

# Yakama Nation Fisheries

## End to End Data Capture and Sharing Using Survey123

*ITMD Workgroup Presentation 8/3/2020*

# Data Types Collected with Survey123 & Regions Covered

## Data Types

### In place:

- Screw Traps (includes PIT tags)
- Habitat Survey
- Snorkel Survey

### In Progress:

- Video Passage Data Entry
- Fish Passage Trap Sampling
- Hatchery Sampling/ Tagging
- Lamprey Survey & Habitat
- Harvest Monitoring

## Regions Covered

### In place:

- Yakima Basin
- Upper Columbia Basins

### In Progress:

- Klickitat Basin
- Region-wide surveys

### Future:

- Wildlife habitat, water quality, others...

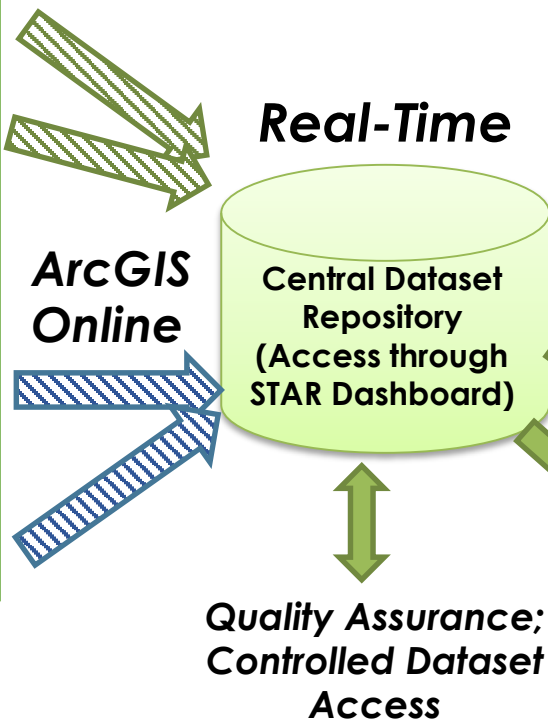


# End-to-End Data Capture, Consolidation, and Sharing

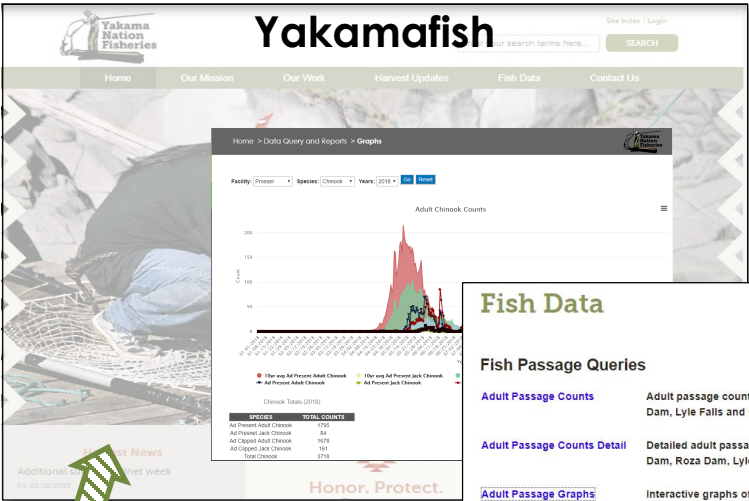
## Survey 123 Data Capture

- Screw traps
- UC habitat, fish surveys
- Lamprey & habitat surveys
- Dam counts
- Trap Samples
- Hatchery tagging & sampling
- Harvest monitoring

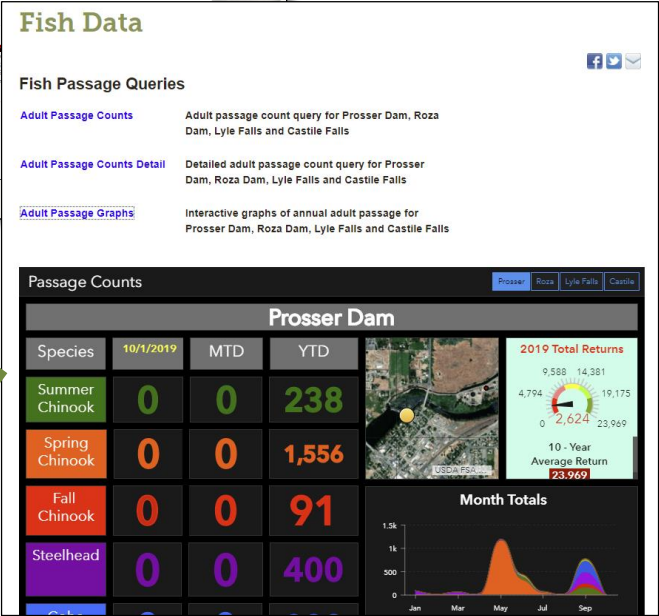
## Field Data



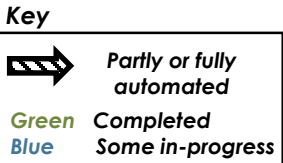
**Fish data is displayed for  
public view, sharing**



