



CALIFORNIA FISH PASSAGE FORUM

Science & Data Committee Meetings

Present: Holly Steindorf, Sandi Jacobson, Van Hare, Tim Loux, Holly Eddinger, Anne Elston, Andrew Hampton, Gena Lasko, Emily Siegel

Absent: Marisa Parish Hanson, Mark Gard, Ted Masters

Meeting attendance: [Meeting Attendance \(Google Sheets\)](#)

1/8/25 Agenda

- Review revised draft of Fish Passage Incidental Report, make any additional changes, and identify other parties who should be invited to review. Aiming for finalized Version 4 in February or March.
- Update from Holly on SRF 2025 Workshop Status
- Anne and Holly share PAD brochure.

1/8/25 Meeting Minutes:

The committee dove into the **FISH PASSAGE INCIDENTAL REPORT** (First Pass Data Sheet Version 3). It is attached at the end of these notes.

We are hoping to release a new version of the Paper Form in February or March (in time for use at the SRF workshop on April 29th). After that, we will be updating the Survey 123 Form with AT LEAST content changes to reflect wording changes made to the paper Form, if not a rebuild to make functionality improvements. Anne mentions that she thinks a rebuild will be valuable and is willing to help.

The committee discussed how the Form is used, the name of the Form, the next steps for changes, and (generally) how to determine how much access we grant to Survey 123 Form.

Use of the Form

Sandi asked about the ideal sequence for how this form would be used in development of a project: Anne provided the following explanation:

Sequence of Steps for assessing a barrier (ideal protocol)

- Use rapid assessment protocol or professional judgement of barriers in field.
- Use more detailed protocol, such as red-green-gray filters in CDFW restoration manual, Forest Service protocol, and gather data about habitat suitability and/or monitoring data.
- Use most detailed full hydrologic modeling such as FISHXing.
- Review results of modeling and confirm it matches with monitoring data or professional judgement of area

Name of the Form

General committee sentiment is that changing the name would help reduce confusion. The committee agrees to change REPORT -> FIELD FORM or DATA SHEET. Anne wants to ensure the name communicates that the form is a first pass or initial report, though it doesn't have to include the specific name "First Pass" since that is what CalTrans uses for their protocol.

Name Suggestions:

Fish Passage Incidental Field Form
Fish Passage Incidental Data Sheet

Fish Passage Rapid Assessment Field Form
Fish Passage Rapid Assessment Data Sheet

First Pass Fish Passage Assessment Form

Aquatic Organism Initial Passage Field Form
Aquatic Organism Initial Passage Data Sheet

We will vote on a new name at our February 6th meeting.

The Next Steps for Changes

Holly will work with Anne and make tracked changes to the word document for the Form. Changes include adjustments to lamprey section, changing or adding additional details to some definitions, and adding a "recommended next steps" section to orient users to what next to do (such as CDFW restoration manual of Forest Service protocol). Anne will help with this language.

Steps before the next meeting:

- Anne to get Holly word document from Anne.
- Holly to make some edits to the Paper Form and send to committee.
- Holly to set meeting with SARP ASAP (Anne, Van, Holly, Kat others at SARP)

Steps at/after next meeting:

- Committee to vote on new name for Form
- Holly to send Paper form to Ross Taylor, Mike Love, Damon Goodman for review.
- Strategize redesign of Survey123 Form.

Coordinating with SARP

Van mentions that SARP has a paper form ([SARP Culvert Assessment Datasheet](#)), which has a assessment manual ([SARP Culvert Assessment Manual](#)) and a separate Survey 123 Form ([Western SARP AOP Stream Crossing Survey Form](#)).

Science and Data Committee Meeting Agendas- Working Document- California Fish Passage Forum

We should review these documents to consider how we can increase consistency while meeting our users needs. We should meet with SARP to see how well the process is working for them, and (important) how they manage having the Survey 123 publicly accessible, how that affects QA/QC, etc.

Access to Survey 123

See prior committee notes for additional details of this conversation. There is value ins providing additional access to the Survey123 Form (more and faster input into the PAD, ease-of-use, etc.) but adding more users costs money. Ideally there would be a discreet authentication per user or device (for example CalTrans has 12 iPads). Perhaps we could have some shared users but would have to strategize access. There is also an annual licensing fee for the software. The committee will continue discussing how much access/money we want to invest, talking with SARP may give us some insights.

