2025 Sturgeon Tagging Encounter Form

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Load Packages

```
library(dplyr)
```

```
Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union
```

```
library(tidyr)
library(lubridate)
```

```
Attaching package: 'lubridate'

The following objects are masked from 'package:base':

    date, intersect, setdiff, union
```

Import tagging sheets

```r
day1 <- read.csv("data/trip_1.csv", na.strings = "")
day2 <- read.csv("data/trip_2.csv", na.strings = "")
day3 <- read.csv("data/trip_3.csv", na.strings = "")
day4 <- read.csv("data/trip_4.csv", na.strings = "")
day5 <- read.csv("data/trip_5.csv", na.strings = "")
head(day1)
```

```
  Fish.. Species PIT.. V16.Short Clip..    FL    TL Interorbital Inside.Mouth
1      1     AST     1    201133      1 138.0 158.0       102.00        33.70
2      2     AST     2    201127      2 156.0 179.0       138.00        61.00
3      3     AST     3    201134      3 116.0 179.0       138.00        41.60
4      4     AST     4    201128      4 174.2 194.7           NA        53.00
5      5     AST     R    201228      5 197.0 225.0           NA        74.50
6      6     AST     6    201131      6 156.3 177.9       127.37        56.91
  Outside.Mouth Recap                          Notes  X       PIT.CODE
1         61.00     N                          <NA> NA 3DD.003E185F8C
2        101.00     N                          <NA> NA 3DD.003E185F8D
3         71.30     N                          <NA> NA 3DD.003E185F93
4         87.00     N                          <NA> NA 3DD.003E185F8F
5        102.60     Y               UMAINE RECAPTURE NA 3D9.257C65BA2C
6         89.37     N Stayed at surface post release NA 3DD.003E185F77
    V16.CODE.Full M.O.Ratio Determined.Species Sex X.1      Date    River
1 A69-2801-201133 0.3303922                AST   U  NA 7/29/2025 Kennebec
2 A69-2801-201127 0.4420290                AST   U  NA      <NA>     <NA>
3 A69-2801-201134 0.3014493                AST   U  NA      <NA>     <NA>
4 A69-2801-201128        NA                UKN   U  NA      <NA>     <NA>
5 A69-2801-201228        NA                UKN   U  NA      <NA>     <NA>
6 A69-2801-201131 0.4468085                AST   U  NA      <NA>     <NA>
      Site Easting Northing Notes.1
1 Gardiner  438716  4899033      NA
2     <NA>      NA       NA      NA
3     <NA>      NA       NA      NA
4     <NA>      NA       NA      NA
5     <NA>      NA       NA      NA
6     <NA>      NA       NA      NA
```

```r
head(day2)
```

```
  Fish.. Species PIT.. V16.Short Clip..   FL   TL Interorbital Inside.Mouth
1     11     SNS    11    201219     11 73.1 88.2           54           36
```

```
2     12     SNS    12    201218     12 68.9 82.8          57           38
3     13     SNS    13    201216     13 65.6 76.6          51           40
4     14     SNS    14    201221     14 75.8 86.2          59           46
5     15     SNS    15    201220     15 65.2 77.1          50           36
6     16     SNS    16    201129     16 74.0 84.8          57           44
  Outside.Mouth Recap            Notes  X       PIT.CODE   V16.CODE.Full
1             41     N             <NA> NA 3DD.003E185F7F A69-2801-201219
2             46     N             <NA> NA 3DD.003E185F94 A69-2801-201218
3             47     N             <NA> NA 3DD.003E185F74 A69-2801-201216
4             54     N     NO RIGHT PEC NA 3DD.003E185F91 A69-2801-201221
5             43     N          WOUND L NA 3DD.003E185F90 A69-2801-201220
6             55     N CAUDAL DEFORMITY NA 3DD.003E185F78 A69-2801-201129
  M.O.Ratio Determined.Species Sex X.1     Date    River      Site Easting
1 0.6666667                SNS   U  NA 8/4/2025 Kennebec Hallowell  437291
2 0.6666667                SNS   U  NA     <NA>     <NA>      <NA>      NA
3 0.7843137                SNS   U  NA     <NA>     <NA>      <NA>      NA
4 0.7796610                SNS   U  NA     <NA>     <NA>      <NA>      NA
5 0.7200000                SNS   U  NA     <NA>     <NA>      <NA>      NA
6 0.7719298                SNS   U  NA     <NA>     <NA>      <NA>      NA
  Northing Notes.1
1  4902372      NA
2       NA      NA
3       NA      NA
4       NA      NA
5       NA      NA
6       NA      NA
```

```
head(day3)
```

```
  Fish.. Species PIT.. V16.Short Clip..    FL    TL Interorbital Inside.Mouth
1     25     SNS     R    201244     26  91.1 105.0         73.1         49.1
2     26     SNS    26    201236     27  87.3 102.4         67.7         47.2
3     27     SNS    27    201241     28  95.0 109.7         71.0         49.0
4     28     SNS    28    201245     29 109.2 118.0         69.1         48.5
5     29     AST    29    201246     30  94.4 113.2         77.8         37.6
6     30     AST    30    201243     31  87.0 101.4         63.0         33.0