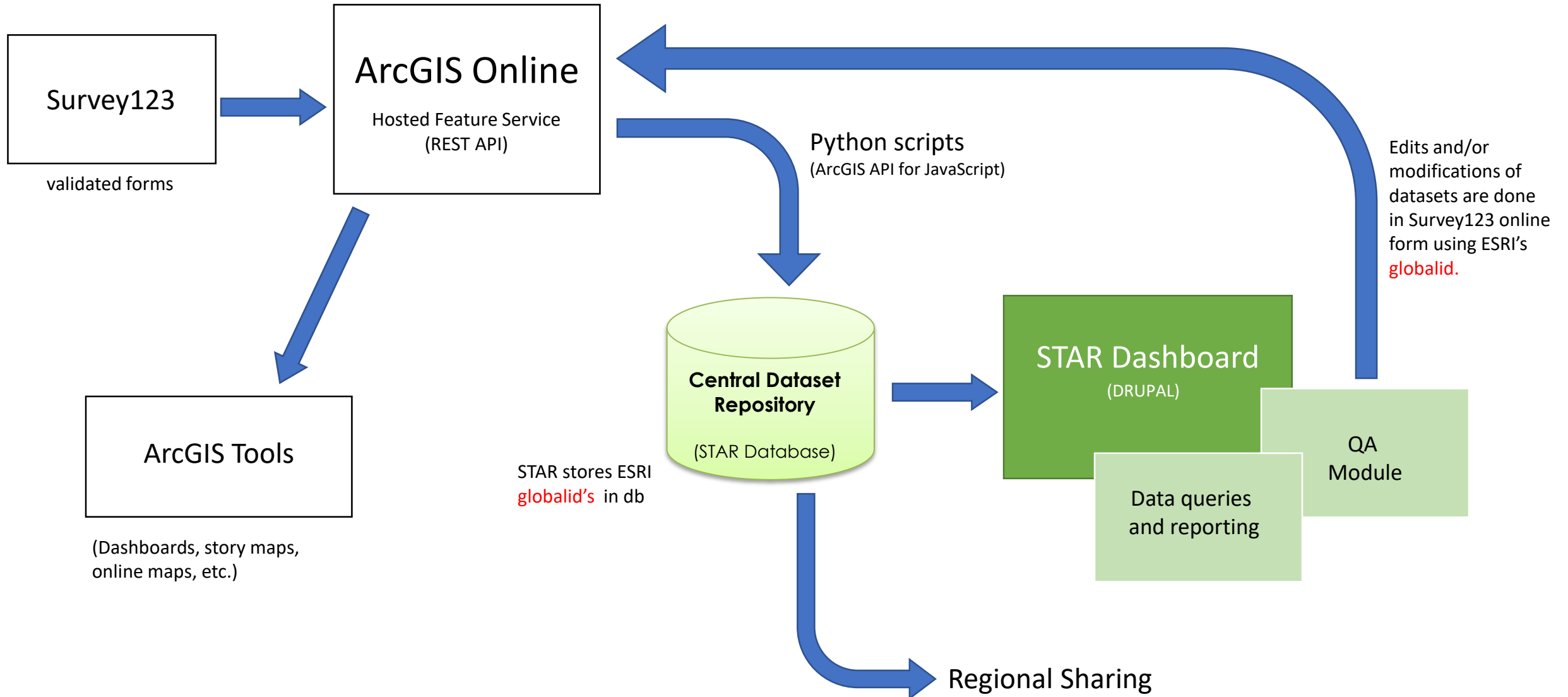
**Embedded**



**PUSH data to external partners  
(Streamnet, CAX, DART)**



# Workflow from Survey123



# STAR Quality Assurance and Regional Sharing

<https://dashboard.yakamafish-star.net/>



[HOME](#)

[ABOUT](#) ▾

[DASHBOARD](#)



[HOME](#) / [DASHBOARD](#) / [QUALITY ASSURANCE](#)

[Fish Counts](#)

[Quality Assurance](#)

[Field Data Entry](#)

[Technical Reports \(Queries\)](#)

[Interactive Maps](#)

[STAR Reports](#)

## Quality Assurance

### Fish Counts

#### Screw Trap

- [Screw Trap Consolidated](#)
- [Steelhead Juvenile Abundance Estimate](#)
- [Steelhead Smolt Per Redd/Spawner](#)

#### Forms

- [Adult Passage Counts](#)
- [Trap Samples](#)
- [Age Data Entry](#)
- [Lamprey](#)
- [Juvenile Pittag Update](#)

#### Logs

- [QC Logs](#)

### Regional Sharing

Review and "PUSH" datasets to CAX and Streamnet

- [CAX](#)
- [Streamnet Trends](#)



# STAR Quality Assurance and Regional Sharing


[HOME](#)
[ABOUT](#)
[DASHBOARD](#)

[HOME](#) / [DASHBOARD](#) / [QUALITY ASSURANCE](#) / SCREW TRAP CONSOLIDATED FORM

 Location: Upper Toppenish

 From Date: 03/04/2020

 To Date: 04/03/2020

 Order: Ascending
[Go](#)
[Reset](#)
[Export to CSV](#)
[New Entry](#)

 Show 50 entries

															MIN						

SPECIES	LENGTH	WEIGHT	SMOLTED	RECAP	MORTALITY	PITTAGNO	INDIVIDUAL FISH COMMENTS	DNAVIALNO	SCALE CARD NO	CONDITION FACTOR
steelhead	146	37.7		false	false	3DD.0077944870		4	3	1.21
steelhead	104	13		false	false	3DD.007794E679		3	3	1.16
steelhead	126	21.1		true	false	3DD.0077948265				1.05

