

DRAFT

TECHNICAL WORKING GROUP MEETING #5

DECEMBER 2, 2025

10:00 AM – 2:00 PM

CALIFORNIA ENVIRONMENTAL FLOWS FRAMEWORK

LOS ANGELES RIVER

MEETING LOCATION: LA RIVER CENTER AND GARDENS

Attendees

Name	Affiliation	In person/virtual
Michael Affeldt	City of LA Bureau of Engineering	In-person
Jose Alberola	Stillwater Sciences	In-person
Eileen Alduenda	Council for Watershed Health	Virtual
Steve Appleton	Elysian Community Operations	In-person
Brian Baldauf	Mountains Recreation & Conservation Authority	In-person
Eric Batman	LA County Public Works	Virtual
Edward Belden	City of LA Bureau of Engineering	Virtual
Tim Brick	Stewards of the Arroyo Seco	In-person
Isaac Brown	McMillen	In-person
Nate Butler	Stillwater Sciences	In-person
Cara Campbell	LA Department of Water and Power	In-person
Jason Casanova	Council for Watershed Health	Virtual
Rebecca Correa	Mountains Recreation & Conservation Authority	In-person
Edith de Guzman	UCLA	Virtual
Candice Dickens-Russell	Friends of the LA River	In-person
Kyle Evans	California Department of Fish and Wildlife	Virtual
Mary Ferguson	LA County Parks and Recreation	Virtual
Hannah Flynn	Stillwater Sciences	In-person
Jesus Gonzalez	LA Department of Water and Power	Virtual
Andre Groste	University of Southern California	In-person
Ben Harris	LA Waterkeeper	Virtual
Weston Henry	Stillwater Sciences	In-person
John Huynh	LA Department of Water and Power	Virtual
Tom Juma	LA Sanitation and Environment	In-person

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Stacee	Karnya	LA Sanitation and Environment	Virtual
Wendy	Katagi	McMillen	In-person
Nurit	Katz	LA Department of Water and Power	In-person
Sapna	Khandwala	Stillwater Sciences	Virtual
Melissa	Lane	Stillwater Sciences	In-person
Qiong	Lei	LA Sanitation and Environment	In-person
Anne	Maher	Stillwater Sciences	In-person
Mayra	Molina	California Department of Fish and Wildlife	Virtual
Nathan	Nunez	Nunez and Nunez Consulting	In-person
Sophie	Olmeda	LA Department of Water and Power	Virtual
Bruce	Orr	Stillwater Sciences	In-person
Mahesh	Pujari	LA Sanitation and Environment	In-person
Matt	Qassis	LA Department of Water and Power	In-person
Sarah	Rascon	Mountains Recreation & Conservation Authority	In-person
Rowan	Roderick-Jones	Stillwater Sciences	Virtual
Christian	Romberger	California Department of Fish and Wildlife	Virtual
William	Saunders	LA County Public Works	In-person
Natalie	Smith	Stillwater Sciences	In-person
Clark	Stevens	Resource Conservation District of the Santa Monica Mountains	In-person
Vicente	Villasenor	Heal the Bay	Virtual
Liam	Walsh	Mountains Recreation & Conservation Authority	Virtual
Scott	Webster	Elysian Community Operations	In-person
Patti	Wohner	Stillwater Sciences	Virtual
Pat	Wood	LA County PW	In-person
Miller	Zou	LA Sanitation Watershed Protection Program	In-person