Status of SRF Workshop

The conference is open for registration. Hollywood will stay in communication with Dana about our registration totals, and we can advertise as necessary to meet the 30-person cap. Next steps are securing landowner permission to visit two of the barrier sites in the Branciforte watershed. And coordinating with Anne, Gena, Marisa, and Damon to coordinate their involvement in the workshop. A colleague from NRC may be in attendance as a facilitator as well if need be.

PAD Brochure

The education and Outreach Committee, Anne and Holly have developed a 3-panel brochure about the passage assessment database. We will be sending it out to the form Steering committee soon for review/approval for printing. Keep an eye out in your inbox.

FISH PASSAGE INCIDENTAL REPORT (First Pass Data Sheet Version 3)

including new Pacific Lamprey and mussel assessment fields

This form is intended to be used for rapid barrier inventorying and barrier data collection. It is not intended for barrier passage assessment and is not meant to replace any existing barrier assessment protocols.

*** Please fill Section I, II and IV, even when no barriers found!**

I. GENERAL

Surveyor: _____ Organization: _____ Date: _____ Time: _____

II. LOCATION

Stream Name: _____

Latitude: _____ Longitude: _____

Barrier or Structure Found?: ☐ Yes ☐ No

Bank Location (looking downstream): ☐ Left ☐ Right ☐ Both

Flow Conditions: ☐ Continuous ☐ Isolated pools ☐ Dry

Road Name: _____

Land Owner: _____

Photos Taken: ☐ Inlet ☐ Outlet ☐ Other

Description: _____

Tributary To: _____

Quad Name: _____

Stream Segment Surveyed (ft): _____

Reach Gradient (ratio or percent slope): _____

Known to be: ☐ intermittent ☐ ephemeral

Milepost: _____

Structure Owner: _____

III. STRUCTURE

Structure Type: ☐ Diversion ☐ Dam ☐ Culvert ☐ Fishway/ladder ☐ Bridge ☐ Ford ☐ Natural ☐ Other

Description: _____

Passage Status: Salmonids ☐ Yes ☐ No ☐ Partial Other Fish sp. _____ ☐ Yes ☐ No ☐ Partial

Lamprey (climbing) ☐ Yes ☐ No ☐ Partial Total barrier ☐ Yes ☐ No

IV. AQUATIC ORGANISMS

Survey Downstream? ☐ No ☐ Visual (walking) ☐ Snorkel ☐ Electrofish ☐ Lamprey ☐ Mussels ☐ Other

Survey Upstream? ☐ No ☐ Visual (walking) ☐ Snorkel ☐ Electrofish ☐ Lamprey ☐ Mussels ☐ Other

Observed Downstream? ☐ Chinook ☐ Coho ☐ Steelhead/Rainbow ☐ Ammocoele ☐ Lamprey adult ☐ Mussels ☐ Other

Observed Upstream? ☐ Chinook ☐ Coho ☐ Steelhead/Rainbow ☐ Ammocoele ☐ Lamprey adult ☐ Mussels ☐ Other

Species notes: _____

V. DIVERSION

Diversion Type (see Dam for structure type):

Pump: ☐ Vertical ☐ Submersible ☐ Slant ☐ Centrifugal ☐ Other Pump Running? ☐ Yes ☐ No

Other: ☐ Floodgate ☐ Siphon ☐ Canal ☐ Infiltration chamber ☐ Other

Pipe or Conveyance Size: ☐ < 1 ft ☐ 1 – 2 ft ☐ > 2 ft

Diversion Flow Rate (cfs) _____

Screened? ☐ Yes ☐ No Aperture Size (in) _____

Protective of: ☐ Larvae ☐ Adult ☐ Trash

Type: ☐ Fixed ☐ Travel ☐ Louvers ☐ Grate ☐ Other

VI. DAM

Dam Type: ☐ Earth ☐ Rock/cement ☐ Board Weir ☐ Log Weir ☐ Inflatable ☐ Sheetpile ☐ Other _____