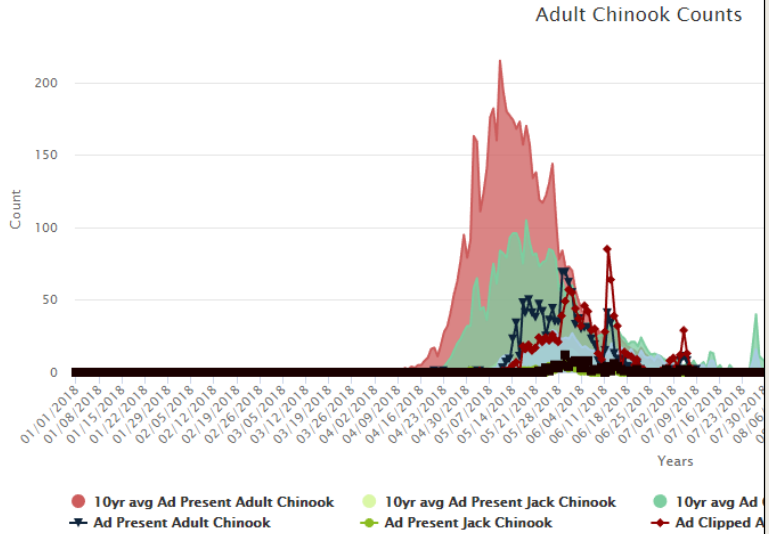
<a href="#">Edit</a>	03/06/2020	08:49:00	Jr	true	false	14	4.06	44	47	2-5	6-12	100		false				0	0	0	0	0	0	0	/
<a href="#">Edit</a>	03/07/2020	09:02:00	Ts	true	true	14	4.06	42	48	2-5	6-12	80		false				0	0	0	0	0	0	0	/
<a href="#">Edit</a>	03/08/2020	09:19:00	Jr	true	false	19	4.04	40	32	>5	6-12	10		false				0	0	0	0	0	0	0	/
<a href="#">Edit</a>	03/09/2020	09:00:00	Jr,wt	true	true		4	40	18	0	>12	0	Fish number one is true a recap.	5				<a href="#">6</a>	6	0	0	113.33	12.28	0	90/142
<a href="#">Edit</a>	03/10/2020	11:06:00	Jr	true	true	17	4	40	45	2-5	6-12	0		true	2			<a href="#">3</a>	2	0	0	139.67	35.7	0	76/180
<a href="#">Edit</a>	03/11/2020	10:00:00	Ts	true	true	10	4.08	44	54	2-5	6-12	20		true	3		53734	<a href="#">3</a>	3	0	0	147.33	25.1	0	132/156

# Data Display, Query, and Sharing Tools



Home > Data Query and Reports > Graphs

Facility: Prosser Species: Chinook Years: 2018 Go Reset



Chinook Totals (2018)

SPECIES	TOTAL COUNTS
Ad Present Adult Chinook	1795
Ad Presnet Jack Chinook	84
Ad Clipped Adult Chinook	1678
Ad Clipped Jack Chinook	161
Total Chinook	3718

## Fish Data

### Fish Passage Queries

- [Adult Passage Counts](#) Adult passage count query for Prosser Dam, Roza Dam, Lyle Falls and Castile Falls
- [Adult Passage Counts Detail](#) Detailed adult passage count query for Prosser Dam, Roza Dam, Lyle Falls and Castile Falls
- [Adult Passage Graphs](#) Interactive graphs of annual adult passage for Prosser Dam, Roza Dam, Lyle Falls and Castile Falls

Passage Counts

Prosser Roza Lyle Falls Castile

Species

10/1/2019

MTD

YTD

Summer Chinook

0

0

238

Spring Chinook

0

0

1,556

Fall Chinook

0

0

91

Steelhead

0

0

400

2019 Total Returns

9,588 14,381

4,794 2,624 19,175

0 2,624 23,969

10 - Year Average Return

23,969

Month Totals

Home > Data Query and Reports > Adult Passage Count Details



HOME / DASHBOARD / FISH COUNTS / ADULT PASSAGE COUNTS DETAILS

Adult Passage Count Details

HOME ABOUT DASHBOARD

Date: 09/30/2019 Date Sort By: Ascending

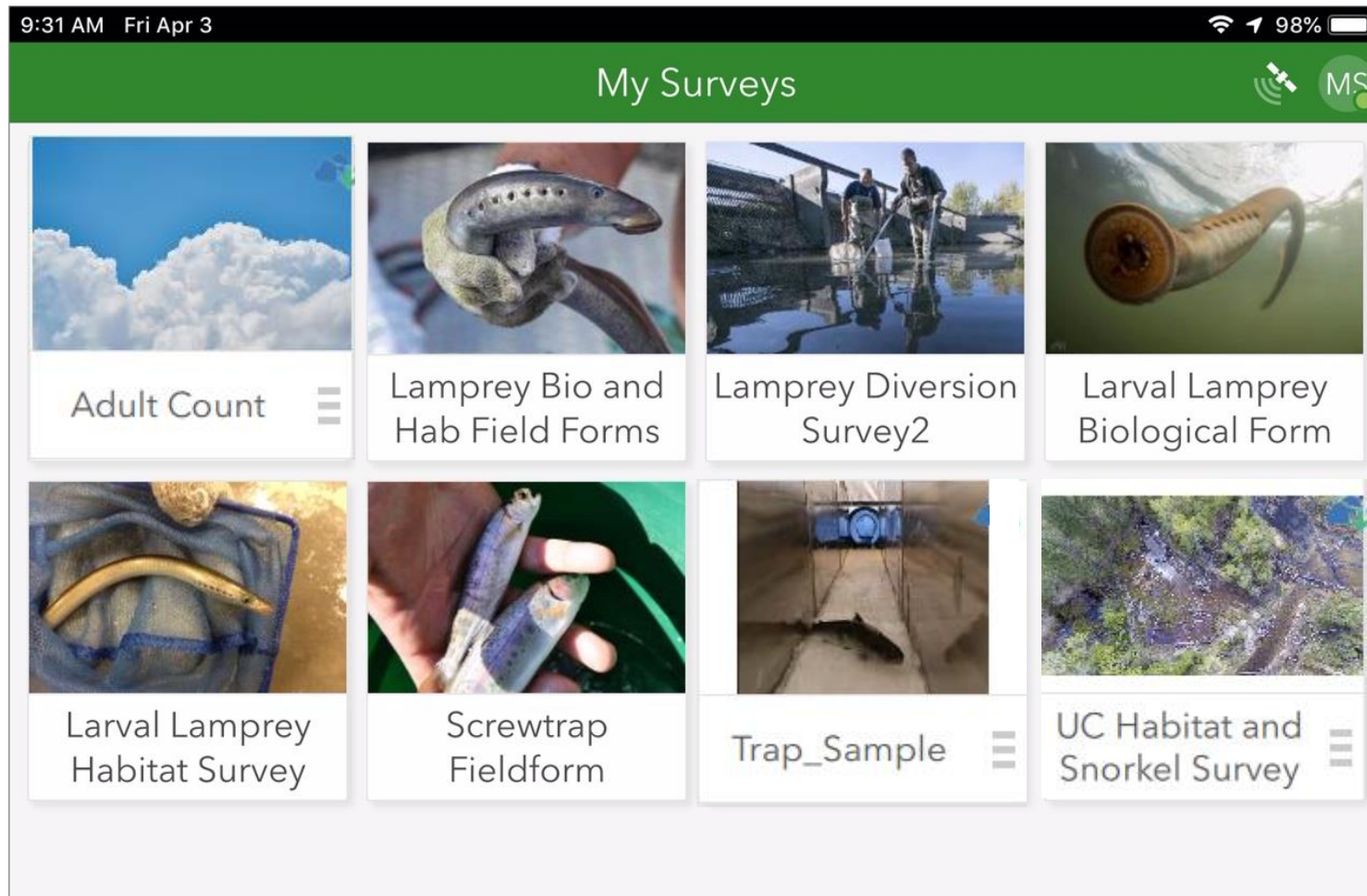
ickitat River RM 2.4). With the exception of some fish that are collected for hatchery broodstock or after sampling. The counts do not include fish that ascended the natural waterfalls or fish that are returned directly to the fishway without handling or