  Outside.Mouth Recap            Notes  X       PIT.CODE   V16.CODE.Full
1          59.8     Y UMAINE RECAPTURE NA 3DD.003BEF3671 A69-2801-201244
2          53.7     N             <NA> NA 3DD.003E185F7B A69-2801-201236
3          61.0     N             <NA> NA 3DD.003E185F82 A69-2801-201241
4          66.8     N             <NA> NA 3DD.003E185F6E A69-2801-201245
5          51.4     N             <NA> NA 3DD.003E185F8B A69-2801-201246
```

```
6          47.0     N             <NA> NA 3DD.003E185F8A A69-2801-201243
  M.O.Ratio Determined.Species  Sex X.1     Date     River        Site Easting
1 0.6716826                SNS    U  NA 8/5/2025 Penobscot The Spindle  514494
2 0.6971935                SNS <NA>  NA     <NA>      <NA>        <NA>      NA
3 0.6901408                SNS <NA>  NA     <NA>      <NA>        <NA>      NA
4 0.7018813                SNS <NA>  NA     <NA>      <NA>        <NA>      NA
5 0.4832905                AST <NA>  NA     <NA>      <NA>        <NA>      NA
6 0.5238095                AST <NA>  NA     <NA>      <NA>        <NA>      NA
  Northing Notes.1
1  4948116      NA
2       NA      NA
3       NA      NA
4       NA      NA
5       NA      NA
6       NA      NA
```

```
head(day4)
```

```
  Fish.. Species PIT.. V16.Short Clip..    FL    TL Interorbital Inside.Mouth
1     40     AST    37    201235     41 109.0 125.0         91.4         48.2
2     41     AST    38    201230     42   1.0 114.0         80.0         43.0
3     42     AST    39    201231     43 103.0 123.0         85.0         43.0
4     43     AST    40        NA     44  93.0 105.8         76.0         36.4
5     44     AST    41        NA     45  84.2 100.2         65.0         30.5
6     45     AST    42    201226     46  95.0 112.0         75.0         34.8
  Outside.Mouth Recap Notes  X       PIT.CODE   V16.CODE.Full M.O.Ratio
1          68.4     N  <NA> NA 3DD.003E185F6D A69-2801-201235 0.5273523
2          59.0     N  <NA> NA 3DD.003E185F6B A69-2801-201230 0.5375000
3          64.0     N  <NA> NA 3DD.003E185F73 A69-2801-201231 0.5058824
4          55.4     N  <NA> NA 3DD.003E185F71            <NA> 0.4789474
5          46.7     N  <NA> NA 3DD.003E185F5F            <NA> 0.4692308
6          56.4     N  <NA> NA 3DD.003E185F58 A69-2801-201226 0.4640000
  Determined.Species  Sex X.1      Date     River        Site Easting Northing
1                AST    U  NA 8/17/2025 Penobscot The Spindle  514494  4948116
2                AST <NA>  NA      <NA>      <NA>        <NA>      NA       NA
3                AST <NA>  NA      <NA>      <NA>        <NA>      NA       NA
4                AST <NA>  NA      <NA>      <NA>        <NA>      NA       NA
5                AST <NA>  NA      <NA>      <NA>        <NA>      NA       NA
6                AST <NA>  NA      <NA>      <NA>        <NA>      NA       NA
  Notes.1
1      NA
2      NA
```

```
3      NA
4      NA
5      NA
6      NA
```

```
head(day5)
```

```
  Fish.. Species PIT.. V16.Short Clip..    FL    TL Interorbital Inside.Mouth
1     52     AST    48    201237     53 115.4 130.8         93.1         41.0
2     53     AST     R    201249     66 176.2 210.0        176.0         69.0
3     54     AST    49    201248     70 102.6 116.8         81.0         41.0
4     55     AST    50    201253     79 109.4 120.2         92.0         42.0
5     56     AST    51    201250     64 120.0 143.1         96.0         48.0
6     57     AST    52        NA     69  92.2 108.8         75.2         33.3
  Outside.Mouth Recap                     Notes  X       PIT.CODE
1          69.0     N                      <NA> NA 3DD.003E185F64
2         112.0     Y UMAINE RECAP / GIRTH 78CM NA 3D9.1BF14AF288
3          58.0     N                      <NA> NA 3DD.003E185F5A
4          63.0     N                      <NA> NA 3DD.003E185F39
5          73.0     N                      <NA> NA 3DD.003E185F57
6          49.2     N                      <NA> NA 3DD.003E185F56
    V16.CODE.Full M.O.Ratio Determined.Species Sex X.1      Date     River
1 A69-2801-201237 0.4403867                AST   U  NA 8/18/2026 Penobscot
2 A69-2801-201249 0.3920455                AST   U  NA      <NA>      <NA>
3 A69-2801-201248 0.5061728                AST   U  NA      <NA>      <NA>
4 A69-2801-201253 0.4565217                AST   U  NA      <NA>      <NA>
5 A69-2801-201250 0.5000000                AST   U  NA      <NA>      <NA>
6            <NA> 0.4428191                AST   U  NA      <NA>      <NA>
        Site Easting Northing            Notes.1
1 The Spindle  514494  4948116 SEAL AT END OF DAY
2       <NA>      NA       NA               <NA>
3       <NA>      NA       NA               <NA>
4       <NA>      NA       NA               <NA>
5       <NA>      NA       NA               <NA>
6       <NA>      NA       NA               <NA>
```

