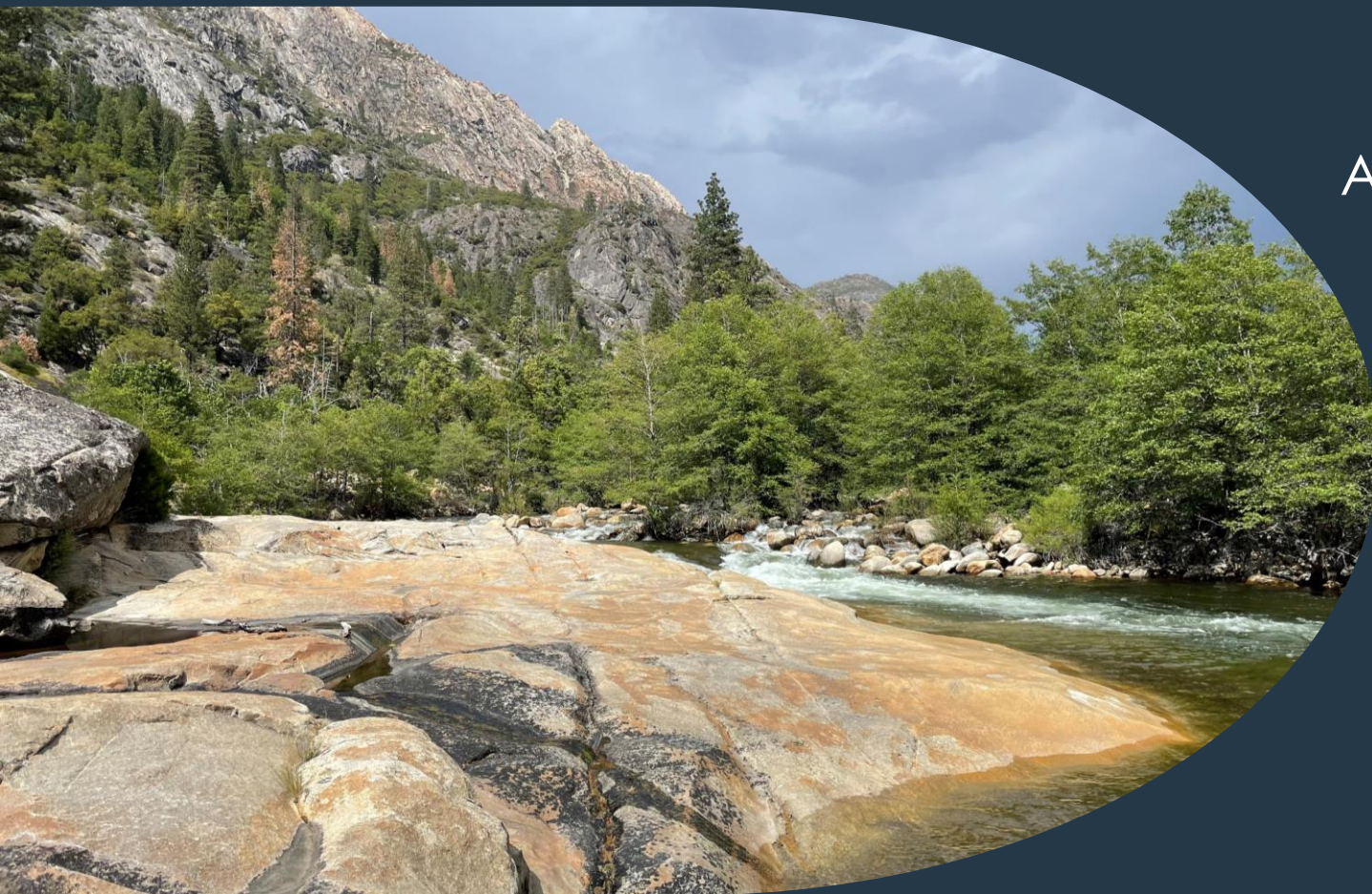


CEFF APPLICATIONS: INSTREAM FLOWS & CDFW



Alyssa Obester & Alex Milward

CDFW Water Branch

Instream Flow Program

October 11, 2022

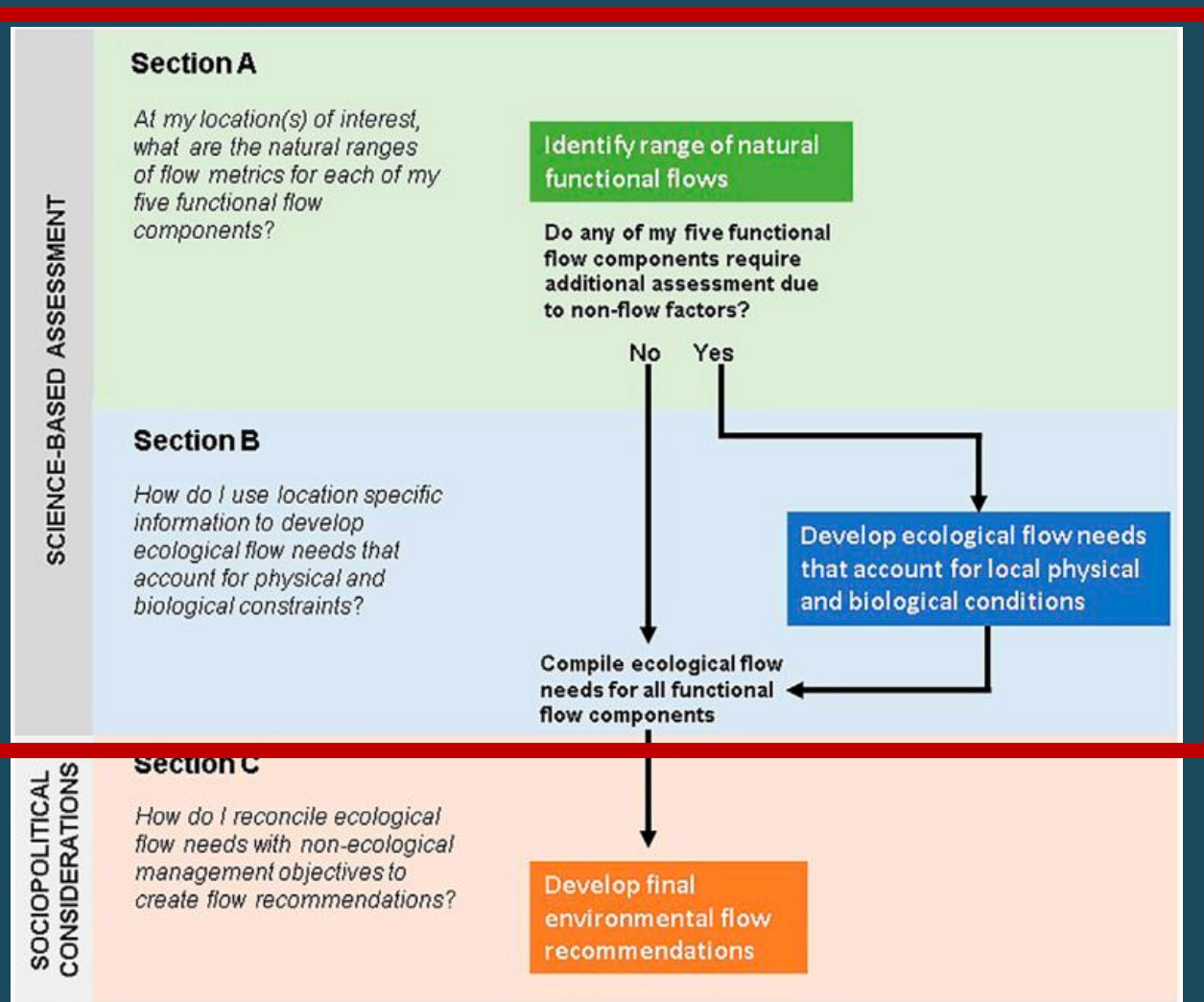


CDFW'S INSTREAM FLOW PROGRAM

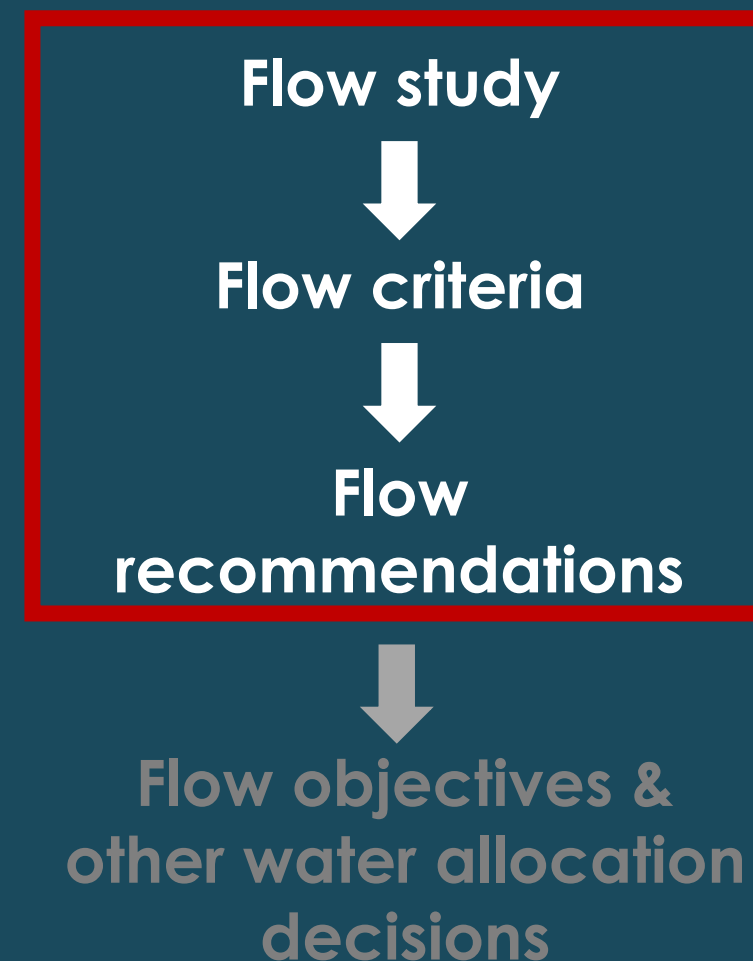
- Develop instream flows required to maintain healthy conditions for aquatic and riparian species
- Provide flow information in response to legislative mandates
- Provide technical, flow-related support to CDFW regional staff
 - Site-specific, technical instream flow studies
 - Desktop-based flow criteria
 - Flow information to support drought, other regulatory processes