Agencies, Organizations, and CEFF Terminology

Acronym	Meaning
CDFW	California Department of Fish and Wildlife
CWH	Council for Watershed Health
CEFF	California Environmental Flows Framework
FoLAR	Friends of the Los Angeles River
HtB	Heal the Bay
LABOE	City of Los Angeles Bureau of Engineering
LACPW	Los Angeles County Department of Public Works
LADWP	City of Los Angeles Department of Water and Power
LASAN	City of Los Angeles Sanitation and Environment
LLAR	Lower Los Angeles River
MRCA	Mountains Recreation and Conservation Authority
NRDC	Natural Resources Defense Council
RCDSMM	Resource Conservation District of the Santa Monica Mountains
S.AS	Stewards of the Arroyo Seco
SCCWRP	Southern California Coastal Water Research Project
SDMP	Structured Decision-Making Process
SWRCB	State Water Resources Control Board
TNC	The Nature Conservancy
TTWG	Thematic Technical Working Group
TWG	Technical Working Group
UCANR	University of California Agriculture and Natural Resources
UCLA	University of California, Los Angeles
ULAR	Upper Los Angeles River
USACE	US Army Corps of Engineers
USC	University of Southern California
USFWS	US Fish and Wildlife Service
WCA	Watershed Conservation Authority

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Action items and comments

No.	Action Items from TWG#5	Status
1.	Stillwater will follow up with Tim Brick regarding fish refugia	In Process
2.	Stillwater will connect with Ben Harris regarding interaction of flood and biodiversity performance measures	Completed

Overview

The purpose of this meeting was to continue to share LA River CEFF model outputs for the downtown reach of LA River and discuss management actions that may change our ability to meet our identified management goals.

Meeting Notes

Introduction

Wendy Katagi, McMillen: Wendy welcomed the TWG members and reviewed the agenda.

Christian Romberger, CDFW: Christian welcomed the TWG, emphasizing the opportunity for this process to be an overall look at what the LA River could be, and its importance from a biodiversity, recreation, water supply, etc. perspective to see watershed-scale results.

Nate Butler, Stillwater Sciences presented an overview of the CEFF Section C process, provided context for how the LOI 17.23 results shared here will be used to inform the ultimate flow recommendations, and highlighted how the flow recommendations will improve our ability to meet watershed goals.

Flow Assessment Initial Results for Downtown LA / LOI 17.23

Nate Butler, Stillwater Sciences shared initial results of the LA River CEFF Section C Performance Assessment Tool for LOI (Location of Interest) 17.23, which runs through Downtown Los Angeles.

See presentation slides for specific performance assessment results.

Linking Flow Assessment Results to Functional Flows

Nate Butler, Stillwater Sciences shared how initial performance results and suitability criteria are connected to the five functional (seasonal) flows of the CEFF Section C analysis: dry season base flow, fall pulse flow, wet season base flow, wet season peak flow, and spring recessional flow.

See presentation slides for specific functional flow analyses.

Steve Appleton, Elysian Community Operations asked how the nature exposure performance measure functions in a “slot drain” (low flow widening/roughening) scenario. How do we have nature exposure in a “slot drain”? Wouldn't that require a channel form change?

Nate Butler, Stillwater Sciences: Explained that the Recreation TTWG set up nature exposure suitability in a way that recognized that there is potential for some nature exposure in a running river under a range of conditions even if it is not very suitable.

Recreation TTWG didn't want to rule out this potential for nature exposure and in the development of the relationship there was discussion with Jane [Tsong] on what is the key factor that determine whether there was potential for nature exposure. The Recreation TTWG determined that so long there is wetted width and running water people could have a nature exposure in an urban environment.

Steve Appleton, Elysian Community Operations: Asked whether it will be possible to iterate on the suitability criteria.

Nate Butler, Stillwater Sciences: Confirmed the ability to iterate on suitability criteria, adding that we recognize that criteria may need to be refined.

Bill Saunders, LA County Public Works: Asked about access under low and high buildout and whether it was comparing the entire length of access from Tujunga Wash to the ocean or just the local spot of interest.

Nate Butler, Stillwater Sciences: The way access was considered changed depending on the requirements of the performance measure, but we are only looking within LOI 17.23 for this analysis so far.

Bill Saunders, LA County Public Works: Asked for more explanation on the differences between low vs high for MS4 build out.

