which holds multiple tags (AUTO). NONE for recaptures.

TAGGING TEMP: Temperature (C°) of the trough or pan the fish are anesthetized in during the tagging operation.

TEST TAG: A special tag registered by PTOC as a “Test-Tag”. Not used in fish. E.g., STICK TAG, FIXED REFERENCE TAG.

TEXTUAL COMMENT: A comment or message area with no established format and pertaining to an individual fish.

TIMER TAG: See FIXED REFERENCE TAG on page 76.

TRANSPORTATION DURATION: The amount of time from loading of fish onto the transport vehicle until they are released into the stream.

TRANSPORTATION TYPE : The type of transport vehicle mainly pertaining to tank truck, back pack, helicopter, etc.

TUNNEL: An enclosed detector.

USGS HYDROLOGIC UNIT: See Appendix B, “State Hydrologic Unit Maps”.

VARIABLE RELEASE TIME: If groups of fish within a Tagging file are being tagged and released to a stream independently of other groups within the same Tagging file then release date and times must be recorded for each group of fish. This is done with the Variable Release Time which is a Positional Comment and ranges from 01 to 99. The Variable Release Time is located in columns 44 and 45 of the Tag Records section of the Tagging file. There must be a corresponding Variable Release Time comment in the Note Records section of the Tagging file to define each Variable Release Time in the Tag Records section.

WEIGHT: The weight of the fish recorded to the nearest tenth of a gram.

Appendix A Monitor Naming Standards

Section A-1. Naming Standard for PIT Tag Monitors at Juvenile Fish Facilities

Begin at the first monitor(s) fish encounter on entering the facility (generally, at the separator). To name each monitor, take the first of the following which applies to the monitor's location within the plumbing.

1. If the monitor comes directly from the separator, such that all fish leaving the separator through that flume pass through that monitor (with no intervening gates or splits), name it "SEPARATOR".

2. If the monitor is not in the PIT Tag diversion system, but leads to any of the following (trace the pipes and flumes downstream of the monitor), name the monitor what it goes to:

   raceway(s): "RACEWAY". If a particular set, append that set's name.

   back to the river: "RIVER"

   truck loading: "TRUCK"

   barge loading: "BARGE"

   either truck or barge loading: "TRANSPORT"

   back to the river, or truck or barge loading: "EXIT"

   If one term describes the monitor's location, use it. Otherwise, use all necessary to describe the monitor (Ex: RACEWAY/EXIT).

3. If the monitor is between the Corps sample gate and the sample holding tank (the monitor may be before or after the sample head box), name it "SUBSAMPLE".

4. If the monitor is between the Corps sample holding tank and the lab, name it "SAMPLE ROOM".

5. If the monitor is the first monitor encountered after a PIT Tag diversion gate, name it "DIVERSION".

6. If the monitor is in the PIT Tag diversion system, but is not the first monitor encountered, call it "DIVERSION" plus the applicable term(s) from item 2 (Ex: DIVERSION EXIT).

Some of these names will be modified based on certain design features of the facility:

1. If there are two parallel paths through part or all of the facility, beginning with the separator, prefix "A" or "B" to each monitor in the parallel portion; "A" will be the first encountered by the flow through the separator, "B" the second (Ex: A SEPARATOR, B TRANSPORT). If there are more than two parallel paths, continue with "C", "D", etc. Only use these prefixes for as long as the paths are parallel from the separator.

2. If there are two parallel paths through part of the facility, but they diverge from a point other than the separator, suffix "1" or "2" to each monitor in the parallel portion; "1" will be the first encountered by the flow into the parallel sections, "2" the second (Ex: DIVERSION 1, DIVERSION 2). If there are more than two parallel paths, continue with "3", "4", etc. Only use these suffixes for as long as the paths are parallel.

3. If the monitor controls a diversion gate, suffix "GATE" to the monitor. NOTE: If there are several coils in line, some controlling a diversion gate and others not, those that control the gate should be designated as a separate monitor from the others.

4. Abbreviations may be used to shorten the name of a monitor, providing the abbreviations are commonly known (Ex: "E" for "EAST") and do not create a situation where two monitors have the same name.

Section A-2. Naming Standard Examples

1. Lower Granite

At Lower Granite, there are seven monitors. The first two coming from the separator are the two 2-coil units which control the diversion gates. These are parallel; therefore, they are called "A SEPARATOR GATE" and "B SEPARATOR GATE".

Continuing down the undiverted path, the flumes come together; therefore, "A" and "B" will not be used further on this path. The flumes diverge again, with a gate to select between the two sets of raceways (East and West). These do not release anywhere else. The monitors on those flumes are called "RACEWAY EAST" and "RACEWAY WEST".

Now, going down the diversion system, the flumes which carry the fish from the diversion gates come together into a head box, from which two pipes with monitors emerge. These are parallel, but not from the separator; therefore, they are called "DIVERSION 1" and "DIVERSION 2".

There is also a monitor for the Corps sample. It diverges from before that head box, leading toward the lab. There is a holding tank between the monitor and the lab; therefore, this monitor is called "SUBSAMPLE".

2. Little Goose

At Little Goose, there are ten monitors. The first four coming from the separator are two 2-coil units that control the diversion gates and an additional 2-coil unit in line with each of the first. These are parallel; two are gate controllers. They are called "A SEPARATOR", "A SEPARATOR GATE", "B SEPARATOR" and "B SEPARATOR GATE".

Continuing down the undiverted path, each side has a monitor just after the Corps sample gate. The flow from these monitors can be sent to the raceways, truck loading, barge loading or the river. Since they are still parallel, these monitors are called "A RACEWAY/EXIT" and "B RACEWAY/EXIT".

Now, going down the diversion system, the flumes which carry the fish from the diversion gates lead to separate head boxes, then down separate pipes with monitors to holding tanks. Since these are also parallel, they are called "A DIVERSION" and "B DIVERSION".

There is one more monitor in the diversion system; this one leads to truck loading, barge loading or the river. The two sides come together before this monitor; therefore it is called "DIVERSION EXIT".

The last monitor is in the Corps Sample; it leads into the lab, after the holding tank. It is called "SAMPLE ROOM".

Section A-3. Document Definitions

HOLDING TANK: a tank where fish are gathered and held for research purposes

HEAD BOX: a small holding tank located just beyond a diversion gate on the diverted pipe or flume. Used to stage fish through a diversion system.

DETECTOR: a single PITTAG detection coil, with supporting electronics, wrapped around a pipe or flume.

MONITOR: A group of detectors around the same pipe or flume within the same or adjoining shielding boxes, with no gates between them. A set of PIT Tag detectors within one shielded unit.

SLIDE GATE: a gate which slides open and shut on the bottom of a flume, causing the water and fish to enter a pipe or flume below the one they were flowing through.