CDFW'S INSTREAM FLOW PROGRAM



**CDFW
involvement**



CDFW CEFF INVOLVEMENT

- Member of Technical Team
 - Assist in Framework development, provide feedback, test tools
- Participate in Eflows Workgroup Meetings
- Serve as CDFW's "CEFF resource"
 - Provide CEFF trainings to staff



CEFF APPLICATIONS: WATERSHED CRITERIA REPORTS

- Rapid approach for developing watershed-wide flow criteria
- Developed using hydrologic and modeling tools – no data collection required
- Can be combined with site-specific data, when available



CEFF APPLICATIONS: WATERSHED CRITERIA REPORTS

Functional Flows

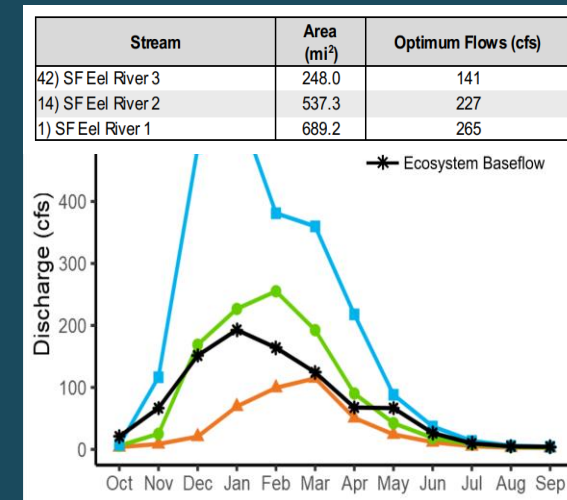
What are the flows that preserve the ecological and physical processes throughout the year and across years?

Metric	Wet Years	Moderate Years	Dry Years
Fall pulse flow magnitude (cfs)	400 (180–1,400)	300(185–1,400)	150 (75–450)
Fall pulse flow duration (total days per year, when present)	3 (2–6)	3 (2–5)	6 (3–9)
Fall pulse flow start timing	Oct 20 (Oct 11–Oct 31)	Oct 15 (Oct 3–Nov 13)	Oct 16 (Oct 9–Nov 11)
Wet-season baseflow magnitude (cfs)	1500 (1,096–2,502)	900 (605–1,217)	500 (300–700)
Median wet-season flow magnitude (cfs)	400 (250–700)	300 (200–450)	130 (75–230)
Wet-season duration (days)	150 (97–175)	140 (118–176)	120 (70–163)
Wet-season start timing	Nov 15 (Oct 20–Dec 15)	Nov 20 (Nov 6–Dec 28)	Dec 15 (Nov 13–Jan 3)