Combine to One Sheet

Prep for TidBits

```
PrepTid <- function(DAY){
  DAY %>%
  filter(! is.na(Fish..)) %>%
  fill(Date, River, Site, Easting, Northing, .direction = "down") %>%
  rename(FISH = Fish..,
         CLIP = Clip..) %>%
  unite("Notes", Notes, Notes.1, sep = " ", na.rm = TRUE) %>%
  select(! c(X.1, X, Determined.Species, PIT..))
}

day1c <- PrepTid(day1)
day2c <- PrepTid(day2)
day3c <- PrepTid(day3)
day4c <- PrepTid(day4)
day5c <- PrepTid(day5)
```

Combine

```
alldays <- rbind(day1c, day2c, day3c, day4c, day5c)
glimpse(alldays)
```

```
Rows: 63
Columns: 20
$ FISH          <int> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 1~
$ Species       <chr> "AST", "AST", "AST", "AST", "AST", "AST", "AST", "AST", ~
$ V16.Short     <int> 201133, 201127, 201134, 201128, 201228, 201131, 201130, ~
$ CLIP          <int> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 1~
$ FL            <dbl> 138.0, 156.0, 116.0, 174.2, 197.0, 156.3, 134.0, 149.3, ~
$ TL            <dbl> 158.0, 179.0, 179.0, 194.7, 225.0, 177.9, 149.5, 173.1, ~
$ Interorbital  <dbl> 102.00, 138.00, 138.00, NA, NA, 127.37, 110.50, 127.60, ~
$ Inside.Mouth  <dbl> 33.70, 61.00, 41.60, 53.00, 74.50, 56.91, 48.80, 46.98, ~
$ Outside.Mouth <dbl> 61.00, 101.00, 71.30, 87.00, 102.60, 89.37, 75.10, 71.95~
$ Recap         <chr> "N", "N", "N", "N", "Y", "N", "N", "N", "N", "N", "N", "~
$ Notes         <chr> "", "", "", "", "UMAINE RECAPTURE", "Stayed at surface p~
$ PIT.CODE      <chr> "3DD.003E185F8C", "3DD.003E185F8D", "3DD.003E185F93", "3~
```

```
$ V16.CODE.Full <chr> "A69-2801-201133", "A69-2801-201127", "A69-2801-201134",~
$ M.O.Ratio     <dbl> 0.3303922, 0.4420290, 0.3014493, NA, NA, 0.4468085, 0.44~
$ Sex           <chr> "U", "U", "U", "U", "U", "U", "U", "U", "M", "M", "U", "~
$ Date          <chr> "7/29/2025", "7/29/2025", "7/29/2025", "7/29/2025", "7/2~
$ River         <chr> "Kennebec", "Kennebec", "Kennebec", "Kennebec", "Kennebe~
$ Site          <chr> "Gardiner", "Gardiner", "Gardiner", "Gardiner", "Gardine~
$ Easting       <int> 438716, 438716, 438716, 438716, 438716, 438716, 438716, ~
$ Northing      <int> 4899033, 4899033, 4899033, 4899033, 4899033, 4899033, 48~
```

