

# Memorandum

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To: Tom Schroyer, George Edwards, Kevin Schaffer of CDFW, and Robin Carlson and Stan Allen of PSMFC.

Subject: PAD Standards and January 2014 Revision(s)

In order to create a robust dataset of fish passage barriers in the state of California new Passage Assessment Database standards were created on January 2013 Version in collaboration with the California Department of Fish and Wildlife and Pacific States Marine Fisheries Commission. These new standards took effect in 2013 for all new records. All existing records in the PAD will be migrated over to the new standards in the future. These standards will be reviewed and edited annually as deemed necessary. These standards are provided on the next few pages, and represent the PAD Standards first developed in January 2013 and updated on January 29, 2014. The January 2014 updates include clarification of each standard, grouping them into common subjects, and deleting the standard that specified that diversions will not be snapped to the 24k NHD hydrography.

### PAD Standards, January 2014 Version

Category	Standard #	Standard and description of the standard. Standards are listed below in <b>bold</b> font below, followed by a description of the standard.
Communication	1	<b>Passage information obtained in-person or via a telephone will be recorded as written documentation and so will the form for providing updates to the Passage Assessment Database.</b> Telecon, in-person communication memos and emails are recorded as references in the PAD but are not uploaded to the CDFW Document Library or any other online data storage location (e.g., StreamNet). The form for providing updates to the Passage Assessment Database will be recorded as a reference in the PAD and uploaded to the CDFW Document Library. These forms will not be made public.
	2	<b>Once a barrier has been added or updated in the PAD, the person who sent the information is sent an email about when and where they would expect to see this update in the PAD. They are also given the PAD ID number.</b> This will allow them to cross check the information added to the PAD if they want.
Individual and Combined Records	3	<b>If there is more than one barrier at the same location and it's the same barrier type, this will be captured in one PAD ID and the number of barriers will be added to a new field.</b> If the passage statuses differ between these barriers, the lower level passage status will be associated with the PAD ID and the passage statuses of all barriers will be noted in the site comments. For example, if there are two culverts next to one another under the same bridge one that is a total barrier and the other that is a partial barrier, this will be combined into one PAD ID (i.e., one point) and listed as a partial barrier. The site comments will contain the passage status of both culverts.
	4	<b>Barriers that are close in proximity to one another and functions as one unit will be listed as the same barrier with one PAD ID. Otherwise, these will be listed as separate barriers with separate PAD IDs.</b> For example if there is a train culvert and a road culvert in close proximity of one another they will be listed as separate barriers. If there is a series of barriers acting as one barrier that will need to be removed at one time, CDFW will need to be contacted in order to determine if they are acting as one barrier before combining them into one record.
Location	5	<b>All records in the PAD will be aligned to the 24K hydrography and their locations will be revised so that they are on top of the barrier per aerial imagery but still aligned to the 24K hydrography</b> The locations of the PAD records will differ from the GPS coordinate provided by the data source.
	6	<b>If coordinates aren't precise because entry onto the property was prohibited and the barrier can't be seen from aerial imagery, this barrier entry will not be added in the PAD.</b>
Ownership	7	<b>If barrier information on private land was received, the data submitter must answer the following questions; How did you get access, do you have permission, and could you provide a copy landowner support?</b>

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Passage Status	8	<b>If the passage status came from outside CDFW and not by a fish passage professional and by an untrained individual in fish passage, the passage status will be verified by a regional CDFW fish passage professional.</b> If the assessment of passage status didn't come from a fish passage professional, list the passage status as unknown until a CDFW fish passage professional has confirmed or disputed the sources' passage assessment.
	9	<b>A structure or non-structural element (i.e., waterfall, grade, temperature, etc.) will be added to the PAD and listed as 'unassessed' passage status if the passage status is unknown and if the barrier is a probable or potential barrier and hasn't been assessed.</b> For instances where barriers are probable partial or probable total barriers, this information will be added to the site comments. <b>And 'unknown' is one that has been assessed but the passage status was unable to be determined.</b> USFS Grey filter category (i.e., indeterminate) is an example of this.
	10	<b>Once a barrier is removed and the passage status is verified qualitative (e.g., photos of fish above the barrier) or quantitative (fish counts above the barrier) evidence the passage status, protocol used and assessed by fields will be updated.</b> The passage status, protocol used and assessed by attributes prior to removal will be contained in the site comments until new fields are created to house this information. Quantitative or qualitative evidence (i.e., photos of fish and field notes of fish counts) will need to be received by the PAD Administrator prior to changing passage status to 'not a barrier'. Otherwise, passage status will be listed as 'remediated, fish presence unconfirmed'.
Quality Assurance and Quality Control	11	<b>Barriers outside of California will not be added to the PAD.</b>

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Quality Assurance and Quality Control	12	<p><b>All barriers and diversions will be subject to the Quality Assurance and Quality Control (QAQC) procedures listed below, to the extent that this is possible.</b> The QAQC procedures include verification of location information and steps for the prevention of duplicate barriers and diversions in the PAD.</p> <p>a) When receiving barrier and diversion information, use ArcMap to decide if these are new barriers and diversions that need to be added to the PAD. Look at PAD barriers and diversions within proximity of this new site, compare photos, site names, structure owners, passage statuses, passage types and site comments. If it is still difficult to determine if this is a new site, request more information from the source. In many cases, existing barriers in PAD are incorrectly located and can often be off more than several hundred feet.</p> <p>b) Verify with the source that the coordinates are precise (i.e., taken on top of the barrier) and ask for the datum used if not provided. If the latitude/longitude coordinates aren't precise, ask for the barrier or diversion bank location (looking downstream) and distance in feet from the GPS coordinates. Also, ask why these coordinates aren't precise.</p> <p>c) When sources send information that have may have duplicate information, send an email back to the source addressing these issues.</p> <p>Snap the barrier to the 24K hydrography, and verify that the snapped barriers are on the correct stream and road route/post-mile. Check the physical location of the barrier against road route/post-mile, stream name and/or stream mile listed in the data, and verify that the snapped location is on top of the barrier per aerial imagery.</p>
Species	13	<p><b>Barrier status of a particular species and life stage will be added to the PAD species table if there was a field survey conducted for a particular species or life stage, or if FishXing software was used.</b> Previously, the species table was mostly updated with information specific to fish passage assessment of a particular species or a life stage. Majority of entries came from the FishXing software use.</p>