Nate Butler, Stillwater Sciences: Clarified that the tool that Stillwater developed does not do a project by project evaluation due to the high level of uncertainty within the published plans. Stillwater looked at flow reductions required to meet TMDL requirements per jurisdictional sub watershed using data sources such as ULART and used this information to inform how flows would change in the river under MS4 build out.

Tim Brick, Stewards of the Arroyo Seco: Asked what the overall range for steelhead under achievable conditions was for LOI 17.23 in the initial results, and how flow range relates to the needed refugia provided by resting pockets and holding pools in the analysis. Noted that fish will try to avoid very high flows, which has implications for the overall restoration program along the LA River.

Nate Butler, Stillwater Sciences: Stated that the hydraulic analysis so far has been focused on the channel bottom, not side channels or wetlands that would potentially support sheltered conditions for steelhead passage. Side channels and wetlands in planned conditions are included along these reaches in the typologies and modeled conditions/performance assessment tool results for fish passage.

Isaac Brown, McMillen: Clarified that migration performance measures are structured around suitable migration conditions, but there is not a performance measure specifically about refugia. However, current plan scenarios to include refugia all throughout the river.

Nate Butler, Stillwater Sciences: Noted that the velocity changes are tracked in the 1D modeling and include the adjusting of roughness where vegetation is expected to grow, so we are characterizing whether velocities are suitable for fish passage at different flows.

Tim Brick, Stewards of the Arroyo Seco: Noted that if steelhead are going to return to the LA River, the most practical first focus would be out migration from the mountains to the ocean, which takes fish several days. He would like to continue discussion with Nate to understand how refugia are accounted for.

Mahesh Pujari, LASAN: Noted that the City of LA will need to have an understanding of how different flows have different management needs. Do you have any recommendation on how the river flow will be monitored, controlled, or maintained?

Wendy Katagi, McMillen: Responded that the question will be addressed in the next section as part of the discussion on adaptive release schedules and levers to target the changes that needs to occur in relation to flows in the river and the timing of those changes.

Activity Part 1: Identification of Management Actions (“Levers”)

Isaac Brown, McMillen: Led an activity focused on identifying potential levers or management actions related to channel form change or change in flow to the channel to achieve goals and win-wins. TWG input was solicited to brainstorm management actions to address five identified challenges in the watershed.

See TWG folder for photos of the posters that were used during this activity.

Challenge 1: Meet dry season base flow needs through water supply management actions.

Bill Saunders, LA County Public Works: Noted that when discussing levers for this scenario, we are mixing water supply from reclamation plants and facilities that are outside of the MS4 buildout.

Tim Brick, Stewards of the Arroyo Seco: Noted that the Safe Clean Water program is an opportunity and identified a lever could be a regulatory change to prioritize flow to river

over irrigation. Planners should recognize that when we put water into the river, it's not a waste.

Clark Stevens, RCDSMM: To encourage water supply for the river, incentives to focus on keeping water in the ground could be a lever.

Bill Saunders, LA County Public Works: Suggested a lever of adjusting plant operations to allow flexibility to send targeted flows of water when needed as a potential lever.

Tim Brick, Stewards of the Arroyo Seco: For the Clean Water Act, encouraged looking beyond chemical pollutants and at the health of the overall ecosystem.

Steve Appleton, Elysian Community Operations: Suggested the lever of manipulating the timing of discharges to best benefit species.

Benjamin Harris, LA Waterkeeper (virtually): Noted the lever of increasing discharge into the river upstream and remove it near the estuary to use it for water supply downstream. Also suggested another lever to look at increasing water storage upstream and/or downstream to create more durable quantity of water that can be more easily managed for timed releases. Shared an additional lever idea: to expand stormwater capture/retention and hold on to that water for timed releases into the river when it is most needed for base flows.

Christian Romberger, CDFW (virtually): Suggested the lever of the creation of more riparian complexity/roughness to retain water in the river for longer.