Summary Stats

```
szsum25 <- alldays %>%
  group_by(Species, River) %>%
  summarise(mean_FL= mean(FL),
            sd_FL = sd(FL),
            range_FL = max(FL) - min(FL))
```

```
`summarise()` has grouped output by 'Species'. You can override using the
`.groups` argument.
```

```
szsum25
```

```
# A tibble: 4 x 5
# Groups:   Species [2]
  Species River     mean_FL sd_FL range_FL
  <chr>   <chr>       <dbl> <dbl>    <dbl>
1 AST     Kennebec    151.  22.3      81
2 AST     Penobscot    98.2 29.1     175.
3 SNS     Kennebec     66.8  5.31     17
4 SNS     Penobscot    92.7  6.60     23.8
```

```
sum25 <- alldays %>%
  group_by(Species, River) %>%
  summarise(n_captures = n(),
            n_ac_tag = sum(!is.na(V16.Short)),
            mean_FL= mean(FL),
            sd_FL = sd(FL),
            range_FL = max(FL) - min(FL))
```

```
`summarise()` has grouped output by 'Species'. You can override using the
`.groups` argument.
```

```
sum25
```

```
# A tibble: 4 x 7
# Groups:   Species [2]
  Species River     n_captures n_ac_tag mean_FL sd_FL range_FL
  <chr>   <chr>          <int>    <int>   <dbl> <dbl>    <dbl>
1 AST     Kennebec          10       10   151.  22.3      81
2 AST     Penobscot         28       16    98.2 29.1     175.
3 SNS     Kennebec          14       13    66.8  5.31     17
4 SNS     Penobscot         11       11    92.7  6.60     23.8
```

Make Encounter Form

Check for wierd notes

```
unique(alldays$Notes)
```

```
 [1] ""                                "UMAINE RECAPTURE"
 [3] "Stayed at surface post release" "Milt"
 [5] "NO RIGHT PEC"                    "WOUND L"
 [7] "CAUDAL DEFORMITY"                "RIGHT PECTORAL WOUND"
 [9] "NO AC TAG"                       "JOE THINKS ITS UGLY"
[11] "UMAINE RECAP"                    "SEAL AT END OF DAY"
[13] "UMAINE RECAP / GIRTH 78CM"       "UMAINE PREVIOUSE DAY RECAP"
```

```
alldaysc <- alldays %>%
  mutate(Notes = case_when(Notes %in% c("",
                                        "Stayed at surface post release",
                                        "JOE THINKS ITS UGLY",
                                        "UMAINE RECAP",
                                        "UMAINE RECAPTURE",
                                        "SEAL AT END OF DAY",
                                        "NO AC TAG") ~ NA_character_,
                           Notes == "UMAINE RECAP / GIRTH 78CM" ~ "GIRTH 78CM",
                           TRUE ~ Notes))
unique(alldaysc$Notes)
```

```
[1] NA                              "Milt"
[3] "NO RIGHT PEC"                  "WOUND L"
[5] "CAUDAL DEFORMITY"              "RIGHT PECTORAL WOUND"
[7] "GIRTH 78CM"                    "UMAINE PREVIOUSE DAY RECAP"
```