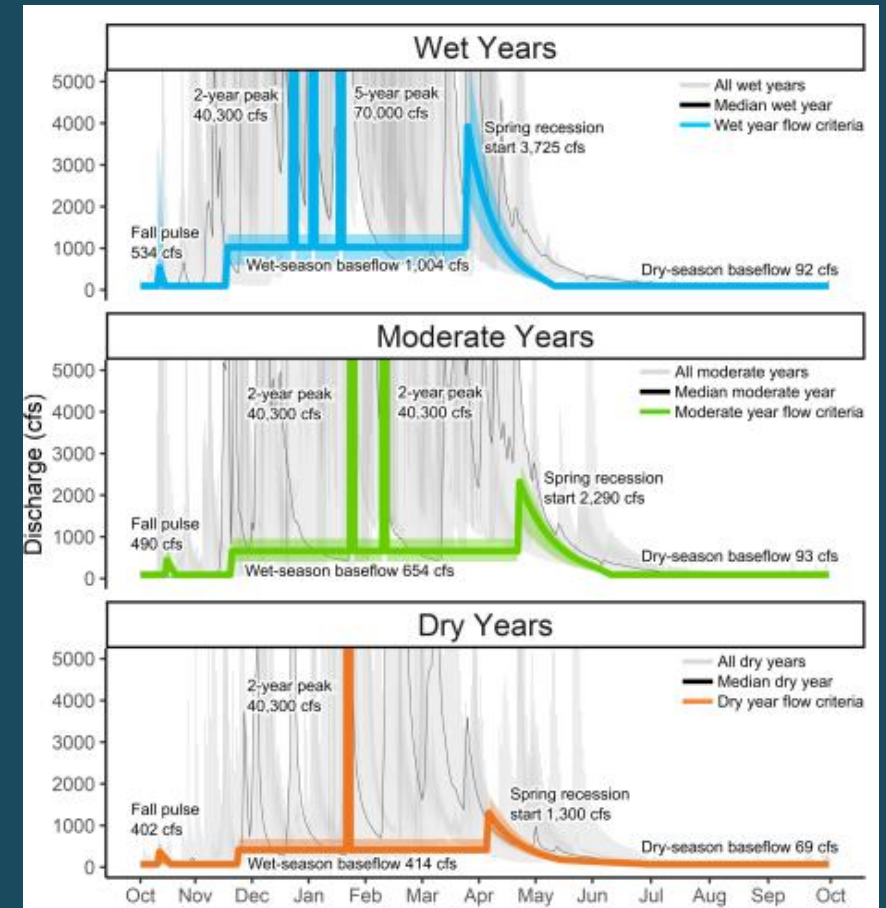
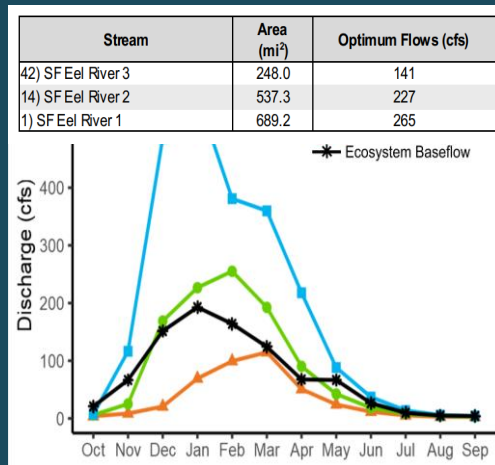
Additional Analyses

What are specific ecosystem and species-specific flow targets?



