Fish and Wildlife Program Draft Mainstem Amendments

Flow Impacts

December 10, 2002

Northwest Power Planning Council

Council's Preferred Alternative

- Remove April 10th fill requirement
- Keep the end-of-June fill requirement
- Extend draft period through September
- Provide level outflows at Libby and Horse (Jul-Sep)
- Elevation targets at Dworshak (Jul-Sep)
- Set Coulee Sep draft limit to 1,283 feet
- Set Horse and Libby Sep draft limits to 10' down (20' down in dry years)
- Keep Coulee at 1,283 feet through December

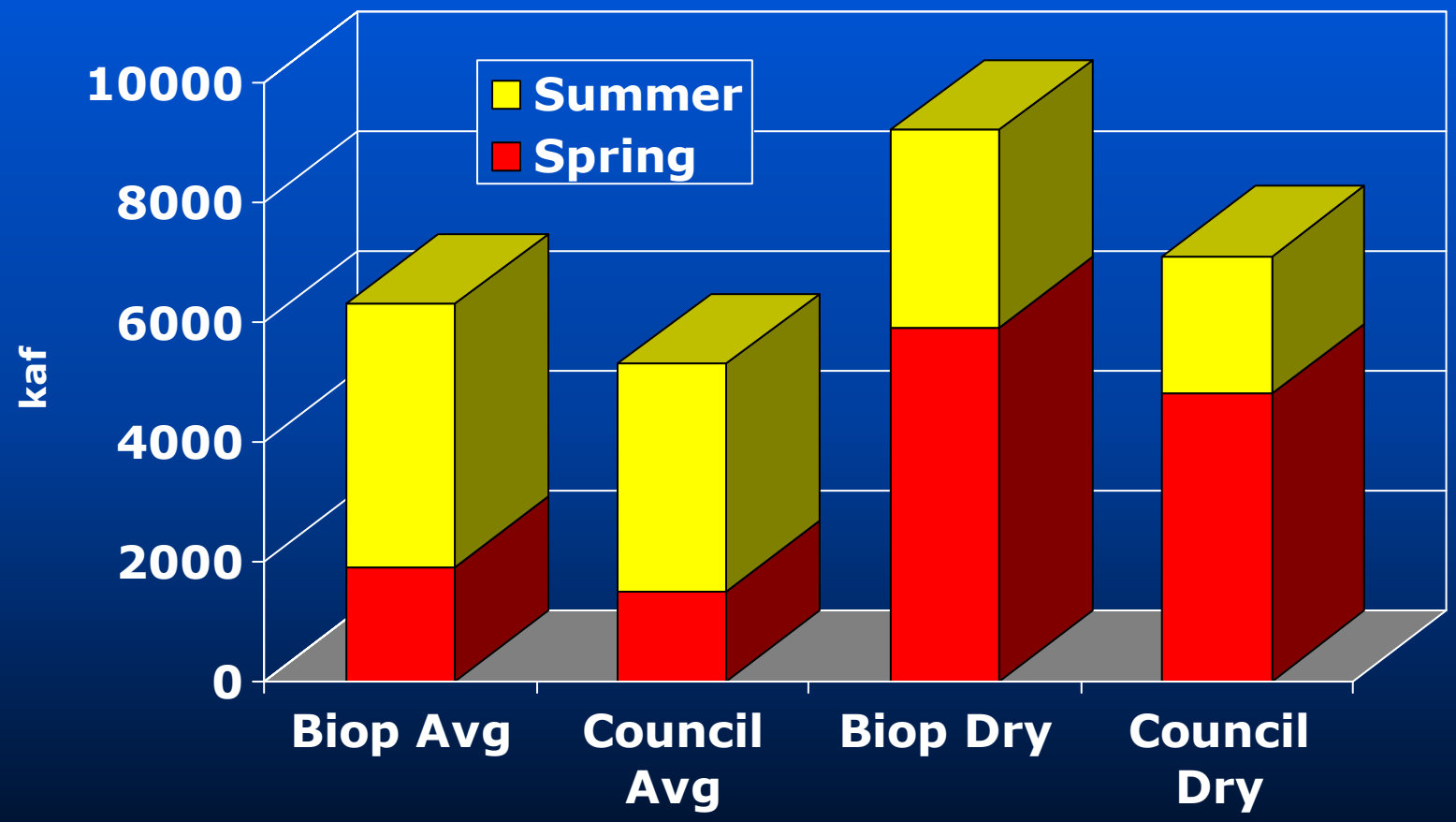
Flow Augmentation Volumes
(50-Year Average at McNary Dam)

	2000 Biop (kaf)	Council (kaf)	Difference (kaf)	Reason for Difference
April-June	1900	1500	-400	Removal of April Fill
July-August	4400	3800	-800	Higher Aug Draft Limits
September	-850	-450	+400	Extended Draft Period

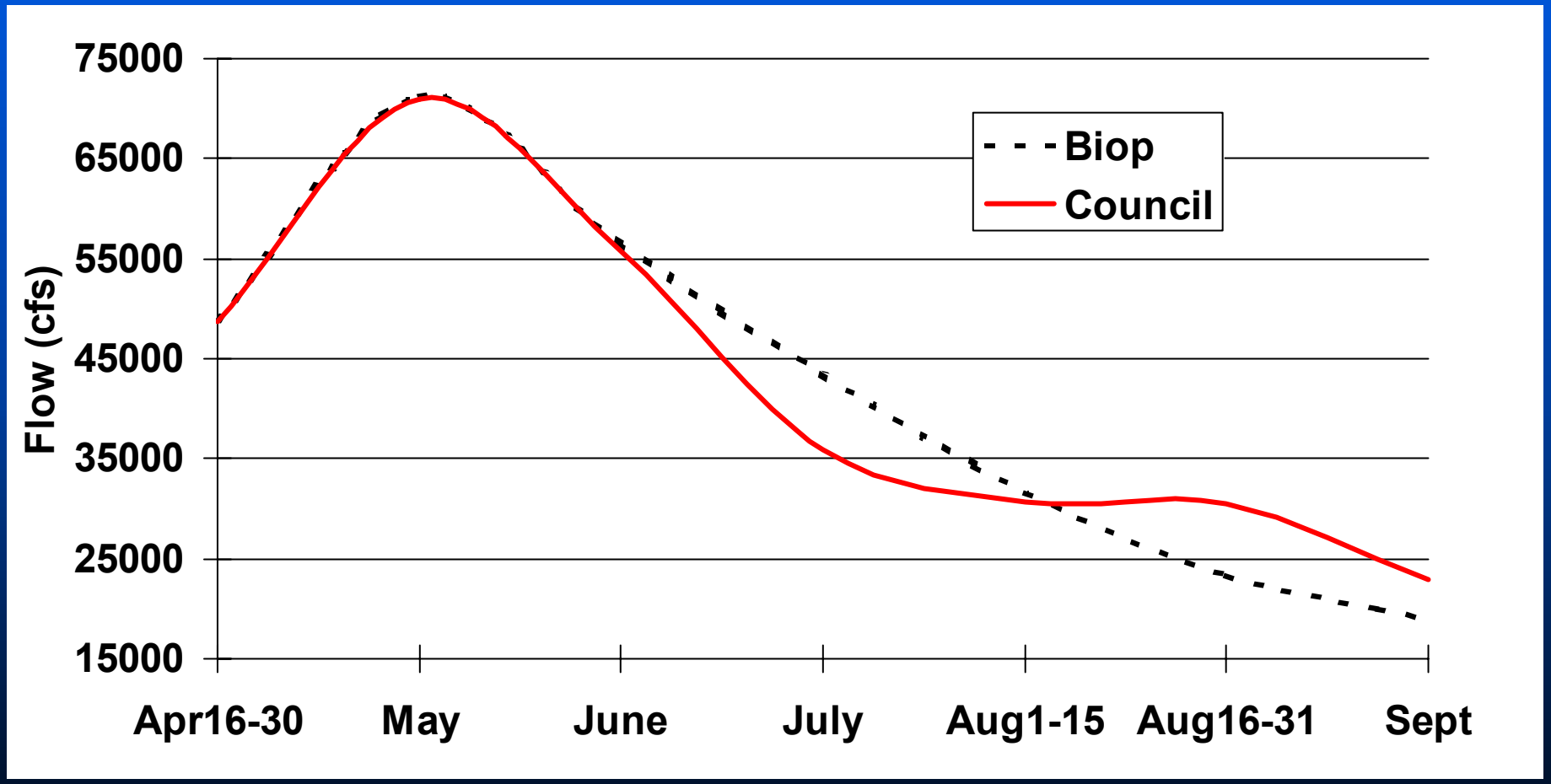
Flow Augmentation Volumes
(Average over Driest 30% at McNary)

	2000 Biop (kaf)	Council (kaf)	Difference (kaf)
April-June	5900	4800	-1100
July-August	3300	2300	-1000
September	-1000	-650	+350

April-August Flow Volume



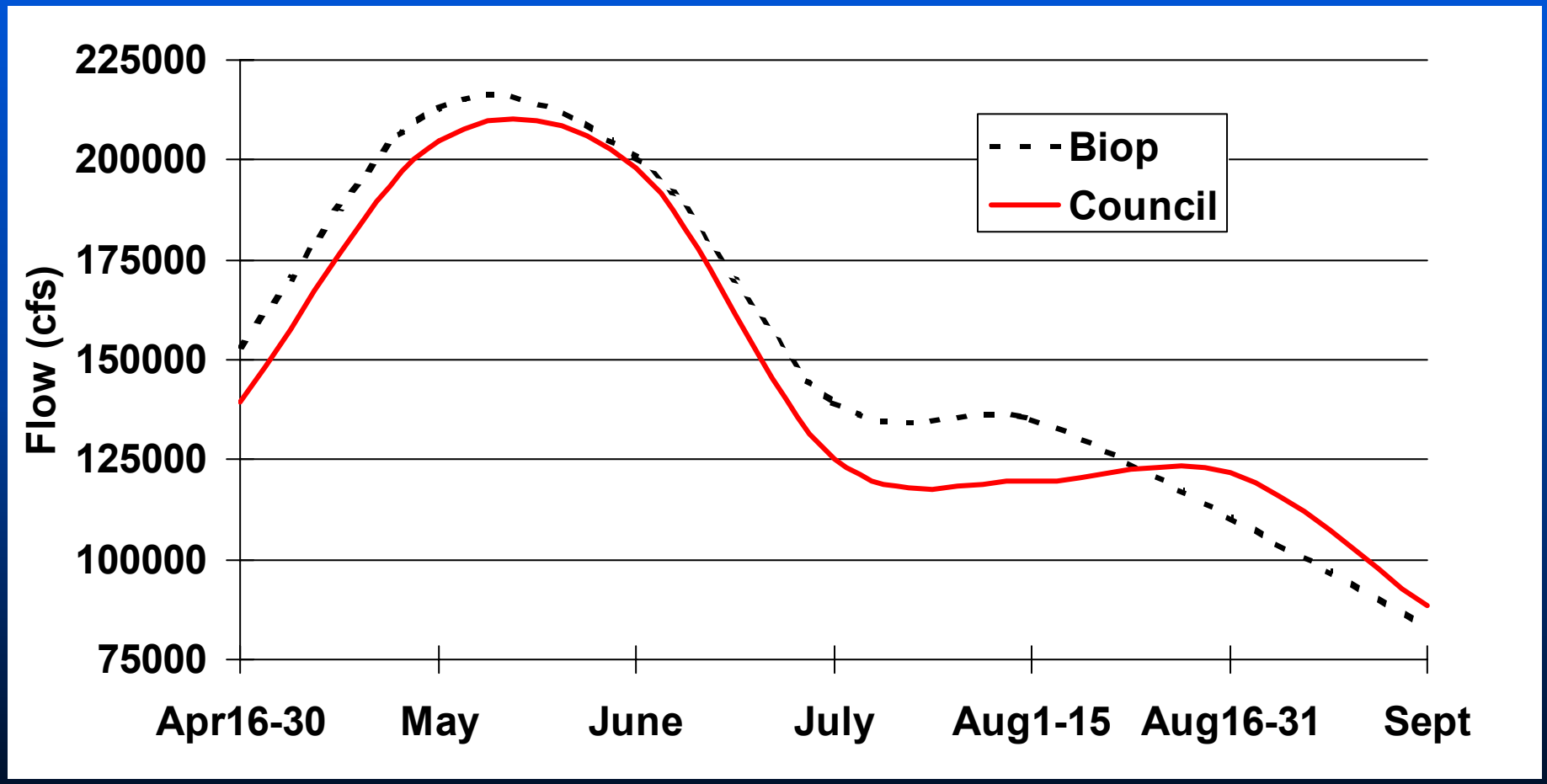
Flows at Lower Granite (Averaged over the driest 30%)