		TOTAL SUMMER				TOTAL FALL			
SUM	WJSUM	HASUM	HUSUM	CHINOOK	WAFCK	WJFCK	HAFCK	HJFCK	UAFCK
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	56	56	197	46	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	18	6	21	1	-
-	-	-	-	-	8	3	22	7	-
-	-	-	-	-	28	17	62	14	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	3	3	2	-
-	-	-	-	-	2	1	4	10	38
-	-	-	-	-	-	7	4	1	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	112	93	313	81	38

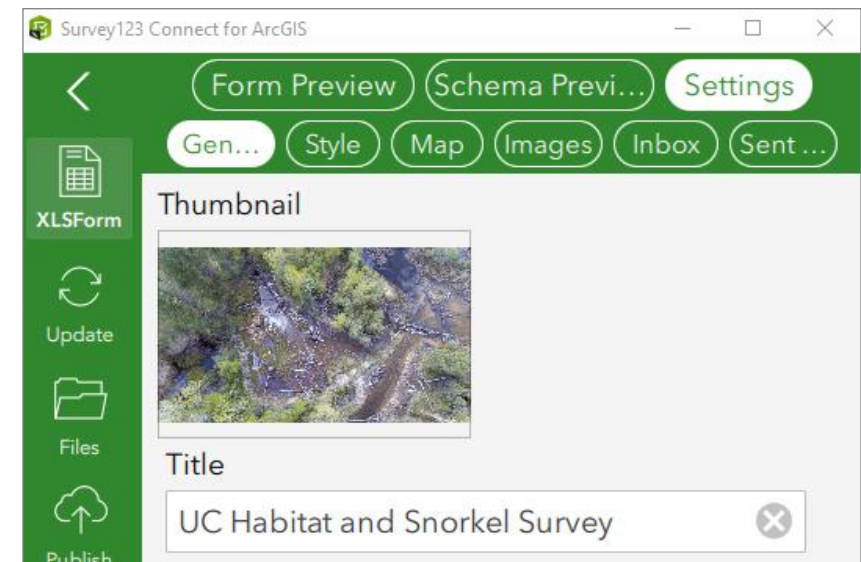
hafck - marked adult fall chinook, hafcko - marked adult fall chinook or, hasck - marked adult spring chinook, hasum - marked adult summer chinook, hjfck - marked jack fall chinook, hjfcko - marked jack fall chinook or, hjsck - marked jack spring chinook, hjsum - marked jack summer chinook, uafck - unknown adult fall chinook, uafcko - unknown adult fall chinook or, uasck - unknown adult spring chinook, ujfcko - unknown jack fall chinook or, ujsck - unknown jack spring chinook, wafck - unmarked adult fall chinook, wafcko - unmarked adult fall chinook or coh, wasck - unmarked adult spring chinook, wasum - unmarked adult summer, wjck - unmarked jack fall chinook, wjckco - unmarked jack fall chinook or coho, wjsck - unmarked jack spring chinook, wjsum - unmarked jack summer Chinook



# Field Data Entry <https://survey123.arcgis.com/>



## Tip: Thumbnail





# Creating a Compact Form from a Large Datasheet



2019 Larval Lamprey Biological Data				Stream & RKM = _____, Date = _____					
<b>Lamprey (total including measured lamprey):</b> Sort all lamprey by species/group (PA, WB, UN, YOY). Calculate the ratio of each and measure overall weight by species/group (except YOY). Measure length of 50 representative lamprey (including max and min) according to the ratio (excluding YOY). Measure 5 weights by for PA and WB (capture max and min + 3 others). Measure at least									
Size / Species	#	Ratio	Weight (g)	Species / Size	#	Ratio			
# UN S (<= 49mm)				# YOY		NA			
# PA (>50 mm)				(# PA TR in >50 mm)		NA			
# WB (>50 mm)				# WB TR in >50 mm		NA			
Total # of "Non-YOY" Lamprey:				Circle One: Type I / Type II					
#	Length (mm)	Weight (g)	Class / Color	Comments (Photos / Genetics)	#	Length (mm)	Weight (g)	WB Class / Color	Comments (Photos / Genetics)
1					31				