Usage: ☐ Seasonal ☐ Permanent Dam Height (ft): _____ Dam Width (ft): _____ Passage Facility? ☐ Yes ☐ No

VII. CULVERT

Culvert Type: ☐ Box ☐ Circular ☐ Open-bottom arch ☐ Pipe arch ☐ Other _____ ☐ Unmaintained

Culvert Material: ☐ Concrete ☐ Metal ☐ Plastic ☐ Log/wood ☐ Other _____

Number of Barrels/Pipes: _____ Weirs/Baffles? ☐ Yes ☐ No

Channel Width (ft): _____

Culvert Diameter: ☐ ≤ 2 ft ☐ > 2 ft Culvert Height (ft): _____

Culvert Width (ft): _____

Outlet Drop Height: ☐ 0 ft (submerged) ☐ < 1 ft ☐ 1 – 3 ft ☐ > 3 ft

Actual Height (in): _____

VIII. BRIDGE

Bridge Type: ☐ Free span ☐ Instream structure

☐ Active ☐ Abandoned

Apron?: ☐ Yes ☐ No Drop?: ☐ Flush with bottom ☐ Sloping ☐ Shelf Height of drop (in): _____

IX. NATURAL

Natural Barrier Type: ☐ Waterfall ☐ Cascade ☐ Grade ☐ Landslide ☐ Log jam ☐ Other _____

Waterfall Drop: ☐ ≤ 8 ft ☐ > 8 ft Estimated drop to base flow water surface (ft): _____

X. ADDITIONAL NOTES

Detailed fish passage assessment needed? ☐ Yes ☐ No

Does this site need treatment? ☐ Yes ☐ No

What are specific treatment recommendations?

(Please use other side if needed for additional notes).

Initial Lamprey Assessment section:

Is one of the following true?

- ☐ A natural structure (e.g. waterfall, cascade, log-jam).
- ☐ Natural bottom thru culvert or under bridge.
- ☐ Structure submerged during most flows.
- ☐ Diversion without instream structure blocking upstream passage.
- ☐ All stream reaches upstream of gradient > 2% and lacking fines.

Note: Lower gradient reaches could exist considerably upstream and provide habitat.

- ☐ Barrier site outside the current and historical range of Pacific Lamprey,

Note: <https://apps.wildlife.ca.gov/bios/?al=ds69> and may be present in smaller tributaries of drainages identified in this distribution layer.

____ If any boxes are checked, then there is **no further Lamprey Passage Assessment needed**.

If surveyor disagrees (see features below), ____ reasoning:

Structural features that may challenge lamprey: perched culverts, acute edges, u-channels, baffles, weirs or other structures in the structure, overhangs, near-bottom velocities > 1 m/s, porous surface (grates), gaps or holes, lack of subaerial routes, confused turbulence, seams/cracks/gaps that break suction on otherwise smooth surfaces, heavy moss/algae, repeated challenges, seasonally dry conditions at site or upstream.

Send comments and completed forms to:

Anne Elston, PSMFC, 1010 Riverside Pkwy, West Sacramento, CA 95605, Email: Anne.Elston@wildlife.ca.gov

Lamprey questions:

Damon Goodman USFWS, 1655 Heindon Road, Arcata, CA, 95521 damon_goodman@fws.gov
Stewart Reid, Western Fishes, 2045 East Main, Ashland OR 97520 WesternFishes@opendoor.com

Mussel questions:

Alex Jones USFWS, 2800 Cottage Way, Sacramento, CA 95825 alexander_c_jones@fws.gov

INSTRUCTIONS TO FISH PASSAGE INCIDENTAL REPORT

I. GENERAL

Surveyor - Enter the names of people conducting the survey.

Date/Time - Enter the day's date (mm/dd/yy) and the time of the survey (24hr).

Organization - Enter the organization name.

Flow Conditions:

- **Continuous** - Free flowing water.
- **Isolated pools** - Pools are present but they are not connected by free flowing water.
- **Dry** - No water at all.

II. LOCATION

Latitude/Longitude - North American Datum 1983.

Quad Name - U.S.G.S. 7.5 minute quadrangle name, if known.