SWING GATE: a gate positioned in a flume where that flume splits into two. The gate selects one of the two by blocking the other and changes by swinging across the original flume.

CORPS SAMPLE GATE: any gate used by the Corps of Engineers to divert fish into a sampling system for Corps research and monitoring. Controlled by a timer.

PITTAG DIVERSION GATE: any gate used to divert PIT tagged fish (only) into a sampling system. Controlled by a timing device attached to a PIT Tag detector.

Appendix B State Hydrologic Unit Maps

- This appendix is taken from "State Hydrologic Unit Maps", by Paul R. Seaber, F. Paul Kapinos and George L. Knapp. It was published as U.S. Geological Survey, Open-File Report 84-708, 1984.

UNITED STATES DEPARTMENT OF THE INTERIOR
WILLIAM P. CLARK, SECRETARY

GEOLOGICAL SURVEY

DALLAS L. PECK, Director

For additional information
write to:

Chief, Office of Water Data
Coordination
U.S. Geological Survey
417 National Center
Reston, Virginia 22092

Copies of this report can be
purchased from

Open- File Services Section
Western Distribution Branch
Box 2545, Federal Center
Denver Colorado 80225

DESCRIPTION OF THE HYDROLOGIC UNITS

Basically, the United States was divided and subdivided into successively smaller hydrologic units, which were classified into four levels as shown on Figure 1. The hydrologic units are arranged within each other, starting from the smallest (cataloging units) to the largest (regions). All Hydrologic units have been identified by a unique numeric hydrologic unit code consisting of from two to eight digits based on the four levels of classification in the hydrologic unit system.

The first level of classification divides the Nation into 21 major geographic areas or regions (Figure 2). These geographic areas (hydrologic areas based on surface topography) contain either the drainage areas of a major river, such as the Missouri Region, or the combined drainage areas of a series of rivers, such as the Texas-Gulf Region, which includes a number of rivers draining into the Gulf of Mexico. Eighteen of the regions occupy the land area of the conterminous United States. Alaska is Region 19, the Hawaiian Islands constitute Region 20, and Puerto Rico and other outlying Caribbean areas are Region 21. The Pacific Trust Territories are a potential Region 22.

The second level of classification divides the 21 regions into 222 subregions. A subregion includes that area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area.

The Third level of classification subdivides many of the subregions into accounting units. These 352 hydrologic accounting units nest within, or are equivalent to, the subregions. The accounting units are used by the Geological Survey for designing and managing the National Water Data Network. The area extent of the accounting units is shown on Plate 1.

The fourth level of classification is the cataloging units, the smallest element in the hierarchy of hydrologic units. A catalog unit is a geographical representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. These units subdivide the subregions and accounting units into smaller area (approximately 2,150 in the Nation) that are used by the U.S. Geological Survey for cataloging and indexing water-data acquisition activities in the (Catalog of Information on Water Data).

Within this hierarchy, units have been defined so that almost all cataloging units are larger than 700 square miles (1,813 square Kilometers) in area. In special circumstances, units smaller than 700 square miles are identified on some of the maps.

The boundaries or area extent of the hydrologic units may be revised at the request of local users, and with the approval of the Geological Survey. Changes are more likely to occur in the cataloging unit boundaries than in those of the regions, subregions, and accounting units.

An eight-digit code uniquely identifies each of the four levels of classification within four two-digit fields. The first two digits identify the water-resources region; the first four digits identify the subregion; the first six identify the accounting unit; and the addition of two more digits for cataloging units completes the eight-digit code. An example is given below using hydrologic unit code 01080204:

01 - the region
0108 - the subregion

010802 - the accounting unit
01080204 - the cataloging unit

A 00 in the two-digit accounting unit field indicates that the accounting unit and the subregion are the same. Likewise, if the cataloging unit code is 00, it is the same as the accounting unit.

Hydrologic Units Names

In addition to hydrologic unit codes, all hydrologic units have been assigned names corresponding to the principal hydrologic feature(s) within the unit. All regions and subregions are uniquely named; however, the accounting units are uniquely named only within each accounting unit. Duplication of some names at the cataloging unit level is unavoidable because a large number of streams found throughout the Nation share the same names.

A complete list of all hydrologic unit codes, their names, the names of the States or outlying areas in which they reside, and their drainage areas is given in Table 1.

DESCRIPTION OF THE HYDROLOGIC UNIT MAPS

The State Hydrologic Unit Map Series consists of 47 maps on 53 sheets. the maps present 49 States at a scale of 1:500,000 or about 8 miles to an inch.(1 cm to 5 km). This scale permits most states to be shown on a single map of convenient size. Texas is shown on four sheets and Montana, Michigan, and California are shown on two sheets each. Three groups of States-- Massachusetts, Rhode Island, and Connecticut; Maryland, Delaware, and the District of Columbia; and Vermont and New Hampshire--are combined on a single sheet for each group. Alaska, because of its large size and less accurately defined drainage, is shown at a scale of 1:2,500,000 or about 40 miles to each inch (1cm to 25 km). Puerto Rico is shown on the Caribbean Region map at a scale of 1:340,000 or about 4 mile to an inch (1 cm to 2.4 km). The other outlying Caribbean areas are shown on this map at scales ranging from 1:250,00 to 1:1,000,000.

SUBREGION 1702- UPPER COLUMBIA: THE COLUMBIA RIVER BASIN WITHIN THE UNITED STATES ABOVE THE CONFLUENCE WITH THE SNAKE RIVER BASIN. WASHINTON.
AREA = 22600 SQ.MI.

ACCOUNTING UNIT 170200-- UPPER COLUMBIA. WASHINGTON.
AREA = 2170 SQ.MI

CATALOGING UNITS17020001 -- FRANKLIN D. ROOSEVELT LAKE. WASHINGTON.
AREA = 2170 SQ.MI.
17020002 -- KETTLE. WASHINGTON.
AREA = 966 SQ.MI
17020003 -- COLVILLE. WASHINGTON.
AREA = 1030 SQ.MI
17020004 -- SANPOIL. WASHINGTON.
AREA = 1080 SQ.MI.
17020005 -- CHIEF JOSEPH. WASHINGTON.
AREA = 1390 SQ.MI.
17020006 -- OKANOGAN. WASHINGTON.
AREA = 1640 SQ.MI.
17020007 -- SIMILKAMEEN. WAHINGTON.
AREA = 671 SQ.MI.
17020008 -- METHOW. WASHINGTON.
AREA = 1820 SQ.MI.
17020009 -- LAKE CHELAN. WASHINGTON.
AREA = 955 SQ.MI.
17020010 = UPPER COLUMBIA-ENTIAT. WASHINGTON
AREA = 1520 SQ.MI
17020011 -- WENATCHEE. WASHINGTON.
AREA = 1350 SQ.MI.
17020012 -- MOSES COULEE. WASHINGTON.
AREA = 926 SQ.MI
17020013 -- UPPER CRAB. WASHINGTON.
AREA = 1860 SQ.MI.
17020014 -- BANKS LAKE. WASHINGTON.
AREA = 609 SQ.MI.
17020015 -- LOWER CRAB. WASHINGTON.
AREA = 2510 SQ.MI.
17020016 -- UPPER COLUMBIA-PRIEST RAPIDS. WASHINGTON.
AREA = 2070 SQ.MI.
SUBREGION 1703 -- YAKAMA. THE YAKAMA RIVER BASIN. WASHINGTON.
AREA = 6210 SQ.MI.