Challenge 2: Meet dry season base flow needs through MS4 compliance actions

Clark Stevens, RCDSMM: Noted that treatment and release strategy may provide a useful lever. Specifically, he suggested that the capture of stormwater from residential rooftops and streetscape/green streets are the most distributed iteration of this, but he emphasized the need to look for a “middle ground.”

Sarah Rascon, MRCA: Suggested inflatable dams, to retain stormflows and release later when appropriate.

Challenge 3: Provide kayak passage and tribal goals in channel with reduced dry season base flows.

Steve Appleton, Elysian Community Operations: Suggested the lever of systematic vegetation maintenance and sediment removal strategy. Provided Taylor Yard Bridge example of how stream needed to be moved for regulatory reasons.

Isaac Brown, McMillen: Clarified that this challenge includes providing suitable conditions for tule boats, as historically used in the river.

Nathan Nunez, Nunez and Nunez Consulting: Noted that depths required for tule boats are known, as people do practice that today. It is something that could be identified. Stillwater will continue to reach out to tribal resources to identify the depth criteria for tule boats.

Brian Baldauf, MRCA: Suggested the lever of regular, time-specific releases.

Steve Appleton, Elysian Community Operations: In response to Brian, noted that there is opportunity to think seasonally, about day of the week, about time of day, and that may also help when we think about regulating temperature of discharges to the river.

Benjamin Harris, LA Waterkeeper (virtually): Agreed with lever suggestion to make wastewater recycling more seasonal to ensure suitable flows for kayaking/cultural practices when needed.

John Huynh, LADWP (virtually): Suggested the lever of evaluating expanding windows for beneficial uses

Challenge 4: Manage peak flows to accommodate additional roughening in the channel while achieving flood risk reduction goals.

Rebecca Correa, MRCA: Suggested the lever of a development of water capture projects to help manage peak flows adjacent to the river.

Candice Dickens-Russell, FoLAR: Suggested a lever of a watershed approach to water capture, not with just a river focus. This could include looking at gravel quarries for storage and coordination with Measure W work.

Michael Affeldt, LABOE: Suggested a lever that aims to rework the Sepulveda Basin management of storm events to emphasize detention. Also suggested building another facility that approaches Sepulveda Basin scale. Noted that some years back, there were

diversion tunnels analyzed, which could be implemented at significant cost. These could be put major storm pipes below channel walls along the length of the river, filling up during peak flows. They could be integrated during other channel form changes.

Isaac Brown, McMillen: Suggested the lever of water supply reservoir operations management and shared how they might be optimized further to benefit flood risk management. The dams are currently optimized for supply and flood – this lever suggestion is to evaluate whether they could be used more for flood than supply, especially as additional recycling in the future may reduce local water supply demand long-term. Could expanded groundwater recharge capabilities also allow dams to be emptied quicker after storms to maintain more flood capacity without sacrificing water supply?

Bill Saunders, LA County Public Works: Responded that most LA County and Army Corps managed dams are first and foremost flood control structures, and that the only way to increase capacity to protect downstream communities is to build bigger dams.

Clark Stevens, RCDSMM: Suggested that at certain peak flow pinch points, terraces could be built up and over a structure, such as parking as a green roof. Similar to the parapet walls, but with a surface that could support habitat.

Benjamin Harris, LA Waterkeeper (virtually): Commented that the focus must be on stormwater capture throughout the watershed and a lever is to make the watershed more porous.

John Huynh, LADWP (virtually): Suggested a lever of expanding the windows for beneficial use beyond the dry season. If flow conditions are unsuitable (i.e. too much flow), reduce them and provide a net benefit to overall beneficial uses when looking at the year as a whole.

Benjamin Harris, LA Waterkeeper (virtually): Responded to John that this can be done both on a distributed level and in largescale capture/retention projects, but those projects all have to be prioritized much more than they have been (e.g. can't rely only on Safe Clean Water Program projects). Also noted the heavy importance of greatly expanding the natural floodplain along the river channel, wherever possible, instead of continuing to build permanent development on the last few remaining open parcels. Suggested pushing for a more ambitious approach to reclaiming floodplain away from existing permanent uses such as industry/commercial. Finally, noted that upper watershed dams in the mountains conceivably can be reoperated to retain more water at key peak flood times, to delay time of water delivery and smooth the peak flow curve.