Stream Name - Enter the stream name as it appears on the 7.5 minute quadrangle map. If official name not available, enter local name or 'unnamed'.

Tributary To - Enter the name of the receiving stream, river lake or ocean.

Reach Gradient - ratio or percent slope within barrier reach

Barrier(s) Found - Mark No if barrier(s) not found. If a barrier is found, please fill in the rest of the form.

Stream Segment Surveyed - Record the length of the surveyed stream segment or reach where no barriers found.

Bank Location - Where in the stream the structure is located, looking downstream.

Road Name - Enter road name and/or number.

Milepost - Generally, both State and County roads have markers located every half mile indicating the road/highway number, county it is located in, and the postmile or kilopost location of the marker. For north/south roads, the markers start at 0.00 from the southern end and increase as you travel north. For west/east roads, the markers start at 0.00 from the western end and increase as you travel east.

Photos Taken - Mark when pictures of the inlet, outlet or other parts of a barrier were taken.

Photos Description/Numbers - Briefly describe each picture, orientation (eg. looking upstream) and number/filename.

Photos should include downstream entrance to structure, upstream exit, interior of culverts (esp. if any structural features) and any features of concern. Please provide photos with this form.

Land Owner - May be private, public, tribal, or unknown. If known, put down owners name and contact info.

Structure Owner - May be different from land owner- if known, put down owner's name and contact info.

III. STRUCTURE

Structure Type:

- **Diversion** - A man-made structure or installation for transferring water from a stream by a pipe, canal, well, or other conduit to another watercourse or to the land. Surface diversions fall into two general categories: pump and gravity.
Note: the diversion is distinct from the structure (dam) that impounds or directs the water.
- **Dam** - A man-made barrier constructed across a stream to control water flow or create a reservoir.
- **Culvert** - A pipe that allows streams, rivers, or runoff to pass under a road.
- **Bridge** - A structure conveying a road or pathway over a stream, river, or a depression.
- **Ford** - A road crossing that allows the river to run over a road (Arizona crossing).
- **Natural** - A natural barrier, such as waterfall, beaver dam, insufficient flow, landslide, velocity, etc.
- **Other** - Anything that is not described in the above categories.

Description - Any additional significant details about the structure.

Passage Status - Based on field observations describe the impact on fish passage (estimate to your best judgment).

Jumping (e.g. salmonids, pikeminnows), Swimming (e.g. suckers, lampreys, dace), Climbing (Pacific Lamprey).
Total barriers clearly block any passage (e.g. large dams without passage, high perched culverts).

IV. AQUATIC ORGANISMS

Survey - Was a biological survey done? upstream or downstream of the barrier? and of what kind? Lamprey surveys target ammocoetes and require specialized slow-pulse electrofishing equipment or settings. Mussel surveys can be done

with snorkel or view scope and focus on scanning substrate for individuals.

Species Observed - What aquatic species were observed, as this may inform the passage needs or status of the site.

Identifying Species and Other Information

Freshwater Mussels: <https://xerces.org/publications/guidelines/conserving-gems-of-our-waters>

Pacific Lamprey: <https://www.fws.gov/pacificlamprey/mainpage.cfm>

Salmon, Sturgeon, Trout and Pacific Lamprey: <https://wildlife.ca.gov/Conservation/Fishes>

V. DIVERSION

Diversion Type - Note: this refers to the extraction method, not the structure (see below under Dams).

Pumps:

- **Vertical** - The pump is vertically oriented and pulls water straight up.
- **Submersible** - Pump for diverting water is submerged under the water or bank and is not visible.
- **Slant** - Both the pump and intake pipe are angled at a slant up the river bank.
- **Centrifugal** - Old style pump with visual appearance of a snail shell (spiral or circular).
- **Pump other** - Water diversion where type of pump used is unknown but use of a pump is certain.
- **Pump Running** - Check Yes if the diversion was running in the time of the survey.

Floodgate - Water diversion where water is diverted by gravity flow and controlled via a screwgate.

Siphon - Common in the Delta, not usually seen anywhere else.

Canal - Water is diverted into a gravity fed channel

Infiltration chamber - Water is passed through the stream bed into pipe conveyance.