Changes to Summer Flows at Lower Granite (Average over Driest 30%)

	July	Aug 1-15	Aug 16-31	Sept
Percent Change	-17%	-3.5%	30%	20%
Biop Flow (kcfs)	43	32	23	19
Council Flow (kcfs)	36	31	31	23

Flows at McNary
(Averaged over the driest 30%)



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Changes to Spring Flows at McNary
(Average over Driest 30%)

	April 16-30	May	June
Percent Change	- 9%	- 4%	- 1.5%
Biop Flow (kcfs)	153	213	201
Council Flow (kcfs)	140	205	198

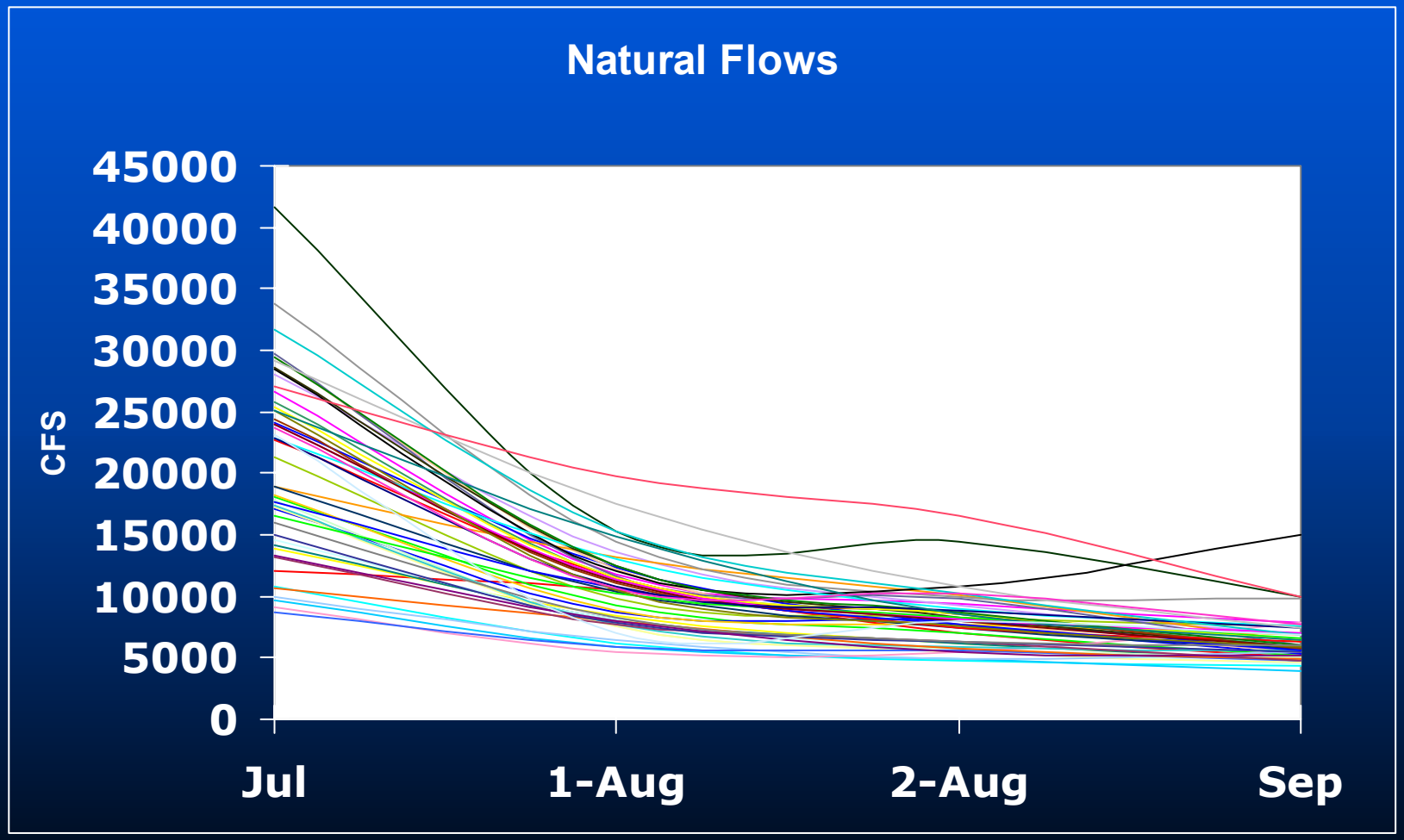
April Fill Requirement

Pro	Con
■Additional 1,800 MW-months of winter energy ■About $10 million annual savings ■More winter flexibility and reliability ■Less forced spill in spring ■No effect to Lower Granite flows ■No effect to McNary flows in average to wet years	■Less mainstem flow volume in Spring: – 400 kaf average over all years –1100 kaf average in dry years ■Lower flows at McNary in dry years: – -9% in April (30% driest years) – -4% in May – -1.5% in June ■Worst year reduction in flow: – -17% in April – -10% in May – -8% in June

Changes to Summer Flows at McNary
(Average over Driest 30%)

	July	Aug 1-15	Aug 16-31	Sept
Percent Change	-10.2%	-11.3%	9.9%	6.7%
Biop Flow (kcfs)	139	135	111	83
Council Flow (kcfs)	125	120	122	88

Summer Flows at Libby



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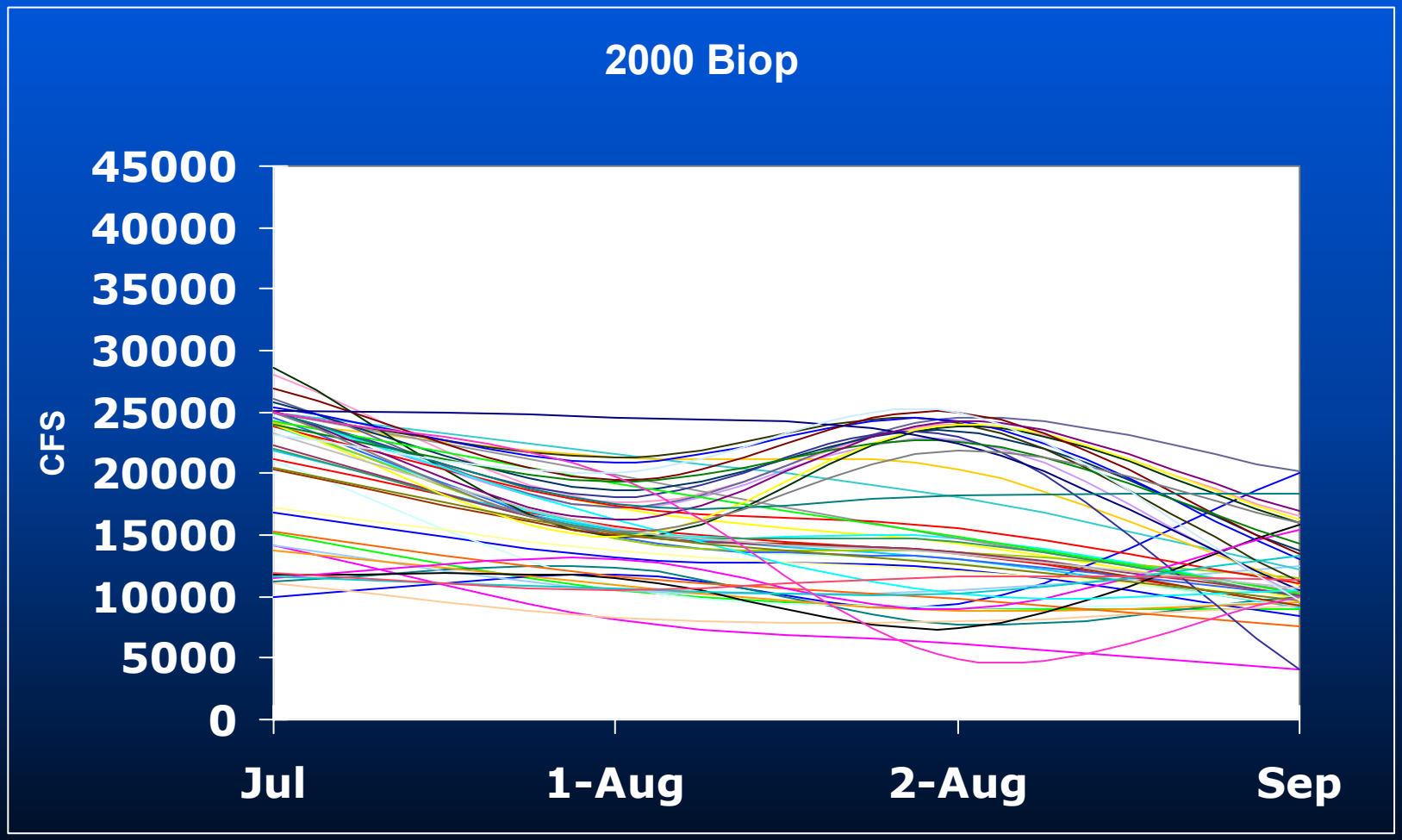
Summer Flows at Libby