ACCOUNTING UNIT 170300 -- YAKIMA. WASHINGTON.
AREA = 6210 SQ.MI.

CATALOGING UNITS 17030001 -- UPPER YAKIMA. WASHINGTON.
AREA = 2130 SQ.MI.
17030002 -- NACHES. WASHINGTON.
AREA = 1130 SQ.MI.
17030003 -- LOWER YAKAMA. WASHINGTON.
AREA = 2950 SQ.MI.

SUBREGION 1705 -- MIDDLE SNAKE: THE SNAKE RIVER BASIN BELOW THE CLOVER CREEK BASIN TO HELLS CANYON DAM. IDAHO, NEVADA, OREGON.
AREA = 36700 SQ.MI.

ACCOUNTIING UNIT 17052 -- MIDDLE SNAKE POWDER: THE SNAKE RIVER BASIN BELOW THE WEISER RIVER BASIN TO HELLS CANYON DAM. IDAHO OREGON.
AREA = 4100 SQ.MI.

CATALOGING UNITS 17050201 -- BROWNLEE RESERVOIR. IDAHO, OREGON.
17050202 -- BURNT. OREGON.
17050203 -- POWDER. OREGON.

SUBREGION 1706 -- LOWER SNAKE: THE SNAKE RIVER BASIN BELOW HELLS CANYON DAM TO ITS CONFLUENCE WITH THE COLUMBIA RIVER. IDAHO, OREGON,WASHINGTON.
AREA = 35200 SQ.MI

ACCOUNTING UNIT 170601 -- LOWER SNAKE: THE SNAKE RIVER BASIN BELOW HELLS CANYON DAM TO ITS CONFLUENCE WITH THE COLUMBIA RIVER, EXCLUDING THE SALMON AND CLEARWATER RIVER BASINS. IDAHO, OREGON, WASHINGTON.
AREA = 11800 SQ.MI.

CATALOGING UNITS 1706101 -- HELLS CANYON. IDAHO, OREGON.
AREA = 545 SQ.MI.
1760102 -- IMNAHA. OREGON.
AREA = 855 SQ.MI.
1760103 -- LOWER SNAKE-ASOTIN. IDAHO, OREGON, WASHINGTON.
AREA = 711 SQ.MI.

1760104 -- UPPER GRANDE RONDE. OREGON.
AREA = 1650 SQ.MI.
176060105 -- WALLOWA. OREGON.
AREA = 950 SQ.MI.
17060106 -- LOWER GRANDE RONDE.OREGON, WASHINGTON.
AREA = 1530 SQ.MI
17060107 -- LOWER SNAKE- TUCANNON. WASHINGTON.
AREA = 1480 SQ.MI.
1706108 -- PALOUSE. IDAHO, WASHINGTON.
AREA = 2360 SQ.MI.
1706109 -- ROCK. IDAHO, WASHINGTON.
AREA = 962 SQ.MI.
1706110 - LOWER SNAKE. WASHINGTON.
AREA = 731 SQ.MI.

ACCOUNTING UNIT 170602 -- SALMON: THE SALMON RIVER BASIN. IDAHO
AREA = 14000 SQ.MI.

CATALOGING UNITS 17060201 -- UPPER SALMON. IDAHO.
AREA = 2410 SQ.MI.
17060202 -- PAHSIMEROI. IDAHO.
AREA = 825 SQ.MI.
17060203 -- MIDDLE SALMON-PANTHER. IDAHO.
AREA = 1810 SQ.MI.
17060204 -- LEMHI. IDAHO.
AREA = 1270 SQ.MI.
17060205 -- UPPER MIDDLE FORK SALMON. IDAHO.
AREA = 1490 SQ.MI.
17060206 -- LOWER MIDDLE FORK SALMON. IDAHO
AREA = 1370 SQ.MI
17060207 -- MIDDLE SALMON-CHBERLAN. IDAHO.
AREA = 1700 SQ.MI.
17060208 -- SOUTH FORK SALMON. IDAHO.
AREA = 1310 SQ.MI
17060209 -- LOWER SALMON. IDAHO
AREA = 1240 SQ.MI.
17060210 -- LITTLE SALMON. IDAHO.
AREA = 582 SQ.MI.

ACCOUNTING UNIT 170603 -- CLEARWATER: THE CLEARWATER RIVER BASIN IDAHO, WASHINGTON.
AREA = 9420 SQ.MI.

CATALOGING UNITS 17060301 -- UPPER SELWAY. IDAHO.
AREA = 997 SQ.MI.
17060302 -- LOWER SELWAY. IDAHO.
AREA = 1030 SQ.MI.
17060303 -- LOCHSA. IDAHO.
AREA = 1180 SQ.MI.
17060304 - MIDDLE FORK CLEARWATER. IDAHO.
AREA =213 SQ.MI.
17060305 -- SOUTH FORK CLEARWATER. IDAHO.
AREA =1170 SQ.MI.
17060306 -- CLEARWATER. IDAHO,WASHINGTON.
AREA =2340 SQ.MI.
17060307 -- UPPER NOTH FORK CLEARWATER. IDAHO.
AREA =1320 SQ.MI.
17060308 -- LOWER NORTH FORK CLEARWATER. IDAHO.
AREA =1170 SQ.MI.

SUBREGION 1707 -- MIDDLE COLUMBIA: THE COLUMBIA RIVER BASIN BELOW THE CONFLUENCE WITH THE SNAKE RIVER BASIN TO BONNEVILLE DAM. OREGON, WASHINGTON.
AREA =29800 SQ.MI.

ACCOUNTING UNIT 1700701 -- MIDDLE COLUMBIA: THECOLUMBIA RIVER BASIN BELOW THE CONFLUENCE WITH THE SNAKE RIVER BASIN TO BONNEVILLE DAM, EXCLUDING THE DESCHUTES AND JOHN DAY RIVER BASINS. OREGON, WASHINGTON.
AREA =29800 SQ.MI.