Example Encounter Form

```
tidex <- read.csv("data/TidEncEx.csv")
names(tidex)
```

```
 [1] "Event"                    "Species"
 [3] "Rearing_Origin"           "Stage"
 [5] "System"                   "Encounter_Time_zone"
 [7] "Encounter_Timestamp"      "Encounter_Location"
 [9] "Encounter_Easting"        "Encounter_Northing"
[11] "Encounter_UTMZone"        "Encounter_Disposition"
[13] "Release_Status"           "Release_Timezone"
[15] "Release_Timestamp"        "Release_Location"
[17] "Release_Easting"          "Release_Northing"
[19] "TagType"                  "TagManufacturer"
[21] "TagModel"                 "TagSerialNumber"
[23] "EstTagLife"               "Acoustic_ID"
[25] "Acoustic_Sensor_type"     "Acoustic_.Sensor_idcode"
[27] "Acoustic_Sensor_value"    "PIT_ID"
[29] "Radio_ID"                 "Radio_Freq"
[31] "Radio_BurstRate"          "External_TagID"
[33] "Mark.Observed"            "Mark.Applied"
[35] "VIE"                      "ForkLength..cm."
[37] "TotalLength..cm."         "Mass..g."
[39] "Sex"                      "STRG_Interorbital.mm."
[41] "STRG_InsideMouth.mm."     "STRG_OutsideMouth.mm."
[43] "Notes"                    "Operator.s."
```

Change Values & add ac serial number

```
serial <- read.csv("data/serialN.csv")

RecapPIT <- alldaysc %>%
  group_by(PIT.CODE) %>%
```

```
  summarise(n_caps = n()) %>%
  filter(n_caps > 1)
RecapPIT
```

```
# A tibble: 1 x 2
  PIT.CODE       n_caps
  <chr>           <int>
1 3DD.003E185F71      2
```

```
unique(alldaysc$Recap)
```

```
[1] "N" "Y"
```

```
unique(alldaysc$Date)
```

```
[1] "7/29/2025" "8/4/2025"  "8/5/2025"  "8/17/2025" "8/18/2026"
```

```
alldaysr <- alldaysc %>%
  full_join(serial, by = "V16.CODE.Full") %>%
  mutate(event = case_when(Recap == "N" ~ "Initial capture",
                           Recap == "Y" & is.na(V16.CODE.Full) ~ "Recapture",
                           Recap == "Y" & !is.na(V16.CODE.Full) ~ "New Tag"),
         Sex = case_when( Sex %in% c("M", "F") ~ Sex,
                         TRUE ~ "UNK"),
         Date = mdy_hm(paste(Date, "0:00")),
         Date = format(Date, "%m/%d/%Y %H:%M"),
         tagtype = case_when(is.na(V16.CODE.Full) ~ "PIT",
                             TRUE ~ "Multiple"))
head(alldaysr)
```

```
  FISH Species V16.Short CLIP    FL    TL Interorbital Inside.Mouth
1    1     AST    201133    1 138.0 158.0       102.00        33.70
2    2     AST    201127    2 156.0 179.0       138.00        61.00
3    3     AST    201134    3 116.0 179.0       138.00        41.60
4    4     AST    201128    4 174.2 194.7           NA        53.00
5    5     AST    201228    5 197.0 225.0           NA        74.50
6    6     AST    201131    6 156.3 177.9       127.37        56.91
  Outside.Mouth Recap Notes       PIT.CODE   V16.CODE.Full M.O.Ratio Sex
1         61.00     N  <NA> 3DD.003E185F8C A69-2801-201133 0.3303922 UNK
```

```
2        101.00     N  <NA> 3DD.003E185F8D A69-2801-201127 0.4420290 UNK
3         71.30     N  <NA> 3DD.003E185F93 A69-2801-201134 0.3014493 UNK
4         87.00     N  <NA> 3DD.003E185F8F A69-2801-201128        NA UNK
5        102.60     Y  <NA> 3D9.257C65BA2C A69-2801-201228        NA UNK
6         89.37     N  <NA> 3DD.003E185F77 A69-2801-201131 0.4468085 UNK
              Date    River     Site Easting Northing Serial_N           event
1 07/29/2025 00:00 Kennebec Gardiner  438716  4899033  1638361 Initial capture
2 07/29/2025 00:00 Kennebec Gardiner  438716  4899033  1638355 Initial capture
3 07/29/2025 00:00 Kennebec Gardiner  438716  4899033  1638362 Initial capture
4 07/29/2025 00:00 Kennebec Gardiner  438716  4899033  1638356 Initial capture
5 07/29/2025 00:00 Kennebec Gardiner  438716  4899033  1645274         New Tag
6 07/29/2025 00:00 Kennebec Gardiner  438716  4899033  1638359 Initial capture
   tagtype
1 Multiple
2 Multiple
3 Multiple
4 Multiple
5 Multiple
6 Multiple
```

```
recaps <- alldaysr %>%
  filter(PIT.CODE %in% RecapPIT$PIT.CODE)
recaps
```

```
  FISH Species V16.Short CLIP   FL    TL Interorbital Inside.Mouth
1   43     AST        NA   44 93.0 105.8         76.0         36.4
2   63     AST        NA   78 90.4 104.6         72.9         35.1
  Outside.Mouth Recap                      Notes       PIT.CODE V16.CODE.Full
1          55.4     N                       <NA> 3DD.003E185F71          <NA>
2          52.4     Y UMAINE PREVIOUSE DAY RECAP 3DD.003E185F71          <NA>
  M.O.Ratio Sex             Date     River        Site Easting Northing
1 0.4789474 UNK 08/17/2025 00:00 Penobscot The Spindle  514494  4948116
2 0.4814815 UNK 08/18/2026 00:00 Penobscot The Spindle  514494  4948116
  Serial_N           event tagtype
1       NA Initial capture     PIT
2       NA       Recapture     PIT
```