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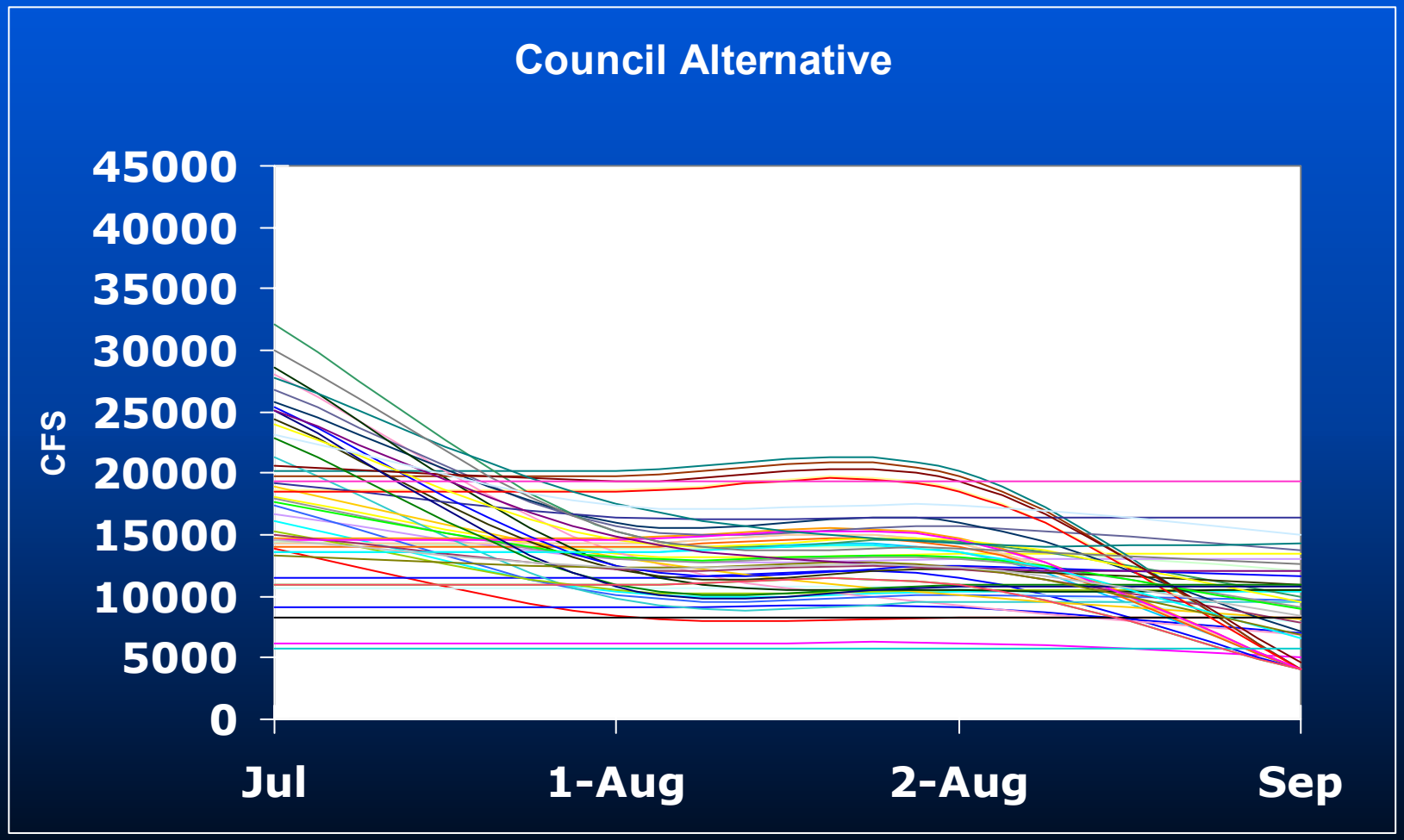
Summer Flows at Libby



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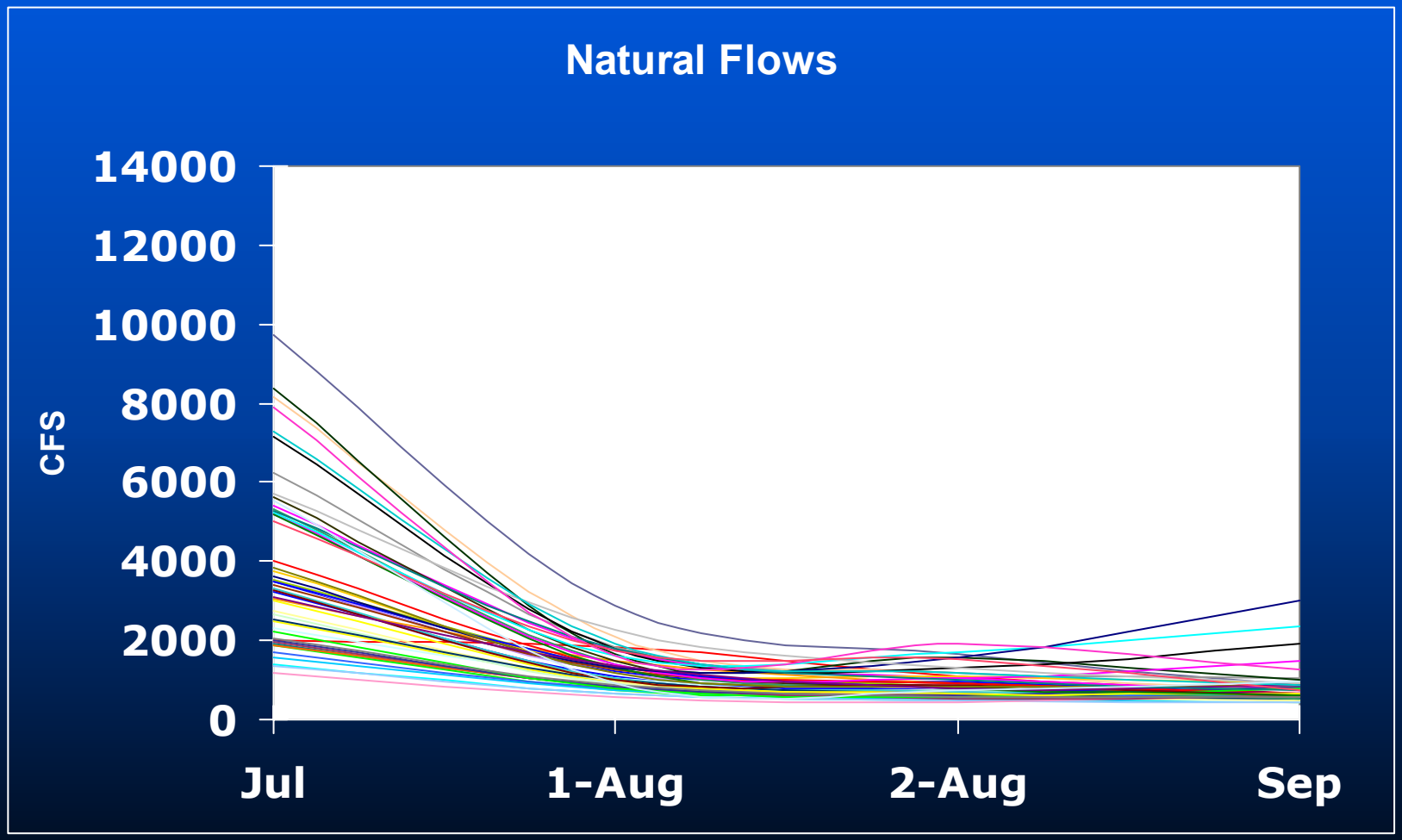
Summer Flows at Horse