CATALOGING UNITS 17070101 -- MIDDLE COLUMBIA-LAKE WALLULA. OREGON, WASHINGTON.
AREA =2550 SQ.MI.
17070102 -- WALLA WALLA, OREGON, WASHINGTON.
AREA --11750 SQ.MI.
17070103 -- UMATILLA. OREGON.
AREA =2540 SQ.MI.
17070104 -- WILLOW. OREGON.
AREA =881 SQ.MI
17070105 -- MIDDLE COLUMBIA-HOOD. OREGON, WASHINGTON.
AREA =2170 SQ.MI.
17070106 -- KLICKITAT. WASHINGTON.
AREA =1330 SQ.MI.

Appendix C Installation Diagrams

This appendix contains drawings of PIT Tag Identification System sites in use. If you need additional information about a site, please contact NMFS or PSMFC.

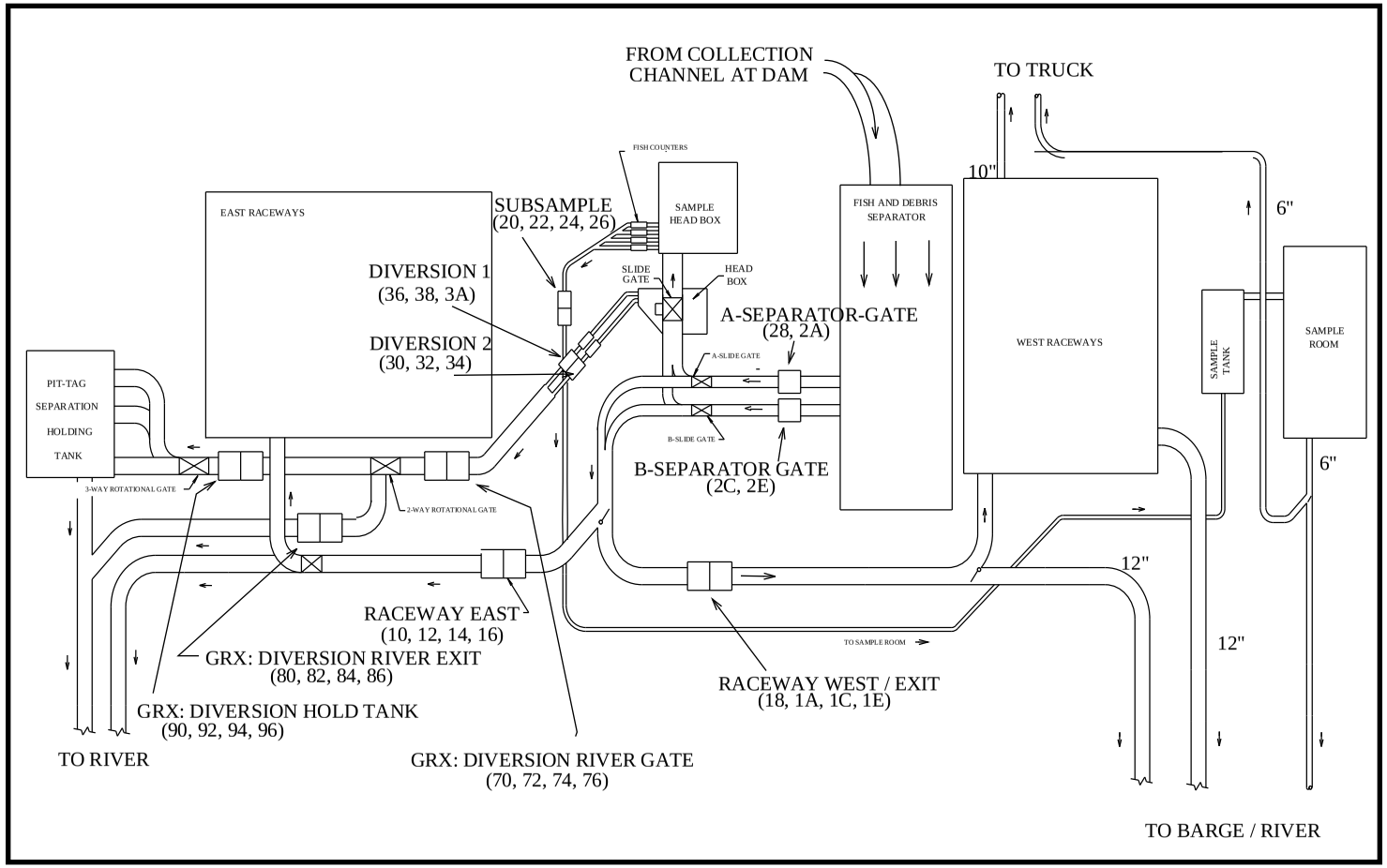


Figure C-1 *Lower Granite Dam*

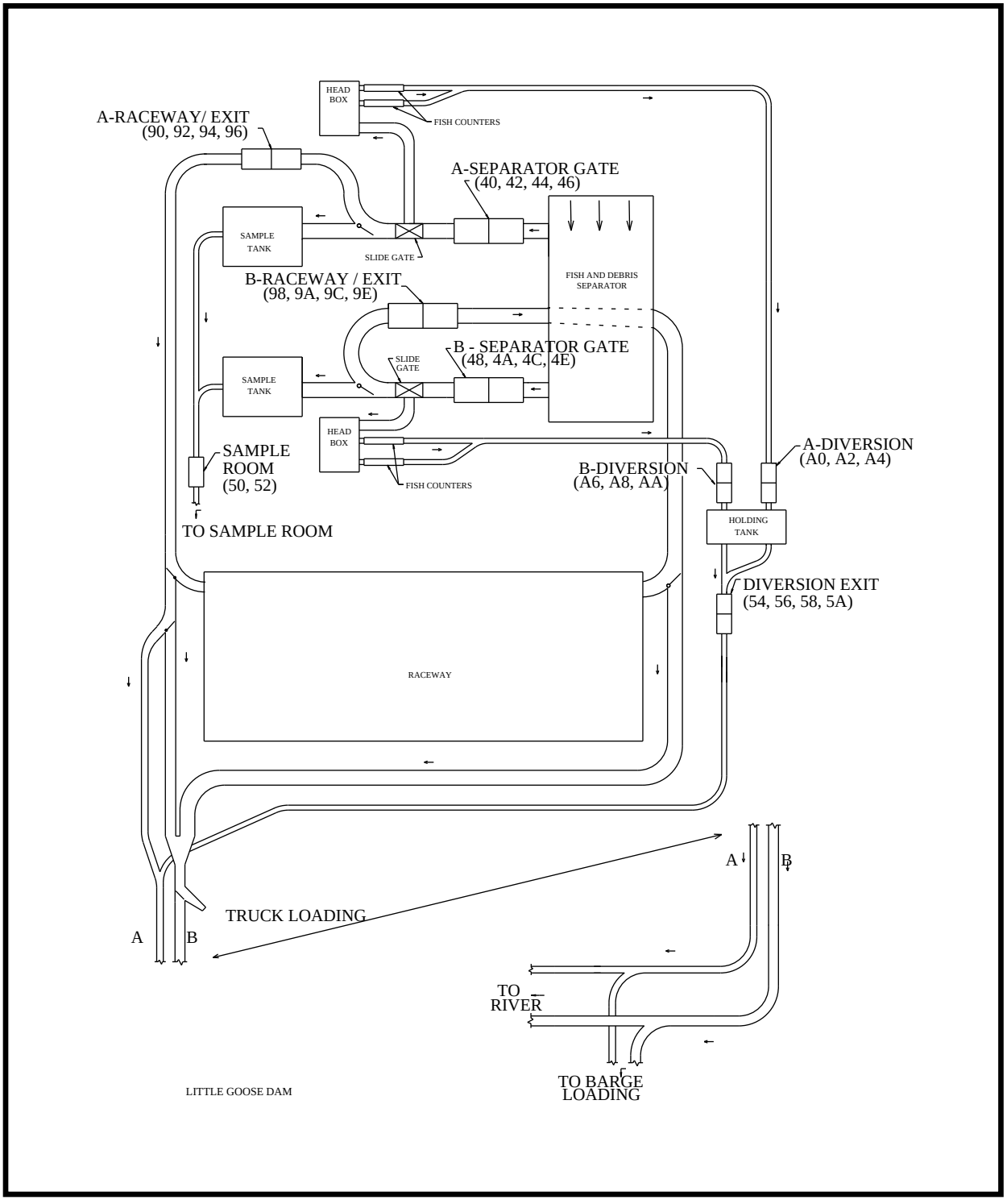


Figure C-2 *Little Goose Dam*

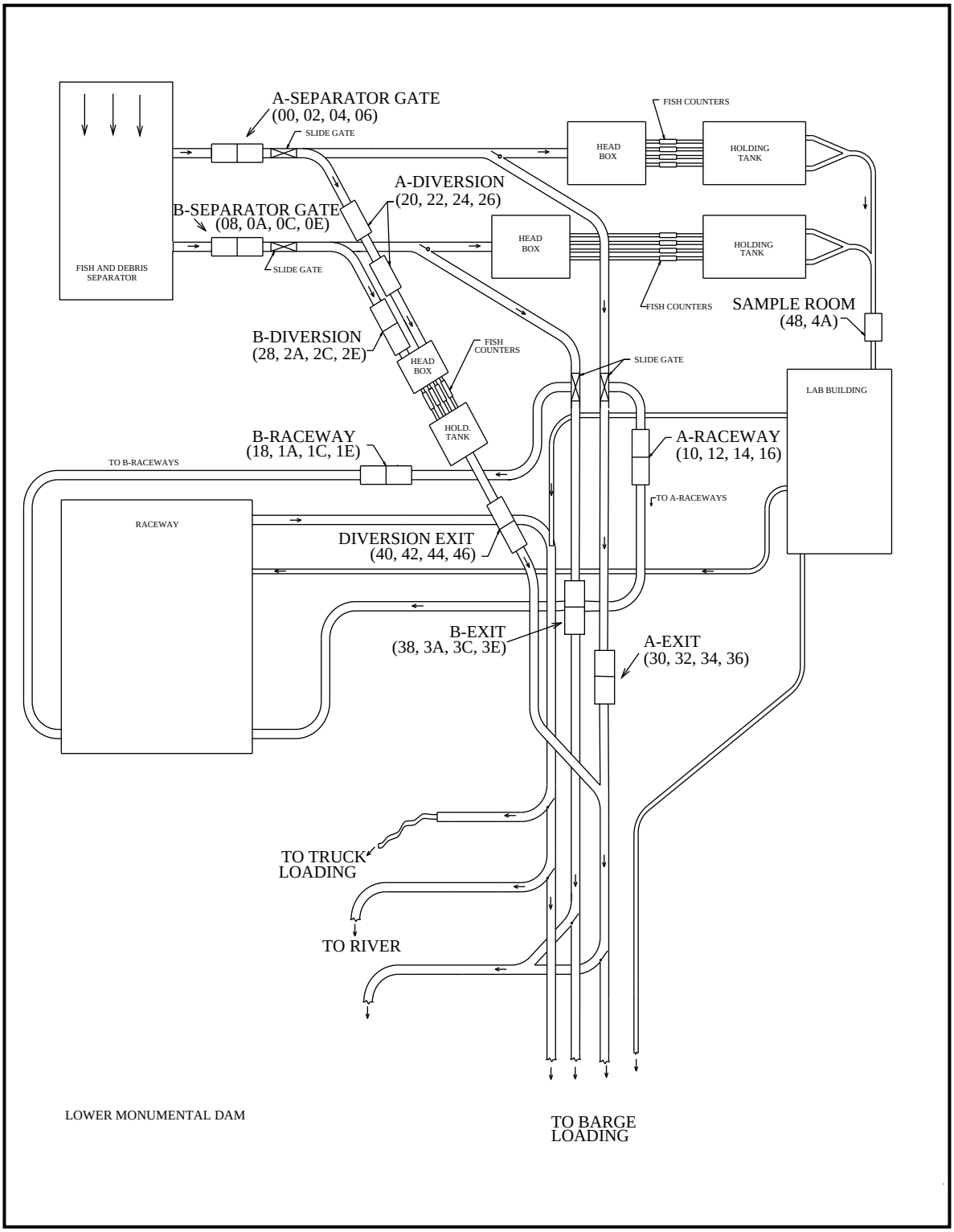