CEFF APPLICATIONS: WATERSHED CRITERIA REPORTS

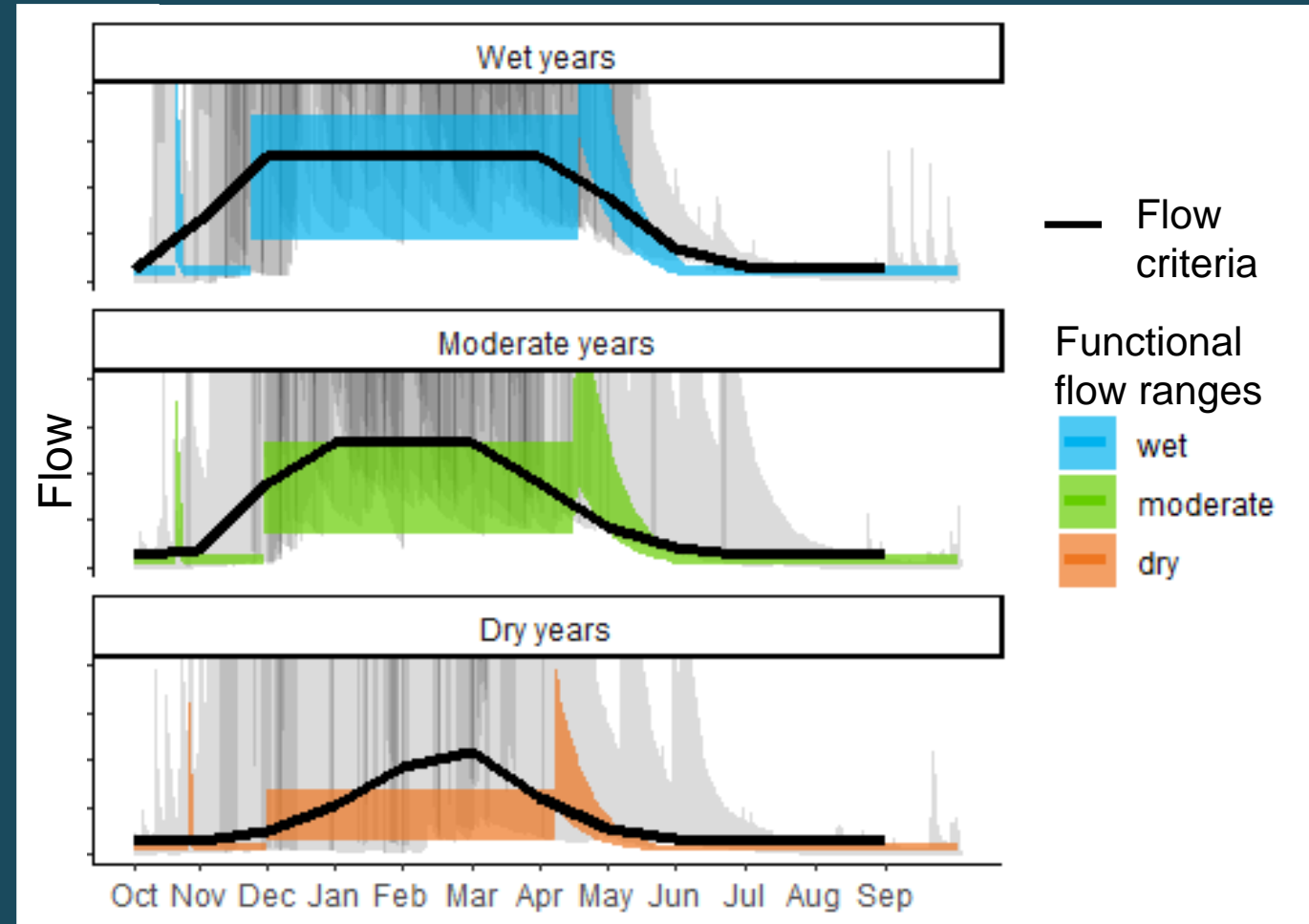
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Water Year Type	Wet Season Nov-Mar	Spring Recession Week 1	Spring Recession Week 2	Spring Recession Week 3	Spring Recession Week 4	Spring Recession Week 5	Spring Recession Week 6	Spring Recession Week 7	Spring Recession Week 8	Spring Recession Week 9	Spring Recession Week 10	Dry Season May-Oct
Wet	1,004 [†]	3,118	2,022	1,311	850	551	358	232	150	97	-	92 [‡]
Moderate	654 [†]	1,974	1,378	963	672	469	328	229	160	112	78	93 [‡]
Dry	414 [†]	1,120	782	546	382	266	186	130	91	-	-	69 [‡]