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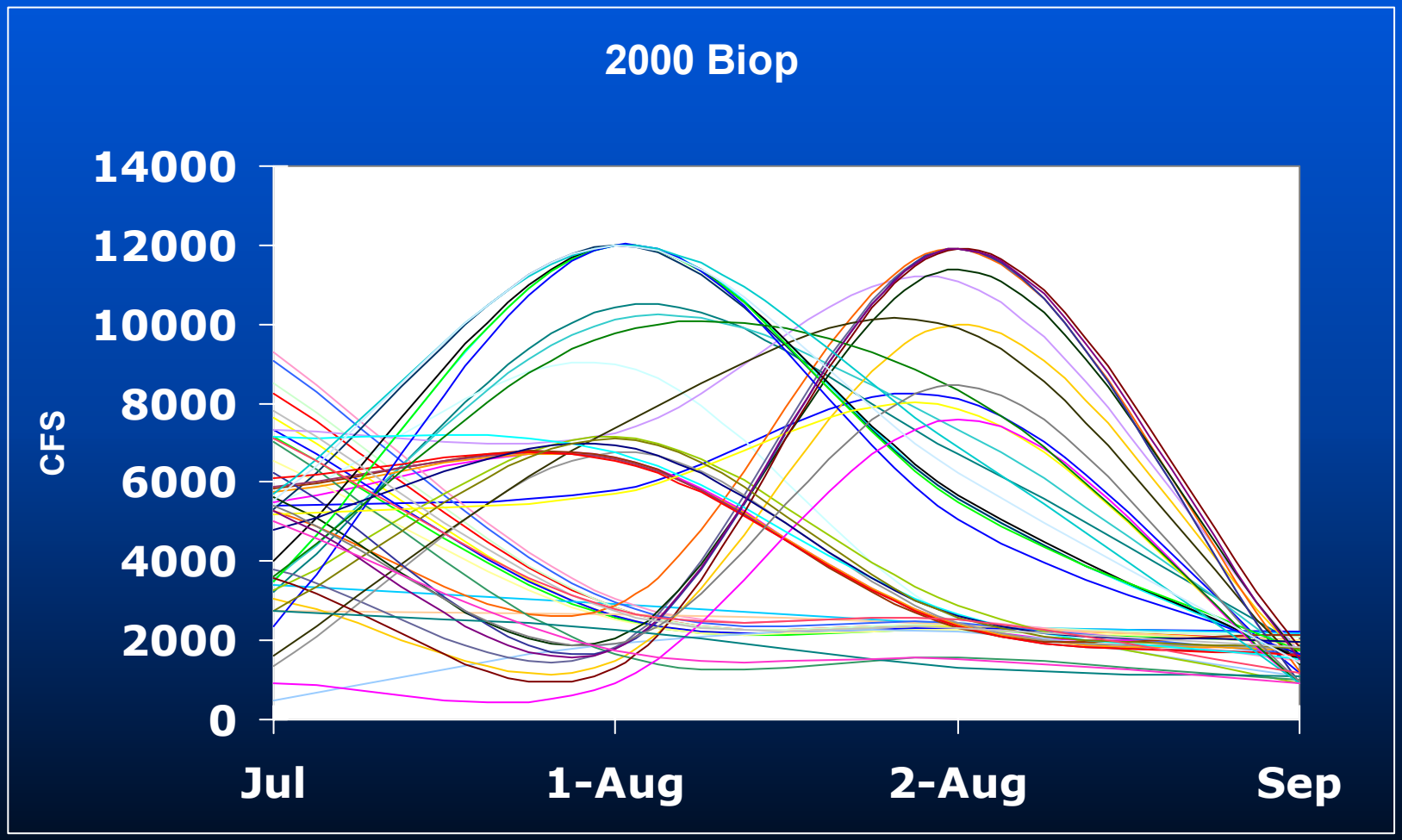
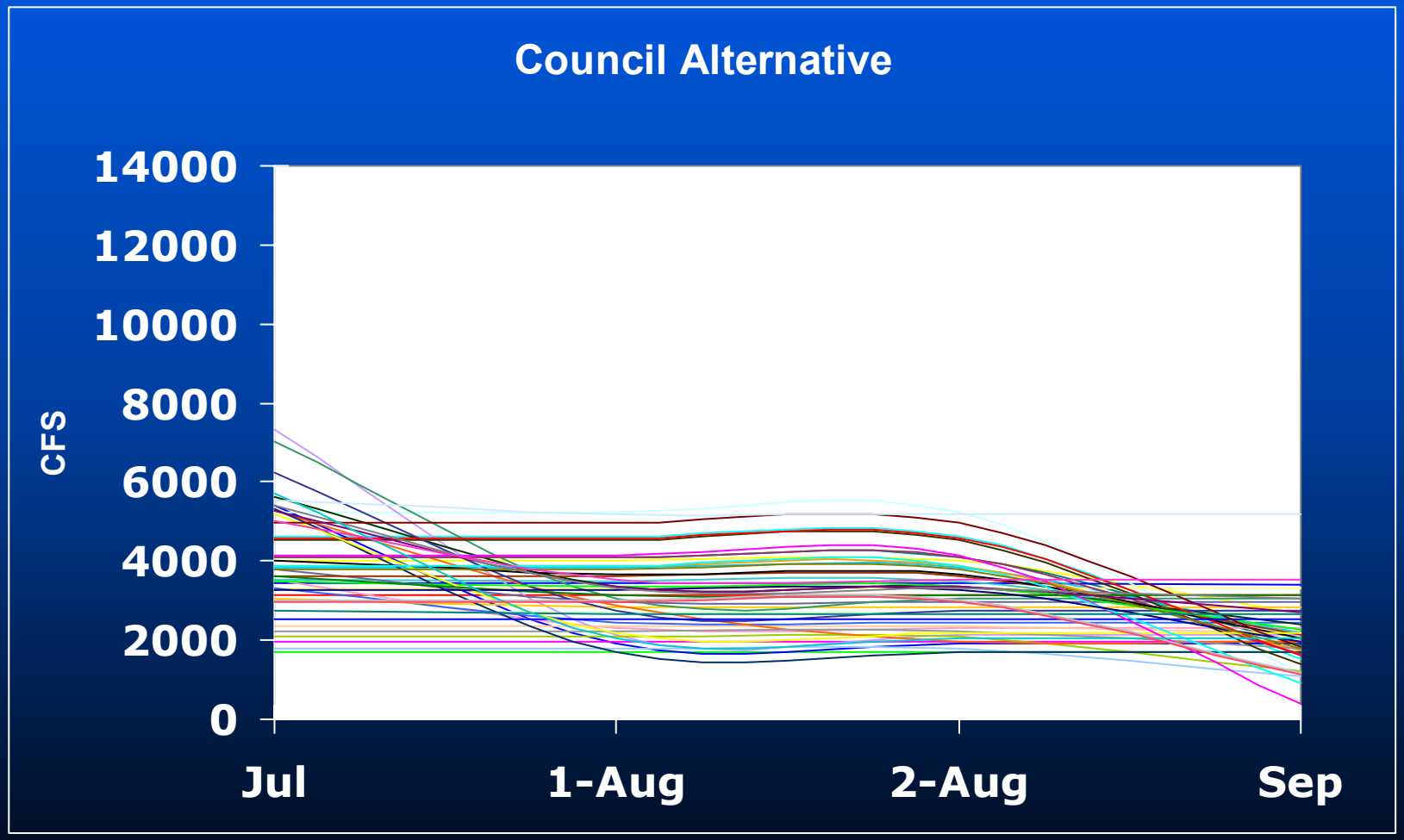
Summer Flows at Horse



Summer Flows at Horse



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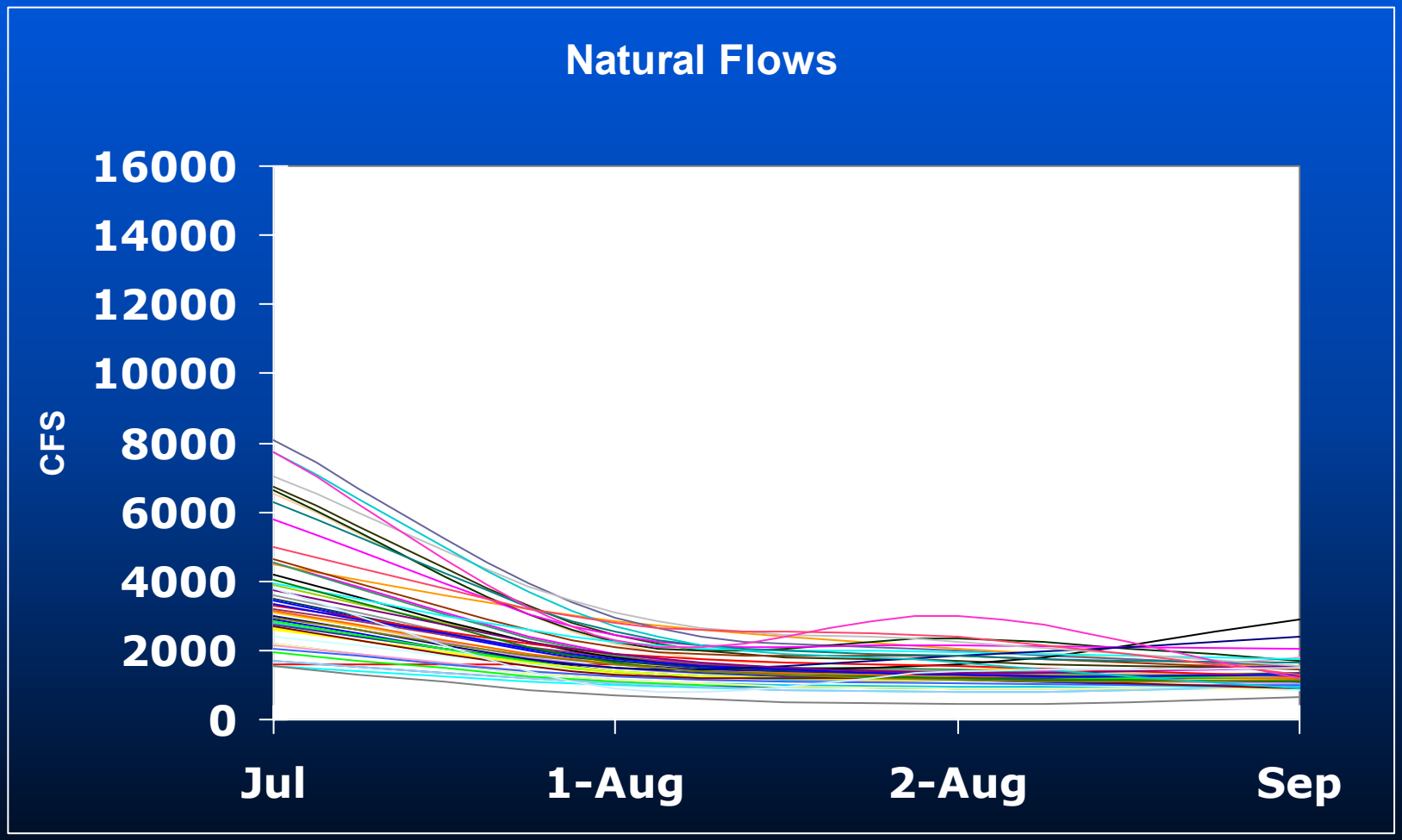
Summer Flows at Dworshak



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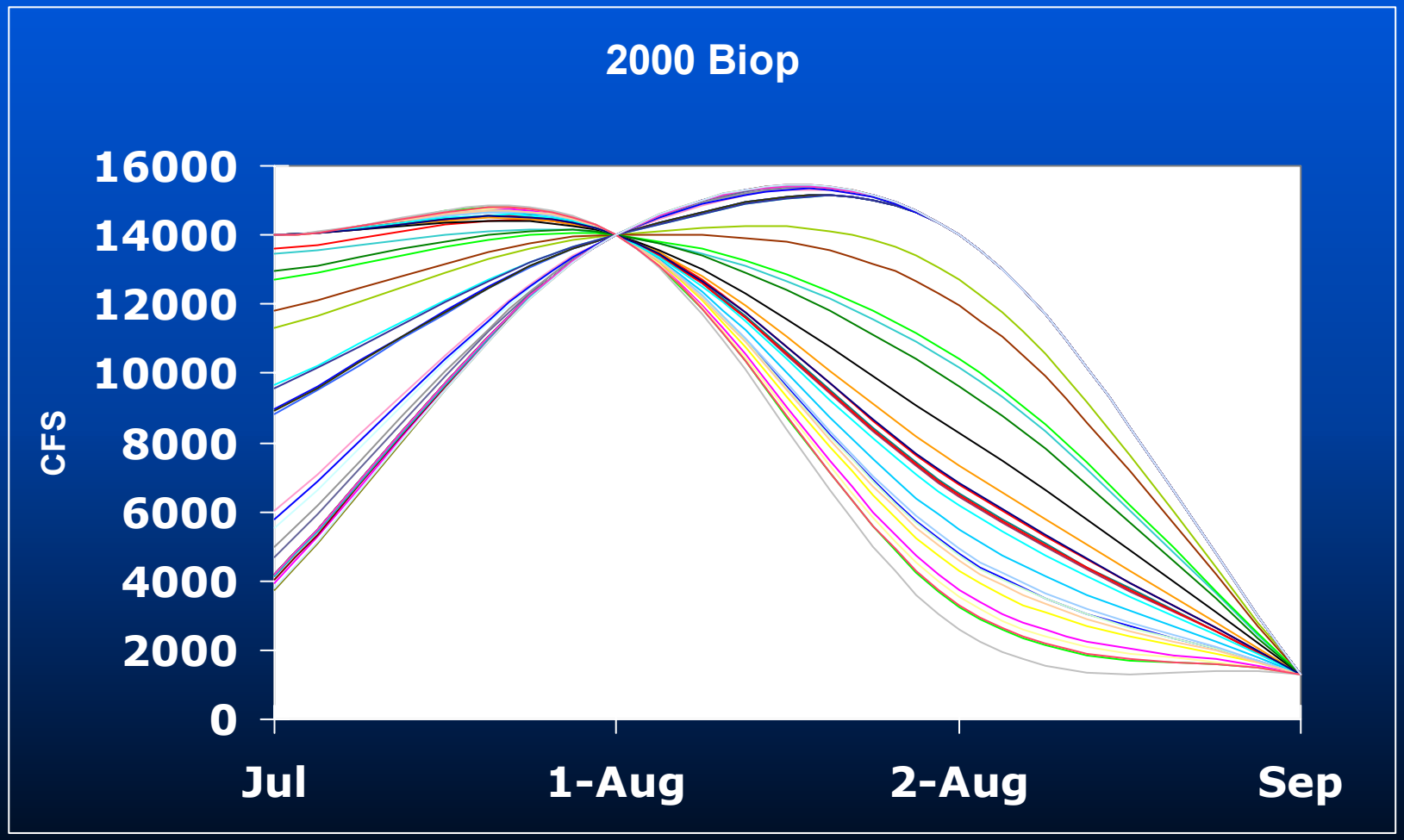
Summer Flows at Dworshak