Figure C-3 *Lower Monumental Dam*

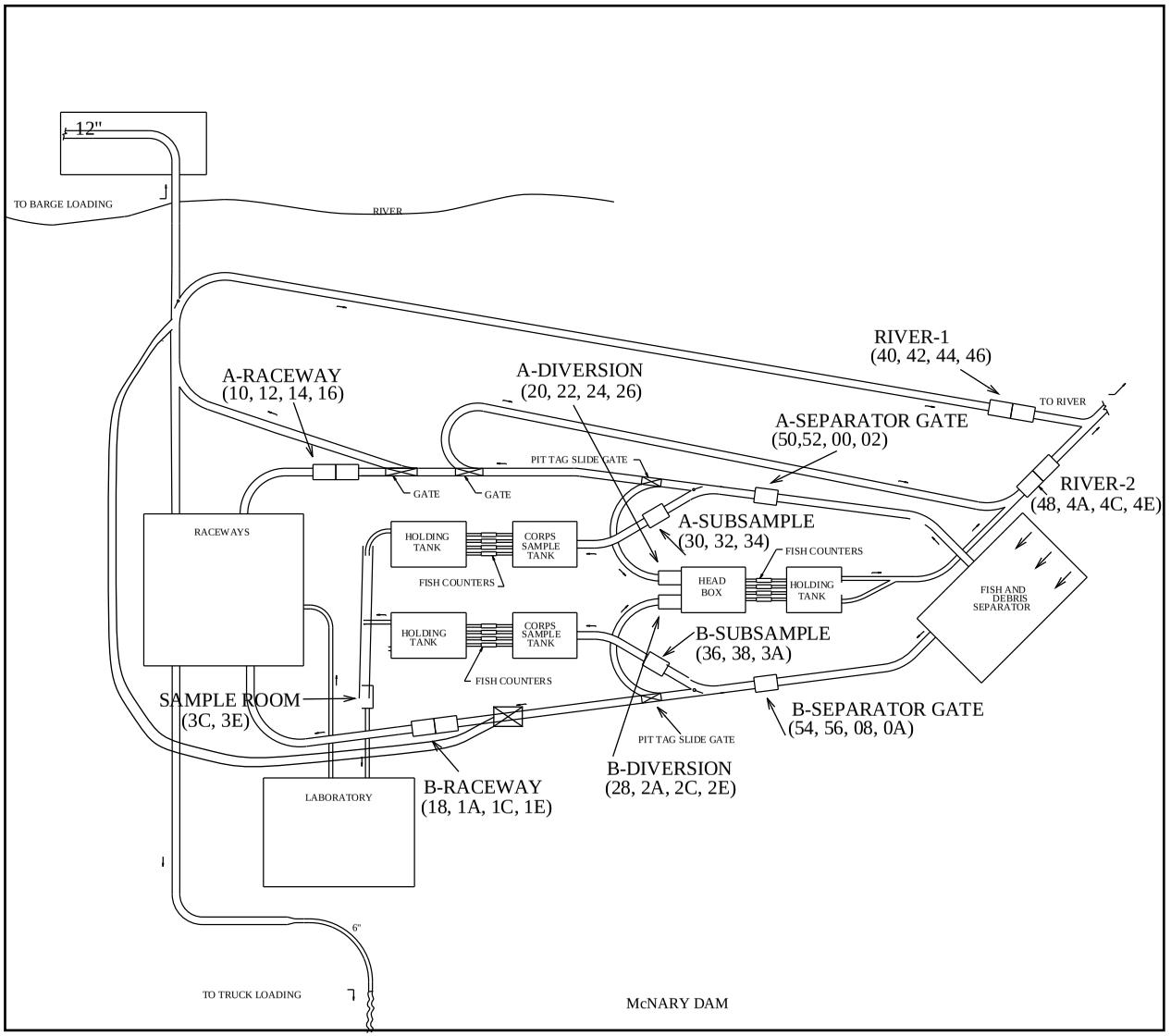


Figure C-4 *McNary Dam*

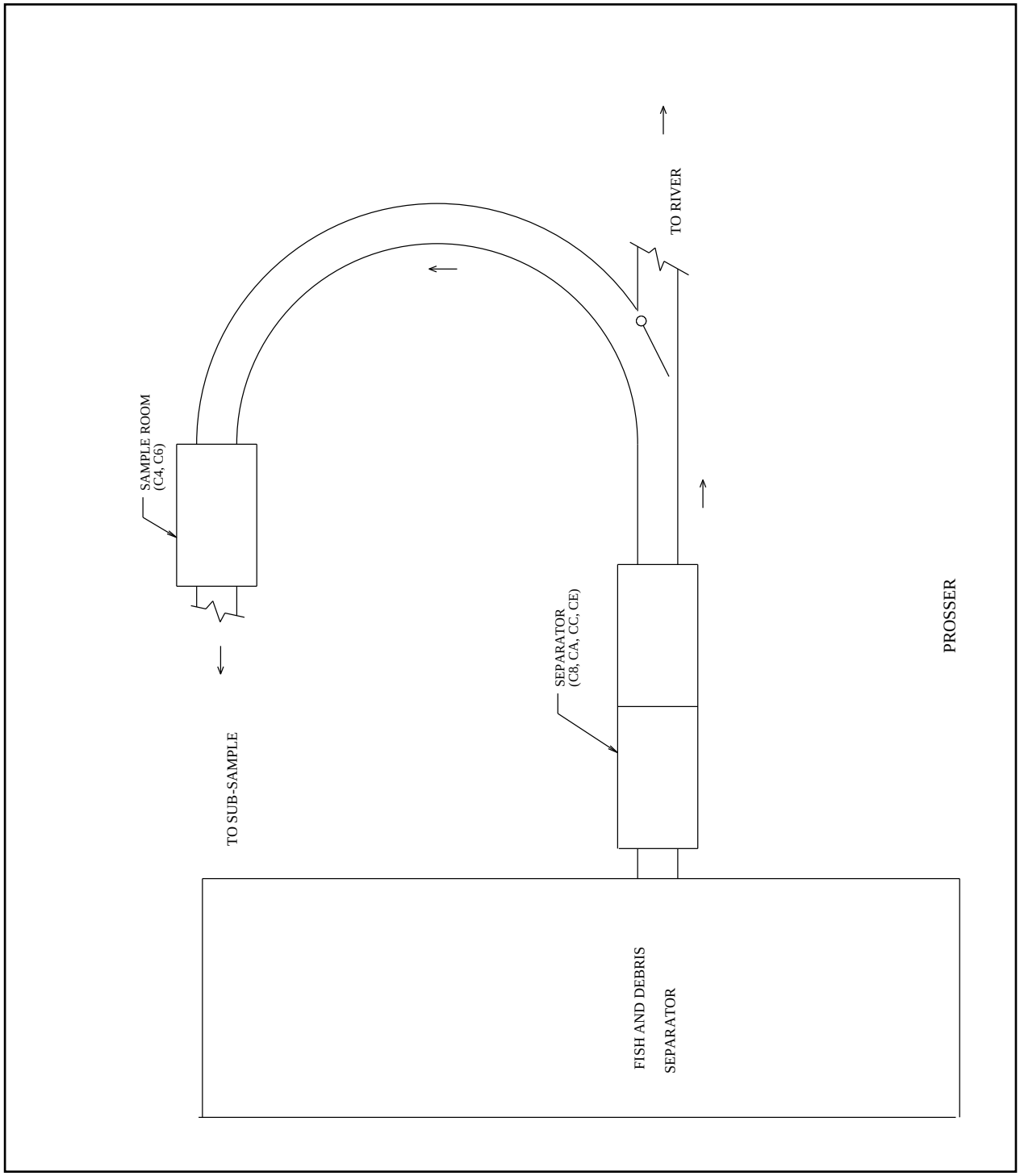


Figure C-5 *Prosser Juvenile Trap*

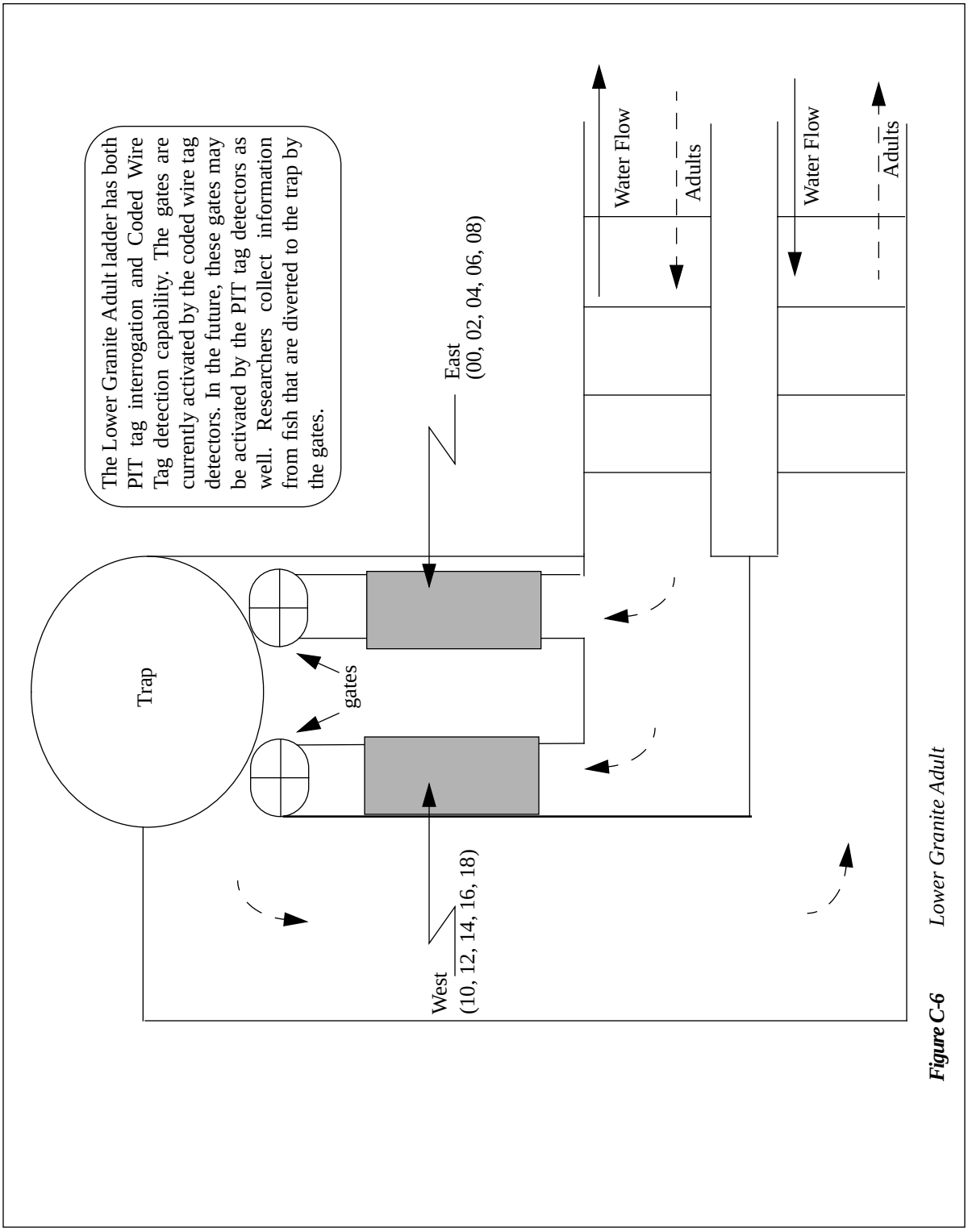
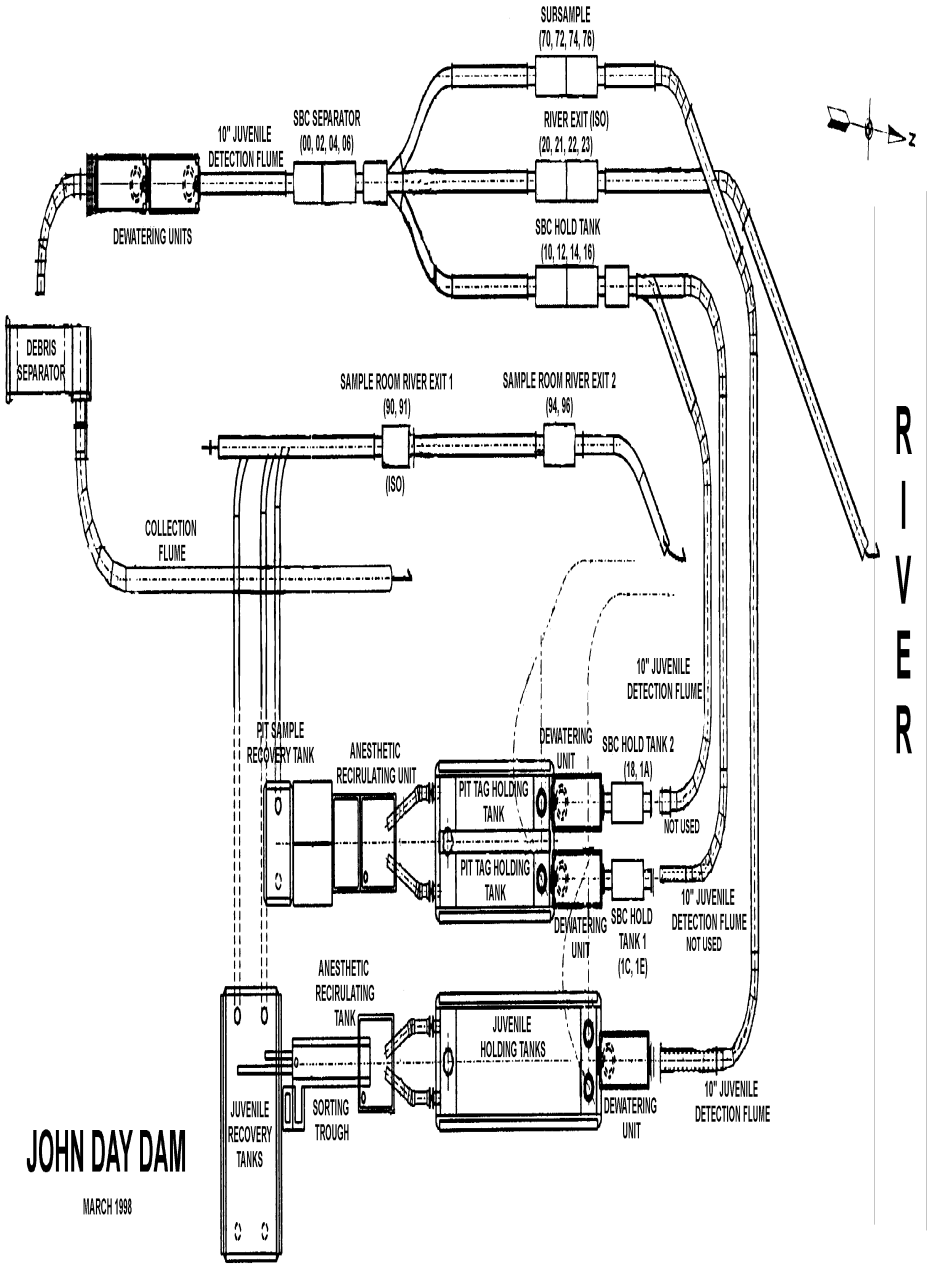