YN Fisheries 2019 Larval Lamprey Stream Habitat Survey									
Date:		Start Time:		End Time:		Crew:			
Stream:		RKM:		HUC4:		Full / Short / Visual			
Location Description (incl. LO contacts):									
		Type I Habitat		Type II Habitat (if >10 times)		YOY (Best) Type I or II			
Photo #s						YOY Comments:			
# Missed (YOY; <25 / <35 mm)									
# Missed (Non-YOY)									
Tally of # Captured									
Tally of Shocking Time									
Tally of Plot Area (m <sup>2</sup> )									
Total Shocking Time (~10 min)		min sec		min sec					
Total Area (~10 m <sup>2</sup> )		m <sup>2</sup>		m <sup>2</sup>		m <sup>2</sup>			
Total # Captured		(Non-YOY)		(Non-YOY)		(YOY)			
Total # Observed		(Non-YOY)		(Non-YOY)		(YOY)			
Estimated Density (Best 1m2)		(Non-YOY)		(Non-YOY)		(YOY)			
Other Species Observed (Photo #s) / Comments						**Fill Out Below Only if High YOY Density (>30)**			
Visibility (10% Increments)		%		%					
Sampled (looking down) (Best=0, ✓=X)		LT Bank Center RT Bank		LT Bank Center RT Bank		LT Bank Center RT Bank			
Habitat Type (Best=0, ✓=X)		Side Ch / Alcove / Edge / Main		Side Ch / Alcove / Edge / Main		Side Ch / Alcove / Edge / Main			
Thalweg Hab.(Best=0, ✓=X)		Riffle / Run / Pool / Glide		Riffle / Run / Pool / Glide		Riffle / Run / Pool / Glide			
Thalweg Hab. Details (Best)									
Causal Mech. (Best=0) (Inside Meander, Widened Channel, Boulder, Log, Alcove, Island)		IM, WC, BR, L, ALC, ISL		IM, WC, BR, L, ALC, ISL		IM, WC, BR, L, ALC, ISL			
% Detritus (Best 1m <sup>2</sup> )		>40%		L(<10%), M (10-40%), H (>40%)		L(<10%), M (10-40%), H (>40%)			
% Aquatic Veg (Best 1m <sup>2</sup> )		>40%		L(<10%), M (10-40%), H (>40%)		L(<10%), M (10-40%), H (>40%)			
Sed. Depth (Best 1m <sup>2</sup> )		cm		cm		cm			
Sed. Type (1=○, 2=X)(Best)		Clay / Silt / Sand / Coarse		Clay / Silt / Sand / Coarse		Clay / Silt / Sand / Coarse			
Water Depth (Best)		cm		cm		cm			
Temp (C°) (Best Type I)		Plot °C, Sed. °C, Thalweg °C, Time							
Temp (C°) (Best YOY)		Plot °C, Sed. °C, Thalweg °C, Time							
Best 1m <sup>2</sup> GPS		Latitude: UP25m ( ) m		Longitude: DOWN25m ( ) m		Elevation (ft): Total: m			
Type I Habitat Availability		UP25m ( ) m		DOWN25m ( ) m		Total: m			
Type II Habitat Availability		UP25m ( ) m		DOWN25m ( ) m		Total: m			
Extrapol: x1, x2, x3, _____		Photos: Upstream		Downstream		Best Habitat Lamprey			
Macro Habitat Drawing and Comments:		Water Quality (Best 1m <sup>2</sup> )		Genetic Summary					
		Set Voltage: _____		# PA (AM / MAC) _____ /					
		PKV: Min _____ Max _____ Ave _____		# WB (A) (AM / TR) _____ /					
		PKC: Min _____ Max _____ Ave _____		# WB (B) (AM / TR) _____ /					
		pH _____ Cond. _____ uS		Sheet # (s) _____					
		TDS _____ ppm, Others _____							
		Reach 1 AMP: _____		Purpose: _____					
		Set Voltage: _____							
		PKV: Min _____ Max _____ Ave _____							
		PKC: Min _____ Max _____ Ave _____							

## Habitat Survey

Lamprey Biological and Habitat Surveys		
Habitat Survey (page 1)		
▼ Header		
Date: *	Start Time: *	End Time:
Friday, April 3, 2020	3:33 PM	3:33 PM
HUC4 *	Stream Name	
Wenatchee	Nason	
Nason Rkm	Observer Initials *	
37.5		
Survey Type (pick one for survey sections to appear below): *		
<input checked="" type="radio"/> Full <input type="radio"/> Short <input type="radio"/> Visual		
Location Description (Including LO Contacts):		
General Comments:		
▶ Habitat Availability		
▶ Type I Habitat		
▶ Type I Photos		
▶ YOY (Best) Type I, II, or I/II		
▶ YOY Best (Type I, II, or I/II) Photos		
▶ GPS		
▶ Water Quality		
1 of 2		