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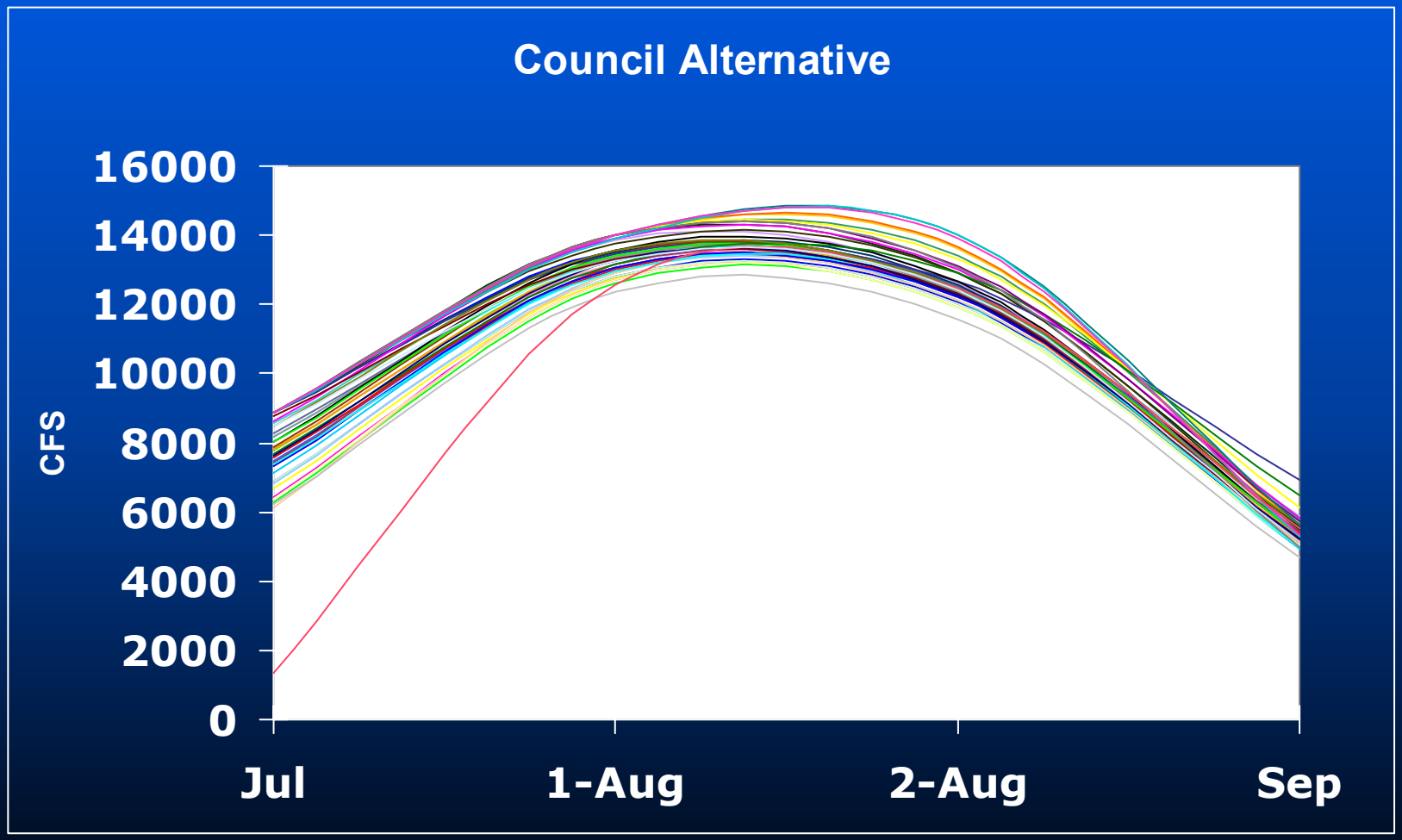
Summer Flows at Dworshak



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Additional Slides for Questions

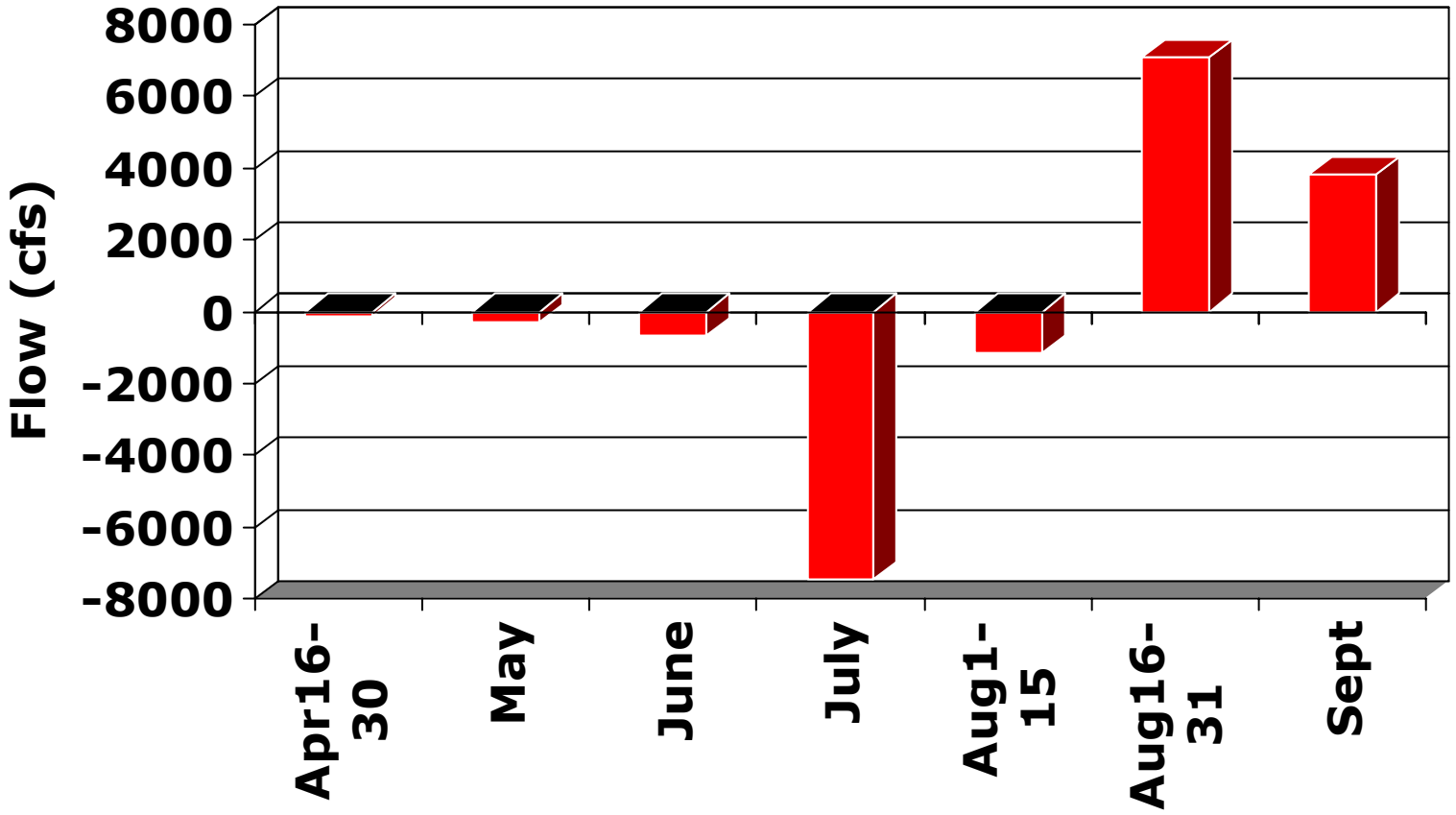
Not Part of the Regular Presentation

Summary of Other Impacts

(generation and cost are relative to a "power only" operation)

50-Year Average	Biop	Council	Diff
Bypass Spill Volume (maf)	63.5	63.5	0
April 15th Fed Content (maf)	7.0	6.6	- 0.4
June 30th Fed Content (maf)	14.6	14.6	0
Aug 31st Fed Content (maf)	12.3	13.1	+ 0.8
Coulee Jul-Aug Ret (days)	39.1	41.6	+ 2.5
Annual Hydro Gen (aMW)	-1,032	-991	+ 41
Dec-Mar Gen (MW-mo)	-6,292	- 4,545	+ 1,747
Regional Cost (millions)	$ 228	$ 220	- $ 8

Difference in Flows at Lower Granite (Averaged over the driest 30%)