Other - Anything that is not described in the above categories.

Pipe or Conveyance Size - Inside diameter of the diversion intake, canal or drain.

Screened - Fish screens are supposed to keep fish from being taken out of a stream or river by a water diversion.

Screen Aperture - If screened, what is the gap/mesh in the screen.

Protective of - Is the screen design intended to exclude larval fish, adult fish, or general debris (e.g. trash rack)

Screen Type - What type of screening is provided: a moving screen, fixed, louvered design or simple grate?

VI. DAM

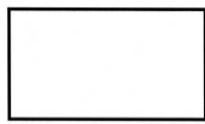
Dam Type - Specify the material the dam is made from.

Dam Width/Dam Height - Provide the dam's dimensions in feet if possible.

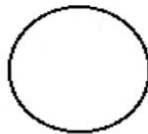
Seasonal/Permanent - Is the dam operational all year long or seasonally?

Facility - Is there a fish ladder, natural fishway bypass, or some other structure in place to improve fish passage?

VII. CULVERT



Box



Circular



Open-Bottom Arch



Pipe Arch

Culvert Type:

Abandoned/Unmaintained - Check if the culvert appears to be abandoned and/or not maintained.

Culvert Material - Check box that most accurately describes the culvert's construction material. Check multiple boxes if the culvert is composed of two or more materials.

- **Metal** - Corrugated Metal (Steel) Pipe (CMP) = single sheet pipe of corrugated galvanized steel; Structural Steel Plate (SSP) = multiple plates of corrugated galvanized steel bolted together, and corrugated aluminum.
- **Plastic** - Culvert of various types of high-impact plastics, usually with shallow corrugations.
- **Concrete** - Generally no corrugations. Mostly box culverts, some circular and arch pipes are concrete.
- **Log/wood** - Mostly old log stringer bridges and Humboldt crossings, also box and old circular pipe.
- **Other** - Explain if none of the materials accurately describes the culvert.

Number of Barrels/Pipes - If a culvert consists of numerous barrels or pipe, list the total number.

Weirs/ Baffles - These are generally structures that are added as a retrofit to a culvert (baffles), or placed in the stream (weirs) to reduce velocity or improve fish passage in some way.

Channel Width - The active channel width is identified by locating the height of annual scour along banks developed by

annual fluctuations of stream flow.

Culvert Diameter - Check culvert diameter (larger or smaller than 2 ft). If multiple culverts, use largest.

Culvert Height/Width - Provide the culvert dimensions. If multiple culverts, enter the size of the largest one.

Outlet Drop Height - Measure the height at the center of the culvert outlet (e.g. downstream end of the culvert) to the water surface at estimated base flow.

VIII. BRIDGE

Bridge Type:

- **Free span** - No part of the bridge is in the stream.
- **Instream structure** - An abutment, pier, or some other part of the bridge is in the stream.
- **Active/Abandoned** - Is the bridge still utilized for vehicular or pedestrian traffic, or is it abandoned?
- **Apron** - A protective shield, usually made of concrete, to protect against erosion, may be around piers or abutments or span the entire creek.
- **Drop** - Is there a drop or slope from the apron to the downstream streambed?

IX. NATURAL

Natural Barrier Type:

- **Waterfall** - A sudden, nearly vertical drop in a stream, as it flows over rock.
- **Cascade** - A waterfall or steep rocky feature without a specific vertical drop
- **Grade** - Topography of streambed is too steep for fish to ascend. Specify details of species and lifestages the grade is too steep for in the notes section, and/or estimate the slope.
- **Landslide** - Movement of earth down a steep slope into a stream that blocks fish passage.
- **Log jam** - Log debris in a stream such that it blocks fish passage.
- **Waterfall Drop** - Check the box and estimate the actual height of drop to the water surface at baseflow.

X. ADDITIONAL NOTES

Please provide any additional notes and comments that may help to describe the structure, to determine the need for detail fish passage assessment and needs for barrier remediation. Use other side of the form if needed.

Mail or email filled form(s) to:

Anne Elston, PSMFC, 1010 Riverside Pkwy, West Sacramento, CA 95605, Email: Anne.Elston@wildlife.ca.gov

Lamprey questions:

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