Rowan Roderick-Jones, Stillwater Sciences (virtually): Suggested real time, automated predictive control that enhances the flood control benefit of existing storage by coordinating releases based on rainfall predictions.

John Huynh, LADWP (virtually): Noted that reducing peak flows and flood risk can be assisted by reducing discharges from the water treatment plants during the wet season.

[Challenge 5: Provide favorable flows for fish passage during the wet season and spring recession.](#)

Steve Appleton, Elysian Community Operations: Suggested the lever of real-time automated predictive control is also relevant to this challenge. Data as a trigger for management decisions is a common need; this could include weather predictive, water elevation predictive, and flow predictive modeling.

Michael Affeldt, LABOE: Noted that since the basic priority would be for after a rain event, a lever could be increasing releases from a reclamation plant to mimic slower recession.

Steve Appleton, Elysian Community Operations: Agreed with Michael and John, also suggested releases to allow more water storage anticipating a flood event.

Michael Affeldt, LABOE: Agreed with the suggestion to increase releases in advance of weather event, considering that some destinations like spreading grounds might be at capacity.

Bill Saunders, LA County Public Works: Noted that coordinated releases may not be enough to meet what is needed, due to the flashy nature of the channel. Urged for more low impact construction practices, such as retaining water on development and releasing at a slower rate.

Tim Brick, Stewards of the Arroyo Seco: Suggested the lever of a regional water planning program supporting larger regional storage facilities to develop the capacity needed. This is increasingly important in the face of climate change.

Bill Saunders, LA County Public Works: Noted one lever is to use imported water to augment water in the river. This could be funded through recreational use fees or natural resources fees.

Benjamin Harris, LA Waterkeeper (virtually): Suggested that lever of discharging more water into the river intentionally from wastewater treatment plants and then removing it from the river downstream near the estuary for water supply purposes. Noted that water then serves both fish passage and water supply, with additional conveyance/treatment once removed near the estuary. Water removed from near river estuary could be sent to AK Warren Facility in Carson for advanced treatment as part of Pure Water SoCal project.

Activity Part 1 Wrap-up

Wendy Katagi, McMillen wrapped up the meeting with the discussion question: What conclusions did you come to during the levers activity?

Brian Baldauf, MRCA: Noted that additional support and funding is required for larger projects. Shared that he was appreciative of everyone's time, coming out today.

Mahesh Pujari, LASAN: Noted that broad spectrum thinking is needed: for example, water recycling and sustaining ecosystems must be thought of together. These are all important to our society.

Tim Brick, Stewards of the Arroyo Seco: Commended everyone for working together and collaborating. Co-operation will be necessary to naturalize the LA River system. Expressed hope that the LA River CEFF summary document will call for a river management task force or governing body to ensure these various recommendations are implemented. This should include major stakeholders and be a forum for future discussion.

Rebecca Correa, MRCA: Noted that we need to prioritize thinking about continuity of flow – daylighting streams may be better for the ecosystem than many small water capture programs.

Pat Wood, LA County Public Works: Noted the messaging nuance that using water in a manner that is sending water to the ocean is considered "lost" to the local regional supply if it goes to the ocean and doesn't get another use down the river.

Bill Saunders, LA County Public Works: Noted that there isn't any one approach that will meet all needs.

Candice Dickens-Russell, FoLAR: Noted that helping organizations and agencies think differently about nature and incorporate natural systems into Measure W scoring will require in-depth public education and equitable community engagement.