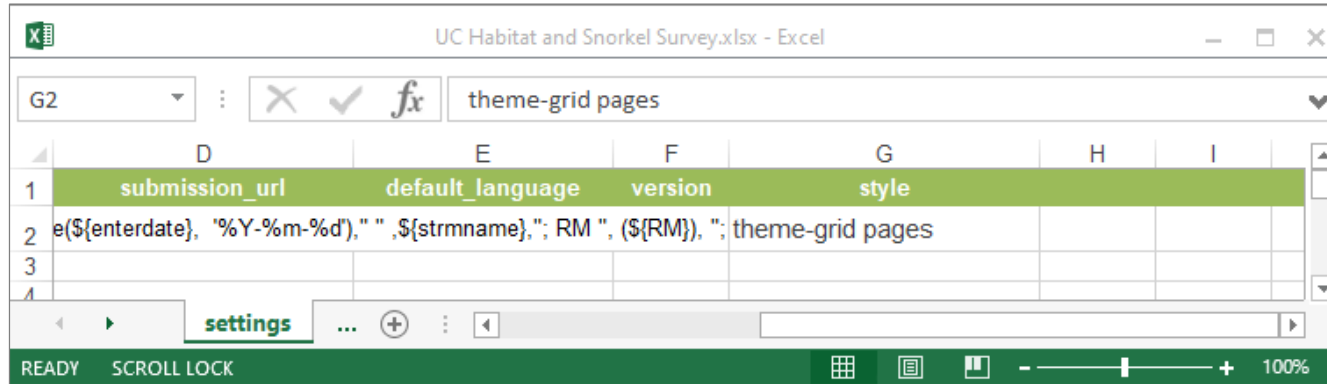
## Biological Survey

Lamprey Biological and Habitat Surveys		
Biological Survey (page 2)		
▼ Header		
For location information, date and observer, see header of Habitat Survey Form on page 1.		
<b>Lamprey (total including measured lamprey):</b> Sort all lamprey by species/group (PA, WB, UN, YOY). Calculate the ratio of each and measure overall weight by species/group (except YOY). Measure length of 50 representative lamprey (including max and min) according to the ratio (excluding YOY). Measure 5 weights by for PA and WB (capture max and min + 3 others), and at least 5 YOY.		
▶ Summary for Each Group (UN S, PA WB):		
▶ Summary for Each Group (YOY, TR):		
Age 1+ Measurements (Goal 50, incl. min & max)		
▶ a) Age 1+ Pacific Lamprey with weights (3)		
▶ b) Age 1+ Western Brook with weights (3)		
▶ c) Age 1+ Unknown Lamprey with weights (3)		
▶ 1+ Weight Counts		
▶ Age 1+ without weights (41+)		
▶ "Other" with weights		
▶ YOY Measurements (At least 5 including min & max)		
▶ Genetic Summary		
2 of 2		

Made more compact with cascade-select determining visible fields, drop-downs, "relevant" options, compact "grid" formatting, two forms in same survey that talk to each other, and on-the-fly calculations.

# Connected Forms in a Survey

- Values entered into one form in a survey automatically populate fields in another form.



UC Habitat and Snorkel Survey.xlsx - Excel

theme-grid pages

	D	E	F	G	H	I
1	submission_url	default_language	version	style		
2	e({enterdate}, "%Y-%m-%d"), " ", \${strmname}, "; RM ", (\${RM}), "; theme-grid pages					
3						
4						

settings

READY SCROLL LOCK

- In “Settings” set the style to “theme grid-pages”.

type	name	label	appearance
begin group	SnorkelPg	<font color= Blue > Snorkel Survey (page 2)</font>	w1 field-list
begin group	hdrS	<font color="Blue">Header</font>	w4

survey choices settings types

READY SCROLL LOCK

- In the survey, set the appearance to “field-list” at the beginning of each page. I also formatted it here as “w1” to make sure it spanned the page.

Genetic Summary

GPS

Water Quality

1 of 2

2 of 2

- You toggle between the forms with arrows at the bottom

type	name	label	appearance
text	S1_htno	Habitat Type & No.: \${ChUnTyp1}\${ChUnNo1}	w2
note	NSO1_nm	NSO: \${NSO1}	w1
note	lngh1_nm	Length: \${lngh1}	w1

You just refer to a field’s name to use it later in either form.

# Creating a Compact Form from a Large Datasheet

(2) Larval Lamprey Habitat Survey

**Header**

Date: \* Friday, July 31, 2020

Start Time: \* 1:44 ...

End Time: 1:44 ...

HUC4 \* Lower Yakima

Stream Name \* Ahtanum

Ahtanum Rkm

Observer Initials \*

Survey Type (pick one for survey sections to appear below): \*

☐ Full ☐ Short ☒ Visual

Location Description (Including LO Contacts):

General Comments:

GPS

Photo/ Drawing

- The options you get in the following questions are based on the values you pick from the initial dropdowns.
- The fields that appear are based on your survey choice, defined in the “relevant” column of the survey.

type	name	label	relevant
select_one HUC4	HUC4	HUC4	
select_one LYStr	LYStrNm	Stream Name	\${HUC4}='LYakima'
select_one UYStr	UYStrNm	Stream Name	\${HUC4}='UYakima'
select_one EntStr	EntStrNm	Stream Name	\${HUC4}='Entiat'
select_one LWenStr	LWenStrNm	Stream Name	\${HUC4}='LWenatchee'
select_one UWenStr	UWenStrNm	Stream Name	\${HUC4}='UWenatchee'
select_one LMetStr	LMetStrNm	Stream Name	\${HUC4}='LMethow'
select_one UMetStr	UMetStrNm	Stream Name	\${HUC4}='UMethow'
select_one KlickStr	KlickStrNm	Stream Name	\${HUC4}='Klickitat'

type	name	label	relevant
begin group	T1	Type I Habitat	\${SurvTyp}= 'full' or \${SurvTyp}= 'short'
integer	T1MissYOYNm	# Missed (YOY; <25 / <35 mm)	
integer	T1MissNYOYNm	# Missed (Non-YOY)	
text	T1ShkTm	Tally of Shocking Time (MM.SS)	
integer	T1PIArea	Tally of Plot Area (m2)	

# Relevant, Data Validation, Pick Lists, On the Fly Calculations, Lookups For Better Quality Data

## Examples:

- Display number of segments based on value entered. (workaround to repeat within repeat)

type	name	label	relevant
begin group	Segment9	Segment 9	\${SegNo}=9 or \${SegNo}=10
integer	NSO9	Natural Stream Order:	
select_one ChUnitCod	ChUnTyp9	Channel Unit Type	
integer	ChUnNo9	Channel Unit No.	
decimal	lnth9_enter	Length (m) ###	