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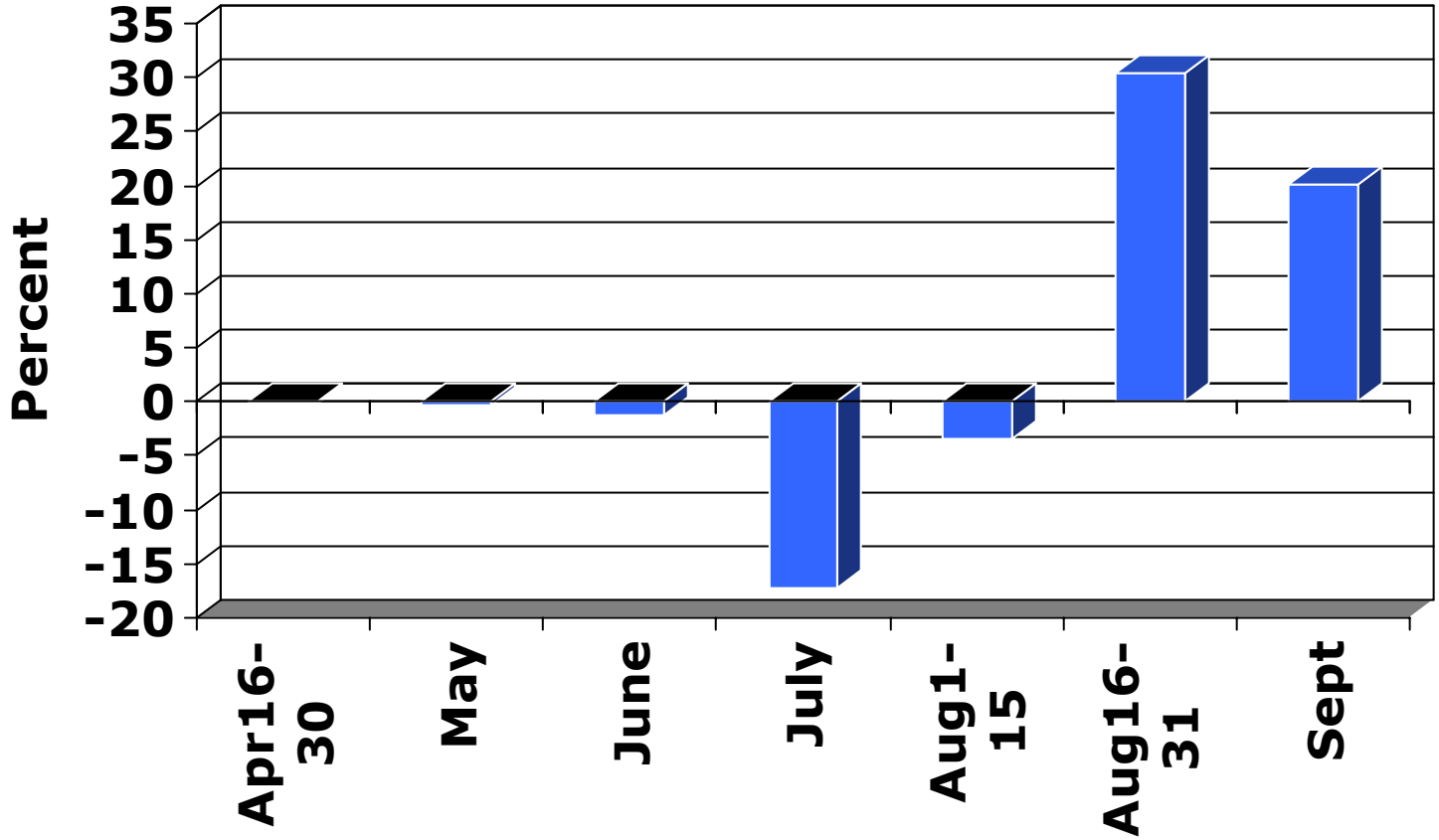

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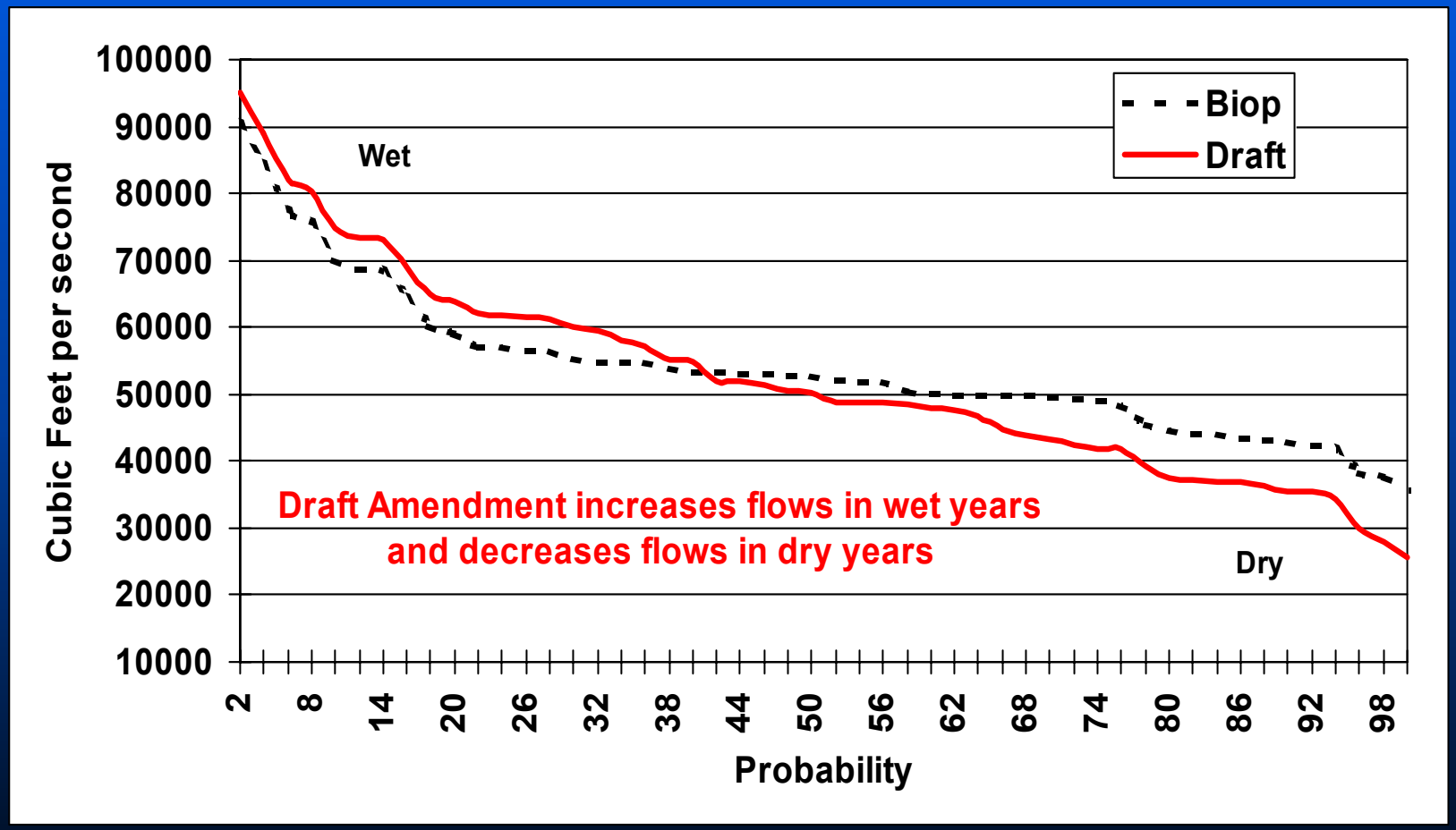
Flow Profiles – Lower Granite July



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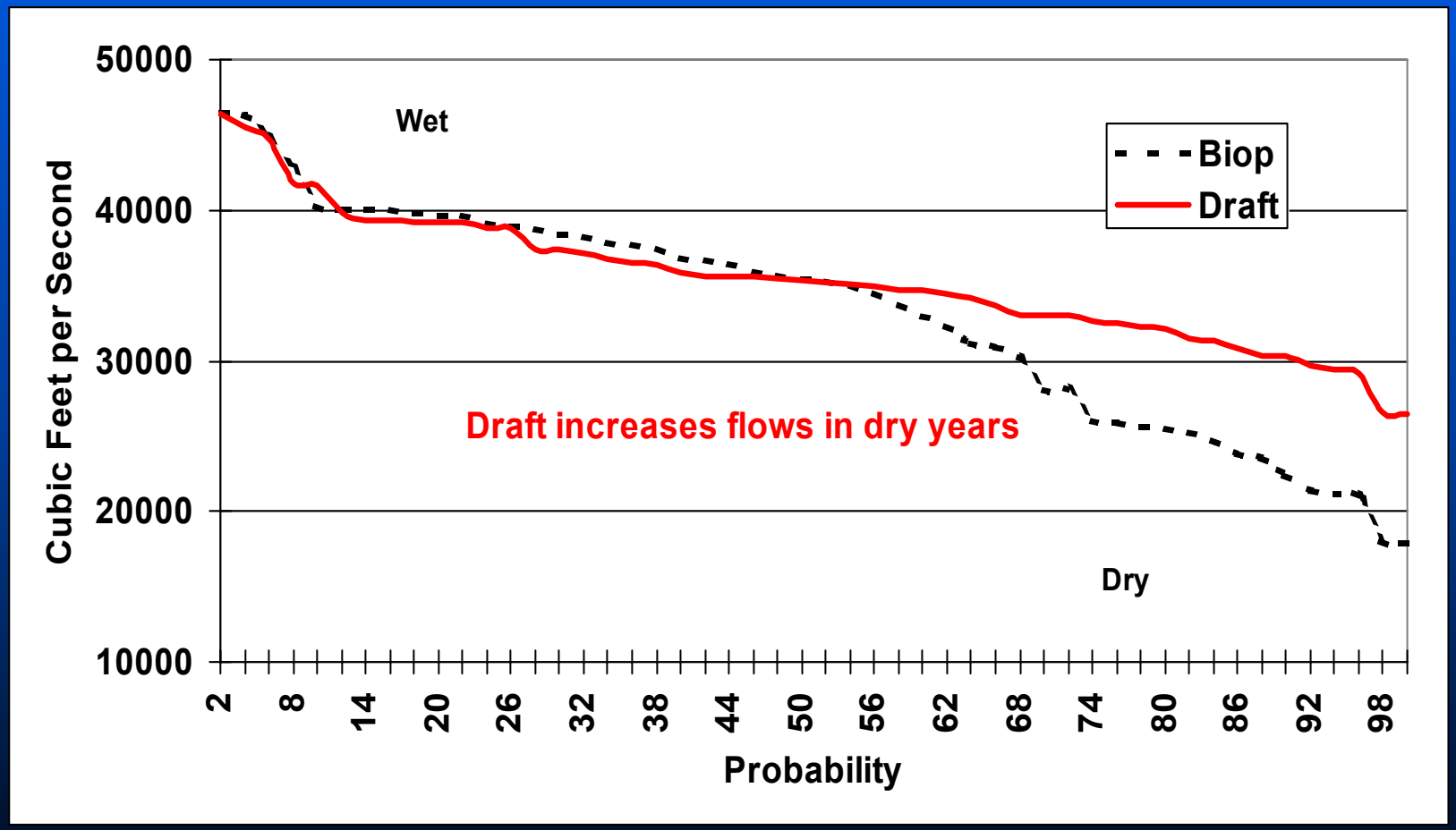
Flow Profiles – Lower Granite August 16-31