Activity Part 2: Evaluating “Levers”

Overview

- 5 key environmental flows challenges (supported by CEFF results)
- Identification of potential levers (full group)
- Lunch (another chance for more levers)
- Opportunities & Constraints (small groups)
- Gauge level of interest for further evaluation (individuals)

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Challenge 1: Meet dry season base flow needs through water supply management actions

Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Timed flow releases			
Create riparian roughness to retain water in river for longer	Multi-benefit, site-specific typologies – raise and widen green-pool roofs		●
Dam releases for environmental flows		Lot of ET/water loss @ this distance	●
More recharge capacity in basins to recharge faster to keep water supply reservoirs			
Use recharged groundwater as water supply to river	Infiltrate what you would have been required to discharge (assumes more infiltration), then pump and discharge groundwater to supply river functional flow needs; cold, clean water for good habitat compared to direct discharge; meets temperature rules for discharges	New infrastructure cost; Energy; Not enough G.W.	●●●●● ●●●●● ●
Use reverse osmosis/plant operations to increase groundwater supply, would give flexibility	Year-round opportunity	Cost, complexity	●
Increase storage to allow more flexibility in releases/timing	Gravel pits; large parcels; behind USACE dams (Santa Fe precedent); good geology for recharge	Winter storm but you need it in summer; long time to store; Federal Gov. slow / act of Congress; gravel pits are privately owned, owners want to maximize their revenue by filling the pits and developing the new land; land is also needed for housing	●●●●● ●●●●● ●

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Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Timed releases for water reclamation plants to maximize benefits to recreation and biodiversity	Kayaking depth in summer; chance to manage flows for species benefit; must have data and clearly identified instructions		
Using inflatable dams where appropriate for timed releases	Water is there; hold 8 hours at night, release 8 hours	Limits natural constant flow, quick fix; danger for safety malfunction; attractive nuisance; channel may need to be redesigned to accommodate prolonged inundation periods	
Construct new basins capture winter storm flows for summer flow release	Design for habitat and recreational benefit; how to max. multi-benefit of these features? (take valuable land); Lopez Dam, Sepulveda Basin; gravel pits; in favorable geology; in “clean watersheds”	Lack of capacity to meet dry season needs; Identifying property available as well as funding; cost-effectiveness; the lands in LAR watershed are all occupied, who’s going to be displaced?; single-purpose pit; regulations for treatment before releases	

● Dots placed to indicate level of interest for further study

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Challenge 2: Meet dry season base flow needs through MS4 compliance actions.

Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Change regulations of safe, clean water to create broader sense of river [treat and release water quality]	Could allow more nature-based values to be met which are often multi-benefit projects		●●●●● ●●
Change incentive of Measure W	Opens potential; opens more distributed projects; smaller; make ecology a goal/requirement	Measure W was sold to the voters as a water supply (for people) measure – changing measure W may require voter approval (is this correct?); difficult to get voters to approve	●●●●●
More distributed storage throughout watershed	See above (combined)	See above (combined)	●●●
Broaden Regional board interpretation of Clean Water Act to value whole ecosystem (change metrics of success)	Look at other regional boards – not innovate, but incorporate other state goals; more holistic approach to conservation and resource management; establish eco assessment tool and narrow water quality “measurement”	CWA is a federal law; SCOTUS has ruled on limiting regulation to what the law actually says; timing of asking for changes	●●●●● ●●●●●
Build more dams to capture excess flows during wet seasons	Establish potential wet-season / dry-season exchange; KC2: increase capacity/storage of stormwater capture	Dam construction has its own set of opponents; space & resources	●●●●
Treat and release for dry season base flow	Opportunities for more multi-use recreation etc.; can work well w/in current legal language of clean waterfront, no need for change	Maintenance issue; cost issue with O&M	●●

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Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Water exchange/replacement diverted flows	Little/no new infrastructure	Free up the accounting/need to trade flows; contamination in aquifers issues – PFAS in aquifers requiring treatment	

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Challenge 3: Provide kayak passage and tribal goals in the channel with reduced dry season base flows.

Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
More systematic sediment removal to promote recreation passage	More preferred geometry; get rid of evasive species and/or trees; dedicated recreation channels – targeted approach (see Taylor Yard bridge)	Reduced cleanout during summer; removal of invasives only and not natives, education of contractors; Public education; Regulatory challenges – esp. w/ endangered species (404 permits, stream bed form change, section 7 consultation, etc.); funding/coordination	●●●●● ●●●●●
Change window of kayak season, potentially limiting to school vacation	Less need for water	\$\$\$ to kayak outfitters, reduced recreational opportunities	●●●●●
Timed releases to promote optimal recreation within specific intervals	Bring USACE on board with bigger dams and mov.; Shorter period during day reduces need for water and operations	Not enough water @ dams even w/ timed releases; Release valve limitations (Q); potential to flush contaminants, concentrated in dry season	●●●●● ●●●●●
Make wastewater recycling more seasonal to ensure required flows	Lower cost, don't need new infrastructure; requires very little change; understanding tribal gathering and solstice seasons to create aligned tiered releases – traditional tribal gatherings and ceremonies align with seasons throughout the year and could mimic historical hydrograph	More/conflicting demands heightened in summer; water is produced 24/7/365! Has to be treated!	

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Challenge 4: Manage peak flows to accommodate additional roughening in the channel while achieving flood risk reduction goals

Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Side channels to increase capacity	Provide variety of habitats spawning opportunities; connectivity; recreation & stewardship. Can feed storage/quarries	Concerns about property availability and physical constraints (contamination, utilities); more infrastructure to maintain	●●●●● ●
Add storage pipe/basins next to channel to hold/reduce peak flows			●
Inflatable dam in a wide tributary area like Tujunga to hold/lower peak flow	Look at Pacoima example; opportunity for reach seasonal side channels (flumes / lift); reach under-watered neighborhoods	LAR channel may need to re-designed to accommodate periods of inundation behind rubber dams; active management of short life span elements	●●
Reworking reservoirs/dams to support fresh water supply and other	Modernize valve works to increase efficiency; hold more water	Reservoirs already have flood control as primary purpose; Agencies already face opposition in maintaining reservoir capacity; more money and time to do; environmental constraints	●●●●
Increase channel wall height along with multi-benefit walls	Pursue concept to improve habitat + flood protection	Increasing wall height will likely require reconfiguration of bridges crossing channel	●
Use predictive programs to align releases with weather events		Varying transit times to account for modeling assumption inaccuracies; Forecasts are often inaccurate and programs are proprietary	●●●
Raise dams to manage peak flows	Good to capture excess flows	How many dams can we modify? Will this meet our needs?	
Expand windows for beneficial use beyond the dry season			

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Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Prioritize water capture projects to reduce peak storm flows	Measure W; reduce water reclamation plant discharge during storm events; Measure W WASCs need unique scoring criteria in each watershed to reflect specific conditions (i.e., ULAR specific needs)	Keep water on and in the ground – use water as it would have been distributed pre-combustion engine; hard to measure how far away from river do you go? Do you prioritize large or small flows? Does this include daylighting upstream streams?; availability of enough space to meet goals	●●●●
Upstream stormwater capture; thinking of storage in quarries	-	Quarries are privately owned. Owners want to fill the pits and develop the land to maximize revenues. Land is also needed for housing	●●●●● ●●●●●
Stormwater capture throughout watershed to reduce peak flows entering channel	Increase storage in parks		●●●●
Reworking how Sepulveda basin captures/releases	Provide storage – manage to release and capture in relation to flood risks; more water	Public education; inadequate data; less safety; prevents natural and continual flow processes	●●●●● ●●●
Building another basin/capture facility to store stormwater	-	Real estate, additional infrastructure \$\$	●●●●● ●●●
Diversion tunnels to move storm flow around pinch points in channel	Taylor Yard diversion?	Ocean (MSL) an endpoint constraint for design, sea level is rising; \$	●
Pipes within channel walls		Who gets displaced during construction? Housing shortage!	●●
Upper watershed dams in mountains can be reoperated to retain more water at key peak flood times (delay water delivery and smooth flow curve)	Only a management change, no \$	Less safety and more chance of spillway flows; dams have their own local habitat constraints, stored water is needed locally. Don't rob Peter to pay Paul	●●

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Challenge 5: Provide favorable flows for fish passage during the wet season and spring recession.

Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Retaining water upstream to release during optimal periods e.g. trigger steelhead migration	Bring USACE on board, they have big dams; create MOU ; develop goals and objectives, refine as needed	Helping people understand best time for release; lack of data and lack of coordination/understanding; not enough water at dams to cover need, need for multi approach	●●●●● ●●●●● ●●
Develop large, regional stormwater capture projects	Cooperation between and among agencies	\$\$; land needs vs. current uses; public land available for large-scale stormwater projects is limited (may need private land); public resistance to large projects	●●●●● ●●●●● ●●●●● ●●
Capture large flows locally in BMPs to slow water drainage to river (increase tail end of storm)	Easy to implement with minimal funds and minimal community displacement; must identify facilities and capacity	Maintenance of BMPs	●●●
Use imported water to augment flow	Strategic use of surplus water (wet years) to recharge groundwater; conjunctive use (surface water + groundwater)	No thank you! Working to capture more local water; cost of new infrastructure; those buying imported water still need to be able to use it; space for surface water/GW storage; space + cost for recapture infrastructure	
Timed dam release	Steady or known targeted flow	Wet season flood control constraint; releases based on storm forecasts that are often wrong; need empty out quick for protection during next storm	●
Strategic WRP discharges (and potential recapture at estuary for water supply – AK Warren Facility)			●

TECHNICAL WORKING GROUP MEETING #5

DECEMBER 2, 2025

10:00 AM – 2:00 PM

CALIFORNIA ENVIRONMENTAL FLOWS FRAMEWORK

LOS ANGELES RIVER

Preliminary Lever	Opportunities	Constraints	Level of Interest (each dot = one person indicating interest)
Groundwater pumping		Hydraulic connectivity / pumping capacity water quality concerns; high cost and continual maintenance	●●
MS4 levers to optimize water quality of releases to the river			●●

● Dots placed to indicate level of interest for further study

TECHNICAL WORKING GROUP MEETING #5

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CALIFORNIA ENVIRONMENTAL FLOWS FRAMEWORK

LOS ANGELES RIVER

Additional comments

From Mark Hanna, Geosyntec, sent via email 12/2/2025:

1. Slides 18 and 21 describe Lauren Bon's Water Right as a performance measure, which is appreciated. Please note though that her right to divert equates to approximately 0.2 cfs when its available in the river and a reduction of 0.2cfs should not have a significant impact on LOI 17.23
2. I appreciate slides 77-85 where scenario flows are compared to suitable flows, really showing the flashiness of the system and how quickly desired flows (outside of baseflow) the come and go.
3. Slide 96, Key Challenge 4, offers an example lever of terraced walls to increase channel capacity. This is not necessarily the actual outcome from channel terracing. It is recognized that the cross-sectional area of the river channel could be increased through the terracing, however the wetted perimeter, and hence frictional surface, is also increased. In reaches where flow is supercritical, this oftentimes (not always) induces a hydraulic jump forcing the flow to be subcritical, greatly reducing the channel's capacity to convey flows. If the channel's flow is already subcritical then terracing would likely provide the desired benefits.
4. Slide 97, Key Challenge 5, offers an example lever of optimized treat and release stormwater BMPs to provide favorable flows for fish passage
 1. Stormwater BMPs usually have required drawdown durations in the 48-96 hour range to allow for capacity to capture the next storm event while also reducing the risk of mosquito breeding
 2. Stormwater is a critical component of the City's water supply portfolio and should considered as described in the water supply performance measure 1 (Slide 18: WS-PM-1)