◀ ▶

survey

choices

settings

types

⊕

⋮

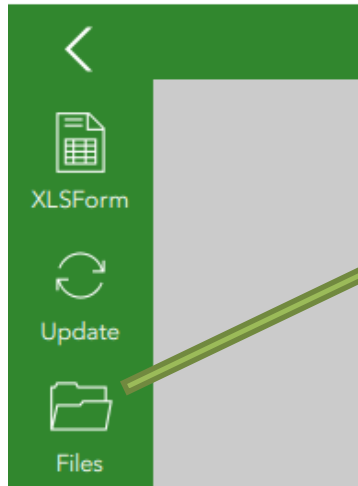
◀

- Limit ranges (data validation)

type	name	label	hint	constraint	constraint_message
integer	airtemp	Air Temp (F)		.>5 and .<115	air temperature out of range (5-115F)
integer	watertemp	Water Temp (F)		.>30 and .<=80	water temperature out of range (30-80F)
text	staffgage	Staff Gage (#.##)		.>0 and .<=9	Staff gage out of range (0-9)

# Lookup Reference Table Example

Survey123 Connect for ArcGIS



m.steg-geltner > ArcGIS > My Survey Designs > Simple Reference Test			
Name	Date modified	Type	
debug	5/13/2020 5:29 PM	File folder	
media	5/13/2020 5:23 PM	File folder	
forminfo.json	5/13/2020 5:06 PM	JSON File	
Simple Reference Test.info	5/13/2020 5:44 PM	INFO File	
Simple Reference Test.itemInfo	5/13/2020 5:44 PM	ITEMINFO File	
Simple Reference Test.png	5/13/2020 5:06 PM	PNG File	
Simple Reference Test.webfor...	5/13/2020 5:44 PM	WEBFORM File	
Simple Reference Test.xlsx	5/13/2020 5:31 PM	Microsoft Excel W...	
Simple Reference Test.xml	5/13/2020 5:31 PM	XML Document	

- Upload spreadsheet to “Files”> “Media” in Survey123 Connect.
- Use “pulldata” to get data (or photos, audio files) from the file.
- Reference table comes with the survey download to the mobile device.
- (Hoping to use for PITtag lookups)

type	name	label	calculation
select_one columns	column_nm	Column from Table:	
select_one rows	row_nm	Row from Table:	
note	test_num	Test Number:	pulldata('test_num', \${column_nm}, 'name', \${row_nm})

test\_num.csv

	A	B	C
1	name	number1	number2
2	firstrow	5	6
3	secondrow	1	2

### On the Fly Summary Calculations in the Form

type	name	label	calculation	choice_filter	repeat_count
hidden	countSthd	countSthd	if(selected(\${species},'steelhead'),'1','0')		
hidden	countLamp	countLamp	if(selected(\${species},'lamprey'),'1','0')		
hidden	countChk	countChk	if(selected(\${species},'chinook'),'1','0')		
hidden	countCoho	countCoho	if(selected(\${species},'coho'),'1','0')		
end repeat	capturedfishend				
hidden	countSthdSum	Indv. Sthd. Count Sum	sum(\${countSthd})		
hidden	countLampSum	Indv. Lamp. Count Sum	sum(\${countLamp})		
hidden	countChkSum	Indv. Chk. Count Sum	sum(\${countChk})		
hidden	countCohoSum	Indv. Coho Count Sum	sum(\${countCoho})		
begin repeat	bulkfishstart	Juvenile Bulk Fish Count			
select_one species	bulkspecies	Species			
integer	bulknumber	How many?			
text	bulkcomment	Comment			
hidden	blkSthd	countSthd	if(selected(\${bulkspecies},'steelhead'),\${bulknumber},'0')		
hidden	blkLamp	countLamp	if(selected(\${bulkspecies},'lamprey'),\${bulknumber},'0')		
hidden	blkChk	countChk	if(selected(\${bulkspecies},'chinook'),\${bulknumber},'0')		
hidden	blkCoho	countCoho	if(selected(\${bulkspecies},'coho'),\${bulknumber},'0')		
end repeat	bulfishend				
begin group	summary_group	Fish Count Summary			
integer	fishctTotal	Total Fish Count	count(\${species})+sum(\${blkSthd})+sum(\${blkLamp})+sum(\${blkChk})+sum(\${blkCoho})		
integer	fishctSthd	sthd fish count	sum(\${countSthd})+sum(\${blkSthd})		
integer	fishctLamp	lamprey fish count	sum(\${countChk})+sum(\${blkLamp})		
integer	fishctChk	Chinook fish count	sum(\${countChk})+sum(\${blkChk})		
integer	fishctccoho	coho fish count	sum(\${countCoho})+sum(\${blkCoho})		

### Examples:

- Calculate sum, live in the form (this example is in a repeat of individual fish plus “bulk” count of non-measured fish)
- Performing useful services for staff in the field.

**Juvenile Bulk Fish Count**

Species  
Steelhead / Rainbow

How many? \*

Comment

1 of 1

---

**Fish Count Summary**

Total Fish Count			
sthd fish count	lamprey fish count	Chinook fish count	coho fish count
0	0	0	0



# Extracting Location Information from Photo Point

type	name	label	calculation	choice_filter
78 text	PhotoNm6	Meaningful Photo Name:		
79 image	Photo6_End	Photo:		
80 note	lat6_end	Latitude	pulldata("@exif", \${Photo6_End}, "gpslatitude")	
81 note	lon6_end	Longitude	pulldata("@exif", \${Photo6_End}, "gpslongitude")	
82 end group	PhotoEnd6	Photo End		
83 text	note6	Comments:		
84 end group	Segment6_end	Segment 6 end		
85				

type	name	label	calculation
begin group	mapgrp	<font color= "Blue ">Map</font> <font color="Gray">/(Display	
calculate	locationcalculationbeg		concat(number(\${lat1_beg}),',', number(\${lon1_beg}))
calculate	locationcalculation1		concat(number(\${lat1_end}),',', number(\${lon1_end}))
calculate	locationcalculation10		concat(number(\${lat10_end}),',', number(\${lon10_end}))
select_one location	locationchoice	Photopoint locations on map	
geopoint	location	Map	\${locationchoice}
end group	mapgrpend		

**Reach Photo (Beginning)**

Meaningful Photo Name:  
Reach Beginning

Photo:




Photo1\_beg-20200731-212729.jpg

Latitude  
45.5202734

Longitude  
-122.6840092

**Map (Display Only)**

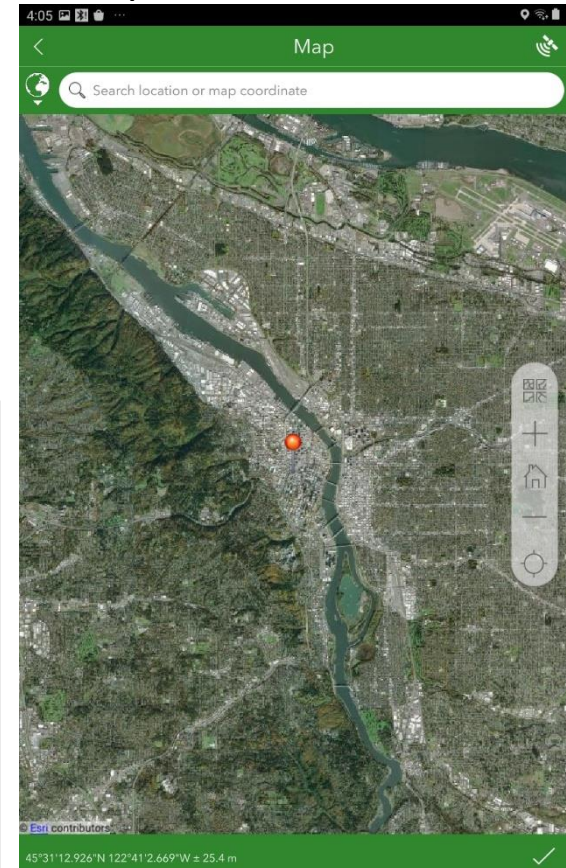
Photopoint locations on map  
After choosing point, click on map icon to activate and display the point on a map.

Reach Beginning

☒ Reach Beginning  
☐ Segment 1 End  
☐ Segment 2 End  
☐ Segment 3 End

Map

- Can't have multiple "geopoint" fields in a form
- Workaround to pull location from photopoint ("EXIF" data) from photo.
- I added lat/longs to a dropdown list, so can display individually on a map



# Scanning PIT Tags Into the Form



9:32 AM Fri Apr 3 98%

Screw Trap Data Entry2

**Header**

Location Name \*

Date \*

Initials \*

Time \*

Fishing \* ☐ Yes ☐ No

Rotating \* ☐ Yes ☐ No

Air Temp (F)

Water Temp (F)

Staff Gage (#.##)

Efficiency Test \* ☐ Yes ☐ No

Cloud (%)

Seconds per 1 final rotation

Debris Size Diameter (in) ☐ none ☐ <2" ☐ 2-5" ☐ >5"

Water Clarity (in) ☐ <6" ☐ 6-12" ☐ >12"

PIT Tag File

PIT Tag Vial 1

PIT Tag Vial 2

Warning: Once you hit a plus sign below, you are adding a fish (or bulk fish)!

**Individual Fish Log**

**Recap**

☐ Yes ☒ No

**Mortality**

☐ Yes ☒ No

**PIT Tag (Full String)**  
(Click in this field, then scan the tag. Note: Keyboard app must be left open in the background)

**PIT Tag (Clipped)**  
(appears automatically)

**Individual Fish Comments**  
(fish condition, mark for efficiency test, other species, etc.)

**DNA Slot No.**




**Scale Card No.**

Scan PIT tags  
directly into field form

- Download “Bluepiano” keyboard wedge, leave open (listening for scans)
- (First time you use, have to tell BluePiano what device you are connecting to).
- Connect mobile device to HPR Reader or HPR Lite with Bluetooth
- Click in field in fieldform, PITtag number scans in.
- Use calculated field to clip, if needed
- (Looking into a way to export the PITtag and fish information table to send to PTAGIS).

type	name	label	calculation
text	PITtagAll	PIT Tag (Full String)	
text	pittagno	PIT Tag (Clipped)	if(string-length(\${PITtagAll}) > 14, substr(\${PITtagAll}, string-length(\${PITtagAll}) - 15, string-length(\${PITtagAll}) - 1), \${PITtagAll})

# Appearance

C11	:	  	<font color="blue"><b>Data Entry Date</b></font>
	A	B	C
1	type	name	label
2	begin repeat	FishTblRep	<font color="blue">Fish Table Data Entry</font>
3	begin group	FishTblGrpBeg	
4	date	pass_date	<font color="blue"><b>Fish Passage Date</b></font>

survey choices settings types (+)

- Helps the user tell sections apart.
- Text color, weight, etc. with html tags
- Background color, “theme”, photo background set in Survey123 Connect “Style”

Survey123 Connect for ArcGIS

Form Preview Schema Preview Settings

General Style Map Images Inbox Sent Surv...

Text Color

Default Name, #rrgg...

Background Color

Default Name, #rrgg...

Background Image

nage\_clouds\_light.png

Toolbar Background Color

#0000ff

Toolbar Text Color

Default Name, #rrgg...

Input Text Color

Default Name, #rrgg...

Toolbar Text

Text Color

Input Text

Fish Table Data Entry

Fish Table Data Entry

Fish Passage Date	Ladder	Species
Thursday, July 30, 2020		
Passage Time	Viewer	Mark Name
Time		
Data Entry Date	Multiplier	Estimated Fk. Length
Thursday, July 30, 2020	1	

1 of 1

Comment (for data gap)

## **Potential Limitations...**

- Repeats within repeats, Multiple geopoint fields
- Significant changes to or adding fields> if too significant have to blow away dataset and re-import data
- Device used: ipads don't yet talk to PIT tag reader
- ArcGIS online licenses (need multiple ones to have different credentials)
- Staff willingness to adopt, weather, battery life
- Learning Curve
- Programmer to configure datasets to most useful formats and share