Make Form Acoustic

```
tidnames <- names(tidex)


tid25icmult <- alldaysr %>%
  filter(event == "Initial capture",
         tagtype == "Multiple") %>%
  transmute(
    Event = event,
    Species = Species,
    Rearing_Origin = "Wild",
    Stage = NA,
    System = River,
    Encounter_Time_zone = "Eastern",
    Encounter_Timestamp = Date,
    Encounter_Location = Site,
    Encounter_Easting  = Easting,
    Encounter_Northing = Northing,
    Encounter_UTMZone  = "19",
    Encounter_Disposition = "Live",
    Release_Status = "Yes",
    Release_Timezone = "Eastern",
    Release_Timestamp = Date,
    Release_Location = Site,
    Release_Easting = Easting,
    Release_Northing = Northing,
    TagType = tagtype,
    TagManufacturer = "Innovosea",
    TagModel = "V16-4x-BLU-1",
    TagSerialNumber = Serial_N,
    EstTagLife = "2560",
    Acoustic_ID = V16.CODE.Full,
    Acoustic_Sensor_type = NA,
    Acoustic_.Sensor_idcode = NA,
    Acoustic_Sensor_value = NA,
    PIT_ID = PIT.CODE,
    Radio_ID = NA,
    Radio_Freq = NA,
    Radio_BurstRate = NA,
    External_TagID = NA,
    Mark.Observed = "None",
    Mark.Applied = "None",
```

```
    VIE = "None",
    ForkLength..cm. = FL,
    TotalLength..cm. = TL,
    Mass..g. = NA,
    Sex = Sex,
    STRG_Interorbital.mm. = Interorbital,
    STRG_InsideMouth.mm.  = Inside.Mouth,
    STRG_OutsideMouth.mm. = Outside.Mouth,
    Notes = Notes,
    Operator.s. = "JZ,SE")

tid25icpit <- alldaysr %>%
  filter(event == "Initial capture",
         tagtype == "PIT") %>%
  transmute(
    Event = event,
    Species = Species,
    Rearing_Origin = "Wild",
    Stage = NA,
    System = River,
    Encounter_Time_zone = "Eastern",
    Encounter_Timestamp = Date,
    Encounter_Location = Site,
    Encounter_Easting  = Easting,
    Encounter_Northing = Northing,
    Encounter_UTMZone  = "19",
    Encounter_Disposition = "Live",
    Release_Status = "Yes",
    Release_Timezone = "Eastern",
    Release_Timestamp = Date,
    Release_Location = Site,
    Release_Easting = Easting,
    Release_Northing = Northing,
    TagType = tagtype,
    TagManufacturer = NA,
    TagModel = NA,
    TagSerialNumber = NA,
    EstTagLife = NA,
    Acoustic_ID = NA,
    Acoustic_Sensor_type = NA,
    Acoustic_.Sensor_idcode = NA,
    Acoustic_Sensor_value = NA,
```

```
    PIT_ID = PIT.CODE,
    Radio_ID = NA,
    Radio_Freq = NA,
    Radio_BurstRate = NA,
    External_TagID = NA,
    Mark.Observed = "None",
    Mark.Applied = "None",
    VIE = "None",
    ForkLength..cm. = FL,
    TotalLength..cm. = TL,
    Mass..g. = NA,
    Sex = Sex,
    STRG_Interorbital.mm. = Interorbital,
    STRG_InsideMouth.mm.  = Inside.Mouth,
    STRG_OutsideMouth.mm. = Outside.Mouth,
    Notes = Notes,
    Operator.s. = "JZ,SE")

tid25ic <- rbind(tid25icmult, tid25icpit)
```