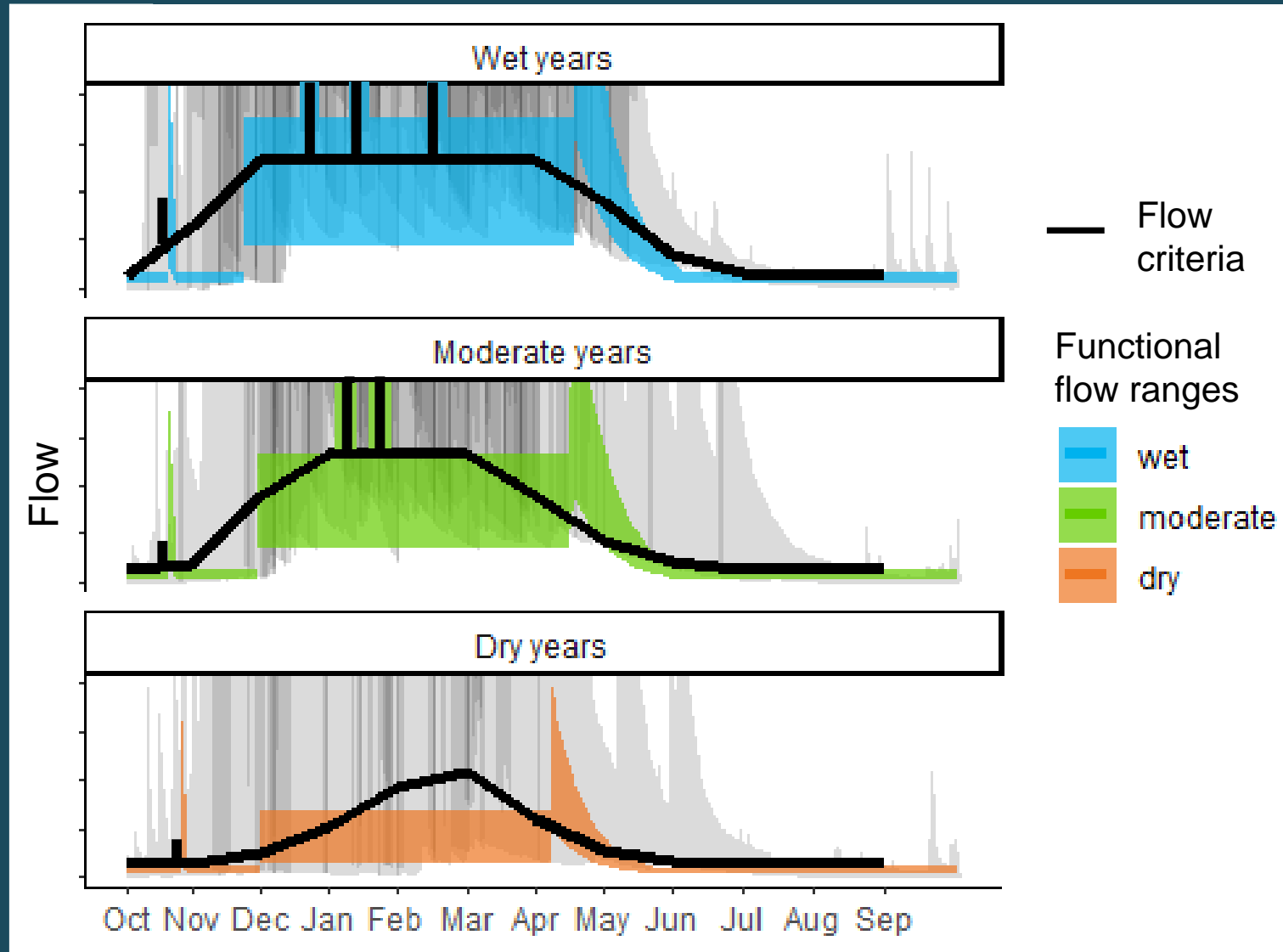
CEFF APPLICATIONS: REFINING FIELD-BASED FLOW CRITERIA

- Assessing whether field-based flow criteria match natural hydrology



CEFF APPLICATIONS: REFINING FIELD-BASED FLOW CRITERIA

- Incorporating variability (pulse and peak flows) to baseflow-focused criteria



ADDITIONAL APPLICATIONS

- Assisting regions in drafting conditions for FERC licenses
- Providing flow information for legal processes
- Providing flow information support to regions during drought to assist with water management discussions



NEXT STEPS

- Assist regional staff in:
 - Assessing water rights applications and Lake and Streambed Alteration permits
 - Bridging the gap between surface water and groundwater
- Continue to use tools, train CDFW staff





**CEFF tools have helped us provide peer-reviewed,
defensible flow information to regional staff in a timely
manner.**

Thank you!

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