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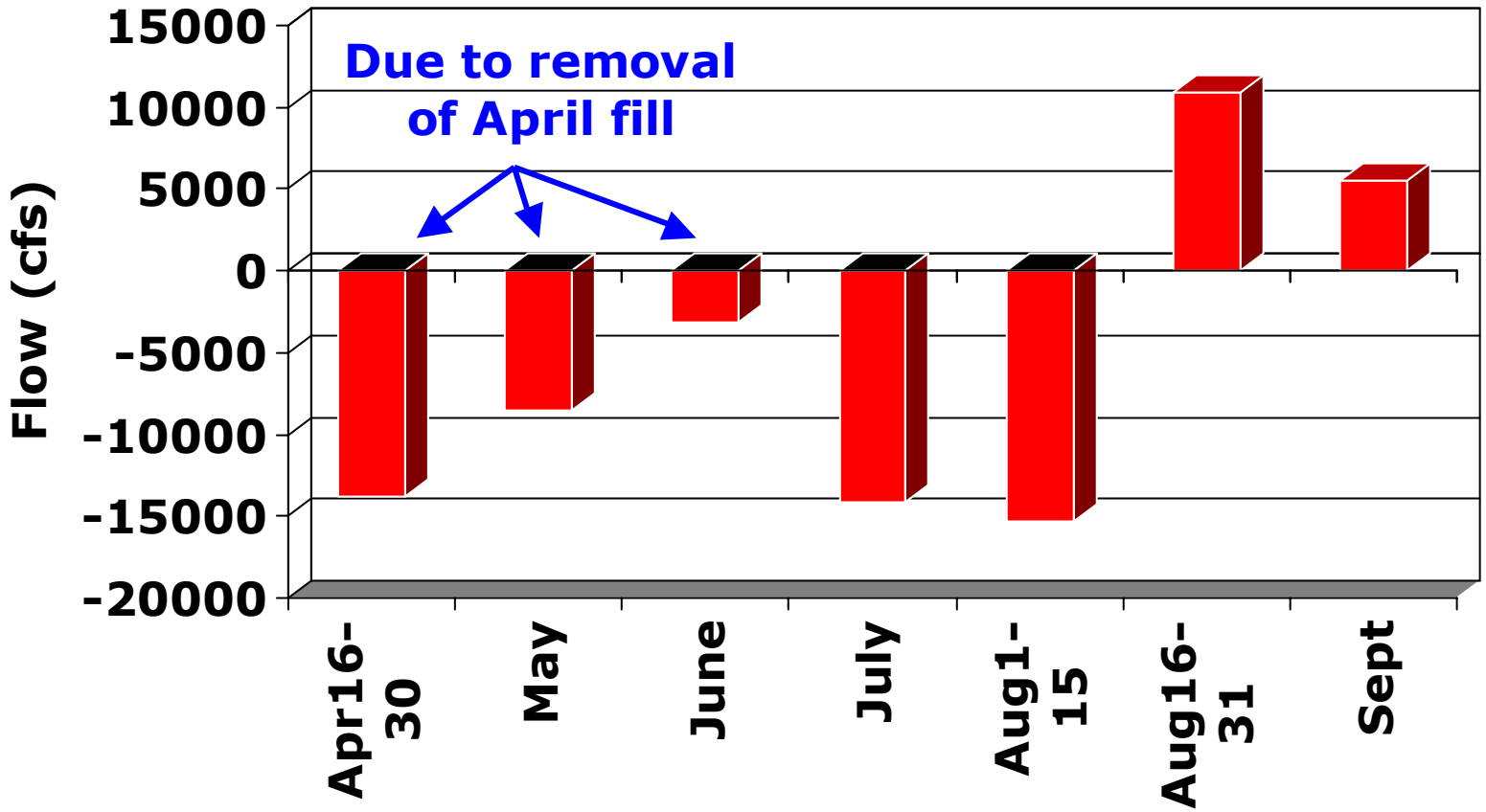
Difference in Flows at McNary (Averaged over the driest 30%)



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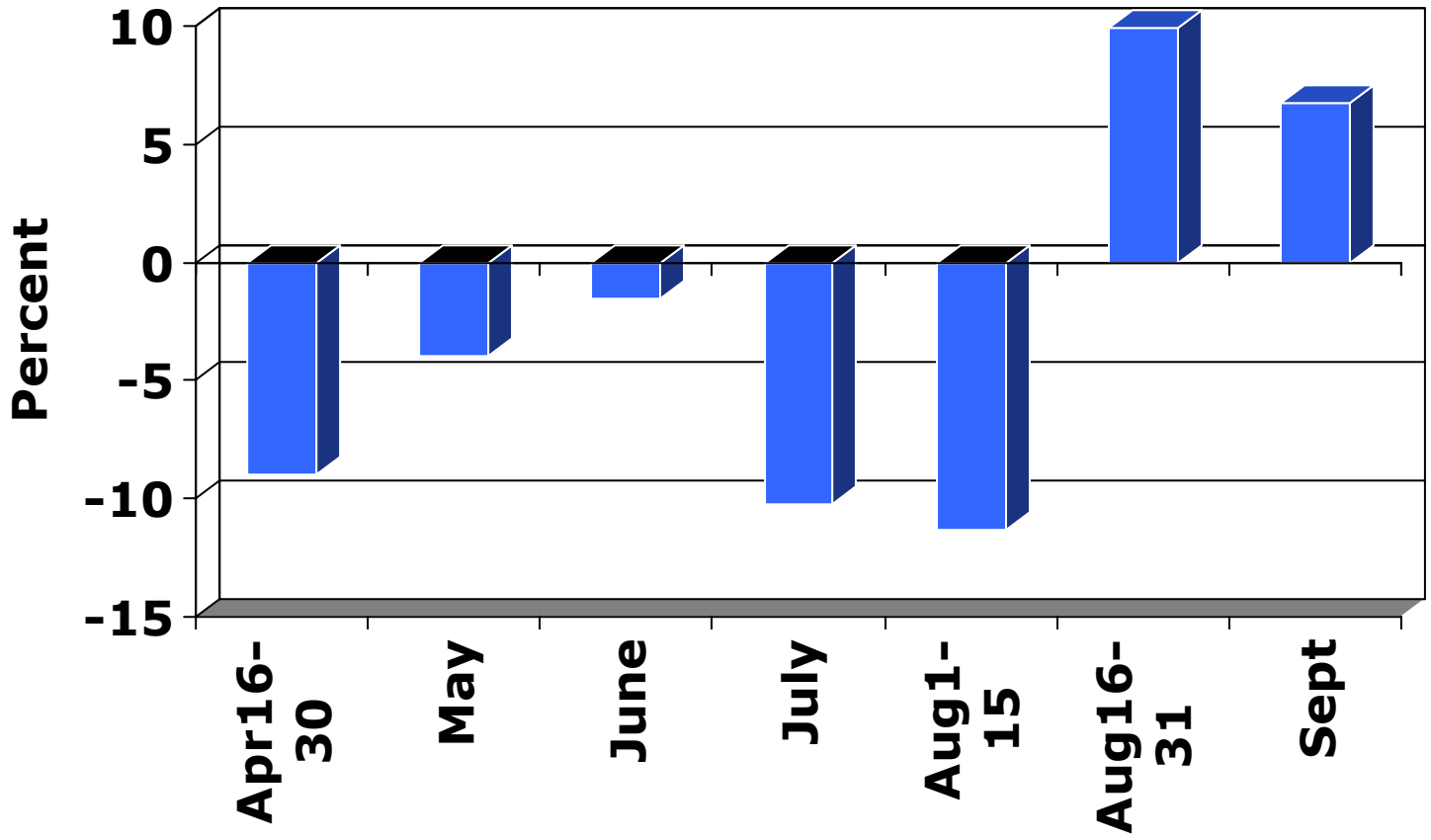
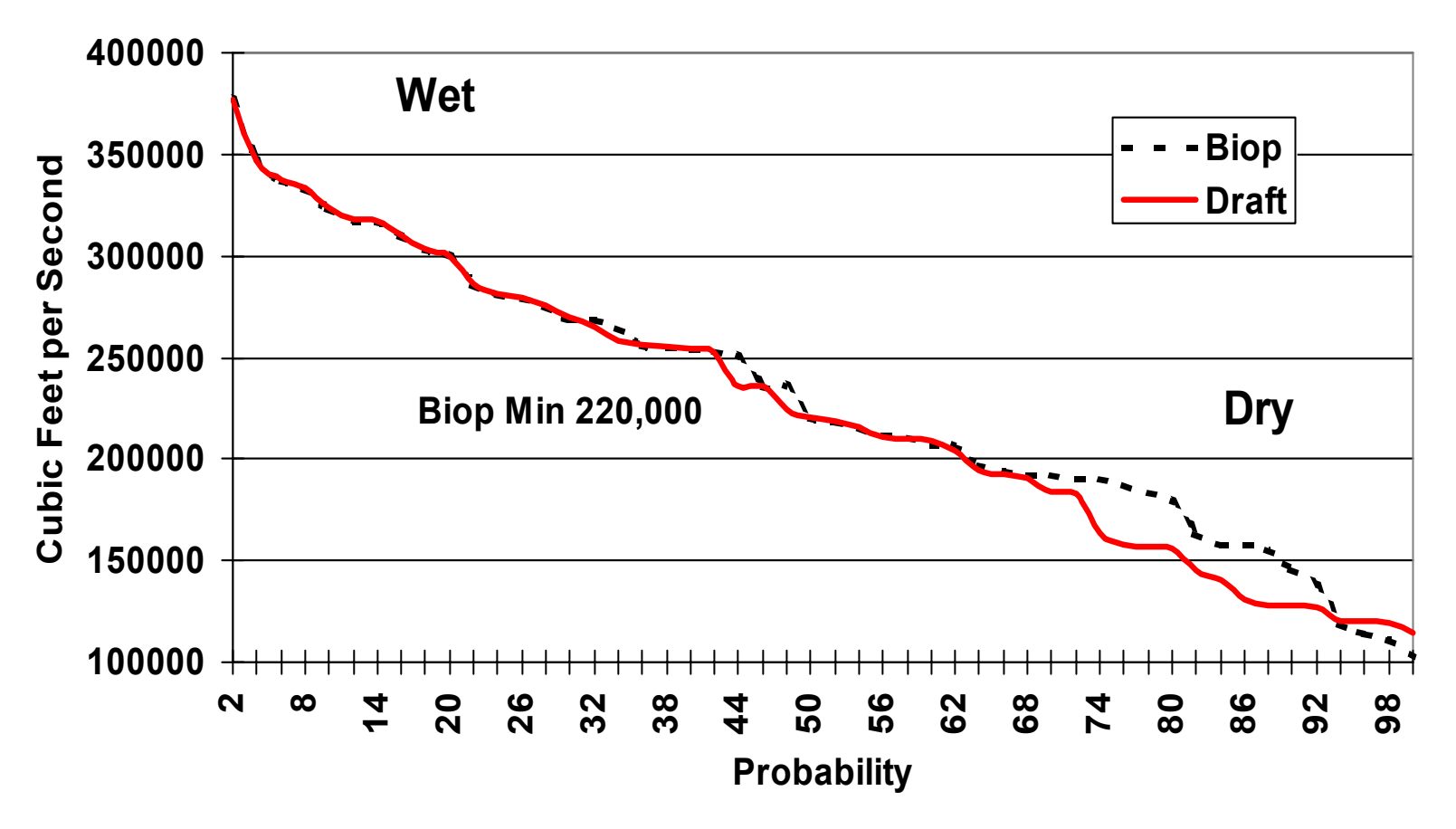