Figure C-6 *Lower Granite Adult*

Figure C-7 *John Day Sampling Facility*



Appendix D Maps

Section D-1. State of Idaho

Section D-2. State of Oregon

Section D-3. State of Washington

Section D-4. Columbia Basin

Appendix E Julian Date Calendars

JULIAN DATE CALENDAR

(PERPETUAL)

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Day
1	001	032	060	091	121	152	182	213	244	274	305	335	1
2	002	033	061	092	122	153	183	214	245	275	306	336	2
3	003	034	062	093	123	154	184	215	246	276	307	337	3
4	004	035	063	094	124	155	185	216	247	277	308	338	4
5	005	036	064	095	125	156	186	217	248	278	309	339	5
6	006	037	065	096	126	157	187	218	249	279	310	340	6
7	007	038	066	097	127	158	188	219	250	280	311	341	7
8	008	039	067	098	128	159	189	220	251	281	312	342	8
9	009	040	068	099	129	160	190	221	252	282	313	343	9
10	010	041	069	100	130	161	191	222	253	283	314	344	10
11	011	042	070	101	131	162	192	223	254	284	315	345	11
12	012	043	071	102	132	163	193	224	255	285	316	346	12
13	013	044	072	103	133	164	194	225	256	286	317	347	13
14	014	045	073	104	134	165	195	226	257	287	318	348	14
15	015	046	074	105	135	166	196	227	258	288	319	349	15
16	016	047	075	106	136	167	197	228	259	289	320	350	16
17	017	048	076	107	137	168	198	229	260	290	321	351	17
18	018	049	077	108	138	169	199	230	261	291	322	352	18
19	019	050	078	109	139	170	200	231	262	292	323	353	19
20	020	051	079	110	140	171	201	232	263	293	324	354	20
21	021	052	080	111	141	172	202	233	264	294	325	355	21
22	022	053	081	112	142	173	203	234	265	295	326	356	22
23	023	054	082	113	143	174	204	235	266	296	327	357	23
24	024	055	083	114	144	175	205	236	267	297	328	358	24
25	025	056	084	115	145	176	206	237	268	298	329	359	25
26	026	057	085	116	146	177	207	238	269	299	330	360	26
27	027	058	086	117	147	178	208	239	270	300	331	361	27
28	028	059	087	118	148	179	209	240	271	301	332	362	28
29	029		088	119	149	180	210	241	272	302	333	363	29
30	030		089	120	150	181	211	242	273	303	334	364	30
31	031		090		151		212	243		304		365	31

(FOR LEAP YEAR USE REVERSE SIDE)

JULIAN DATE CALENDAR

For Leap Years

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Day
1	001	032	061	092	122	153	183	214	245	275	306	336	1
2	002	033	062	093	123	154	184	215	246	276	307	337	2
3	003	034	063	094	124	155	185	216	247	277	308	338	3
4	004	035	064	095	125	156	186	217	248	278	309	339	4
5	005	036	065	096	126	157	187	218	249	279	310	340	5
6	006	037	066	097	127	158	188	219	250	280	311	341	6
7	007	038	067	98	128	159	189	220	251	281	312	342	7
8	008	039	068	99	129	160	190	221	252	282	313	343	8
9	009	040	069	100	130	161	191	222	253	283	314	344	9
10	010	041	070	101	131	162	192	223	254	284	315	345	10
11	011	042	071	102	132	163	193	224	255	285	316	346	11
12	012	043	072	103	133	164	194	225	256	286	317	347	12
13	013	044	073	104	134	165	195	226	257	287	318	348	13
14	014	045	074	105	135	166	196	227	258	288	319	349	14
15	015	046	075	106	136	167	197	228	259	289	320	350	15
16	016	047	076	107	137	168	198	229	260	290	321	351	16
17	017	048	077	108	138	169	199	230	261	291	322	352	17
18	018	049	078	109	139	170	200	231	262	292	323	353	18
19	019	050	079	110	140	171	201	232	263	293	324	354	19
20	020	051	080	111	141	172	202	233	264	294	325	355	20
21	021	052	081	112	142	173	203	234	265	295	326	356	21
22	022	053	082	113	143	174	204	235	266	296	327	357	22
23	023	054	083	114	144	175	205	236	267	297	328	358	23
24	024	055	084	115	145	176	206	237	268	298	329	359	24
25	025	056	085	116	146	177	207	238	269	299	330	360	25
26	026	057	086	117	147	178	208	239	270	300	331	361	26
27	027	058	087	118	148	179	209	240	271	301	332	362	27
28	028	059	088	119	149	180	210	241	272	302	333	363	28
29	029	060	089	120	150	181	211	242	273	303	334	364	29
30	030		090	121	151	182	212	243	274	304	335	365	30
31	031		091		152		213	244		305		366	31

(USE IN 1964,1968,1972

Appendix F Suspect Duplicate Tags

In March, 1989, Destron IDI received duplicate wafers. The wafers were manufactured into tags and were distributed within the Columbia River Basin. The range of the duplicate codes is:

7F7E42706C - 7F7E432E37

Other duplicate tag codes can be generated by mis-reads (bit-shifts) during the tagging or interrogation events. Tag Codes that do not begin with the number 7 and that are read with readers that incorporate a cyclic redundancy check are less likely to produce mis-reads.

All PSMFC supported interrogation sites have incoroporated the CRC firmware since 1996.