Recapture

```
tid25rcntmult <- alldaysr %>%
  filter(event != "Initial capture",
         tagtype == "Multiple") %>%
  transmute(
    Event = event,
    Species = Species,
    Rearing_Origin = "Wild",
    Stage = NA,
    System = River,

    Encounter_Time_zone = "Eastern",
    Encounter_Timestamp = Date,
    Encounter_Location = Site,
    Encounter_Easting = Easting,
    Encounter_Northing = Northing,
    Encounter_UTMZone = "19",
    Encounter_Disposition = "Live",
```

```
    Release_Status = "Yes",
    Release_Timezone = "Eastern",
    Release_Timestamp = Date,
    Release_Location = Site,
    Release_Easting = Easting,
    Release_Northing = Northing,

    Observed_Acoustic_ID = NA,
    Observed_PIT_ID = PIT.CODE,
    Observed_Radio_ID = NA,
    Observed_External_TagID = NA,

    TagType = tagtype,
    TagManufacturer = "Innovosea",
    TagModel = "V16-4x-BLU-1",
    TagSerialNumber = Serial_N,
    EstTagLife = "2560",

    Acoustic_ID = V16.CODE.Full,
    Acoustic_Sensor_type = NA,
    `Acoustic_ Sensor_idcode` = NA,
    Acoustic_Sensor_value = NA,

    PIT_ID = PIT.CODE,
    Radio_ID = NA,
    Radio_Freq = NA,
    External_TagID = NA,

    Clip1 = NA,
    Clip2 = NA,
    VIE = "None",

    `ForkLength (cm)` = FL,
    `TotalLength (cm)` = TL,
    `Mass (g)` = NA,
    Sex = Sex,

    `STRG_Interorbital(mm)` = Interorbital,
    `STRG_InsideMouth(mm)` = Inside.Mouth,
    `STRG_OutsideMouth(mm)` = Outside.Mouth,

    Notes = Notes,
```

```
    `Operator(s)` = "JZ,SE"
  )

tid25rcntpit <- alldaysr %>%
  filter(event != "Initial capture",
         tagtype == "PIT") %>%
  transmute(
    Event = event,
    Species = Species,
    Rearing_Origin = "Wild",
    Stage = NA,
    System = River,

    Encounter_Time_zone = "Eastern",
    Encounter_Timestamp = Date,
    Encounter_Location = Site,
    Encounter_Easting = Easting,
    Encounter_Northing = Northing,
    Encounter_UTMZone = "19",
    Encounter_Disposition = "Live",

    Release_Status = "Yes",
    Release_Timezone = "Eastern",
    Release_Timestamp = Date,
    Release_Location = Site,
    Release_Easting = Easting,
    Release_Northing = Northing,

    Observed_Acoustic_ID = NA,
    Observed_PIT_ID = PIT.CODE,
    Observed_Radio_ID = NA,
    Observed_External_TagID = NA,

    TagType = tagtype,
    TagManufacturer = NA,
    TagModel = NA,
    TagSerialNumber = NA,
    EstTagLife = NA,

    Acoustic_ID = NA,
    Acoustic_Sensor_type = NA,
    `Acoustic_ Sensor_idcode` = NA,
```

```
    Acoustic_Sensor_value = NA,

    PIT_ID = PIT.CODE,
    Radio_ID = NA,
    Radio_Freq = NA,
    External_TagID = NA,

    Clip1 = NA,
    Clip2 = NA,
    VIE = "None",

    `ForkLength (cm)` = FL,
    `TotalLength (cm)` = TL,
    `Mass (g)` = NA,
    Sex = Sex,

    `STRG_Interorbital(mm)` = Interorbital,
    `STRG_InsideMouth(mm)` = Inside.Mouth,
    `STRG_OutsideMouth(mm)` = Outside.Mouth,

    Notes = Notes,
    `Operator(s)` = "JZ,SE"
  )

tid25rcnt <- rbind(tid25rcntmult, tid25rcntpit)
```

Save CSV

```
write.csv(tid25ic, "output/UEF_IC_AST_SNS_SE_RAW.csv", na = "", row.names = FALSE)
write.csv(tid25rcnt, "output/UEF_RCNT_AST_SNS_SE_RAW.csv", na = "", row.names = FALSE)
```