Flow Profiles – McNary April 16-30



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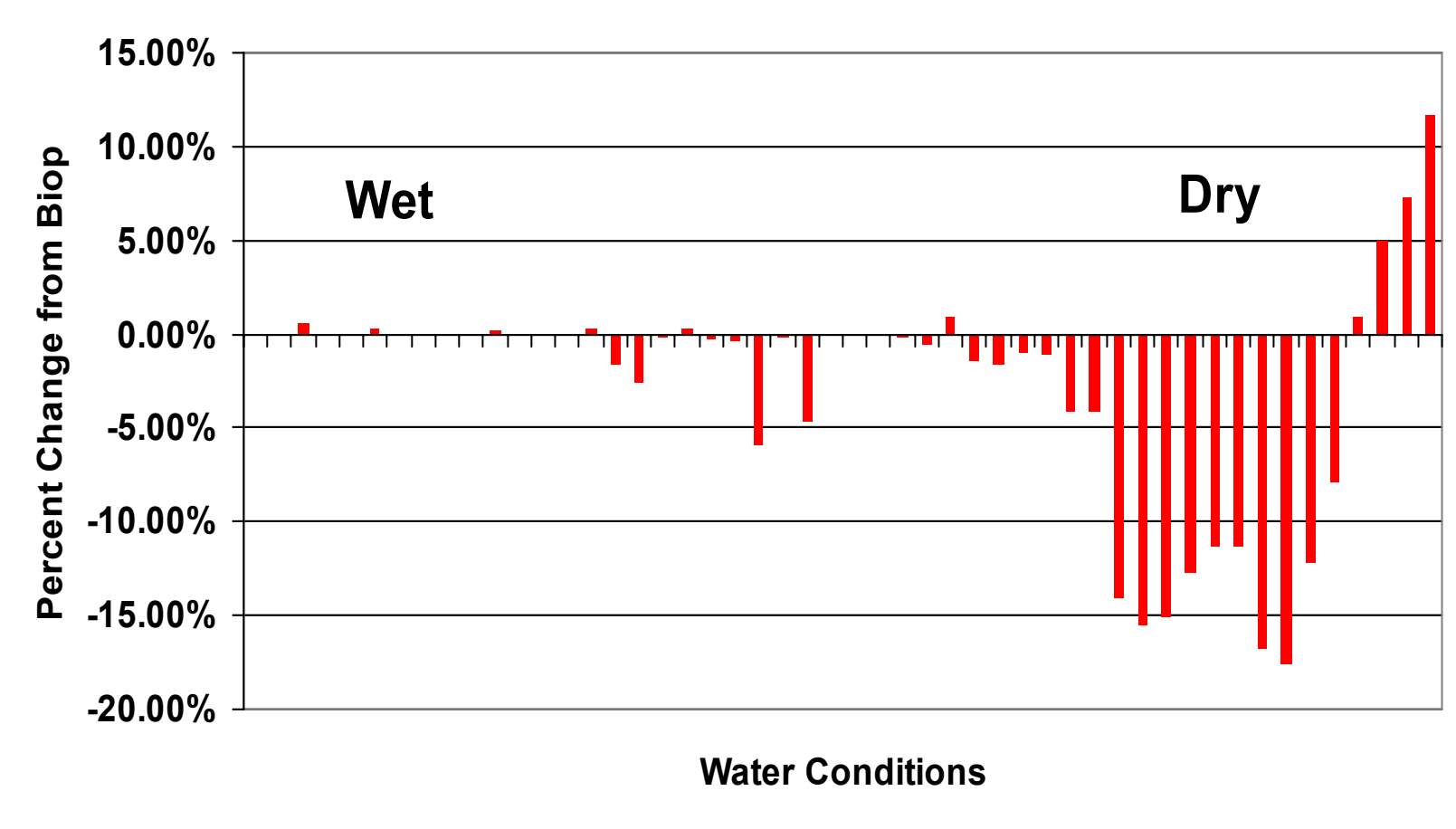
Flow Impacts – McNary April 16-30



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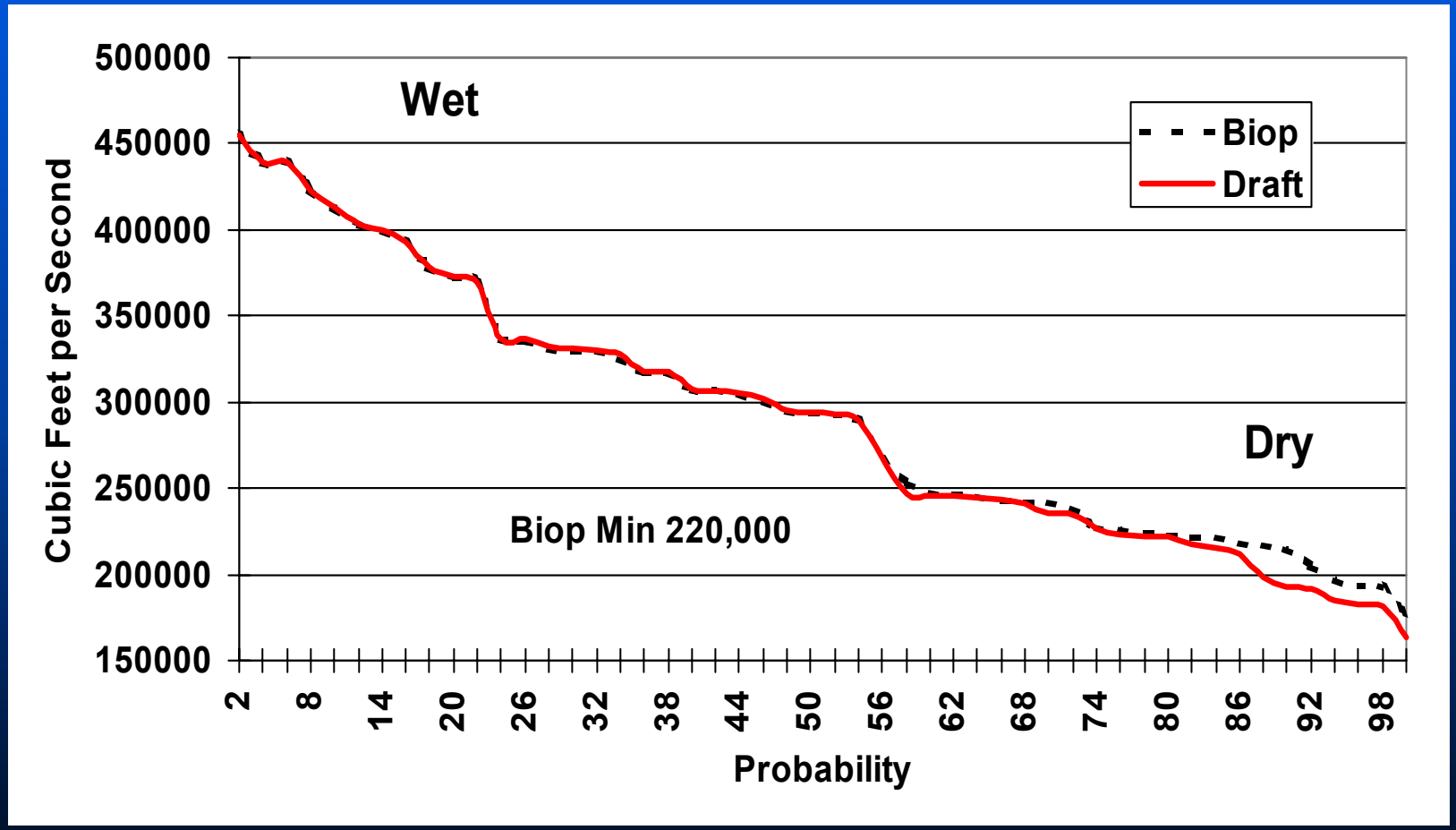
Flow Profiles – McNary May



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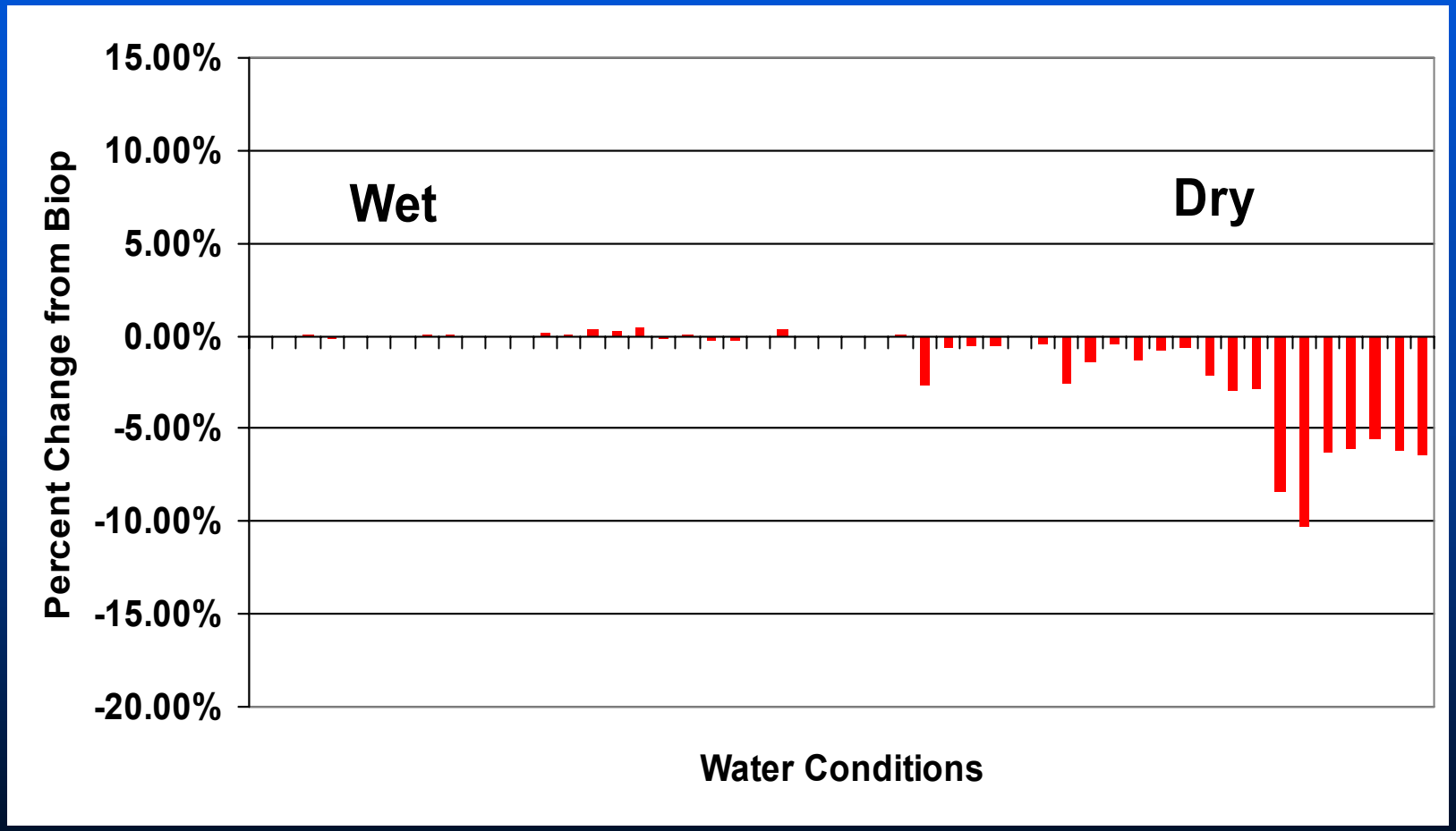
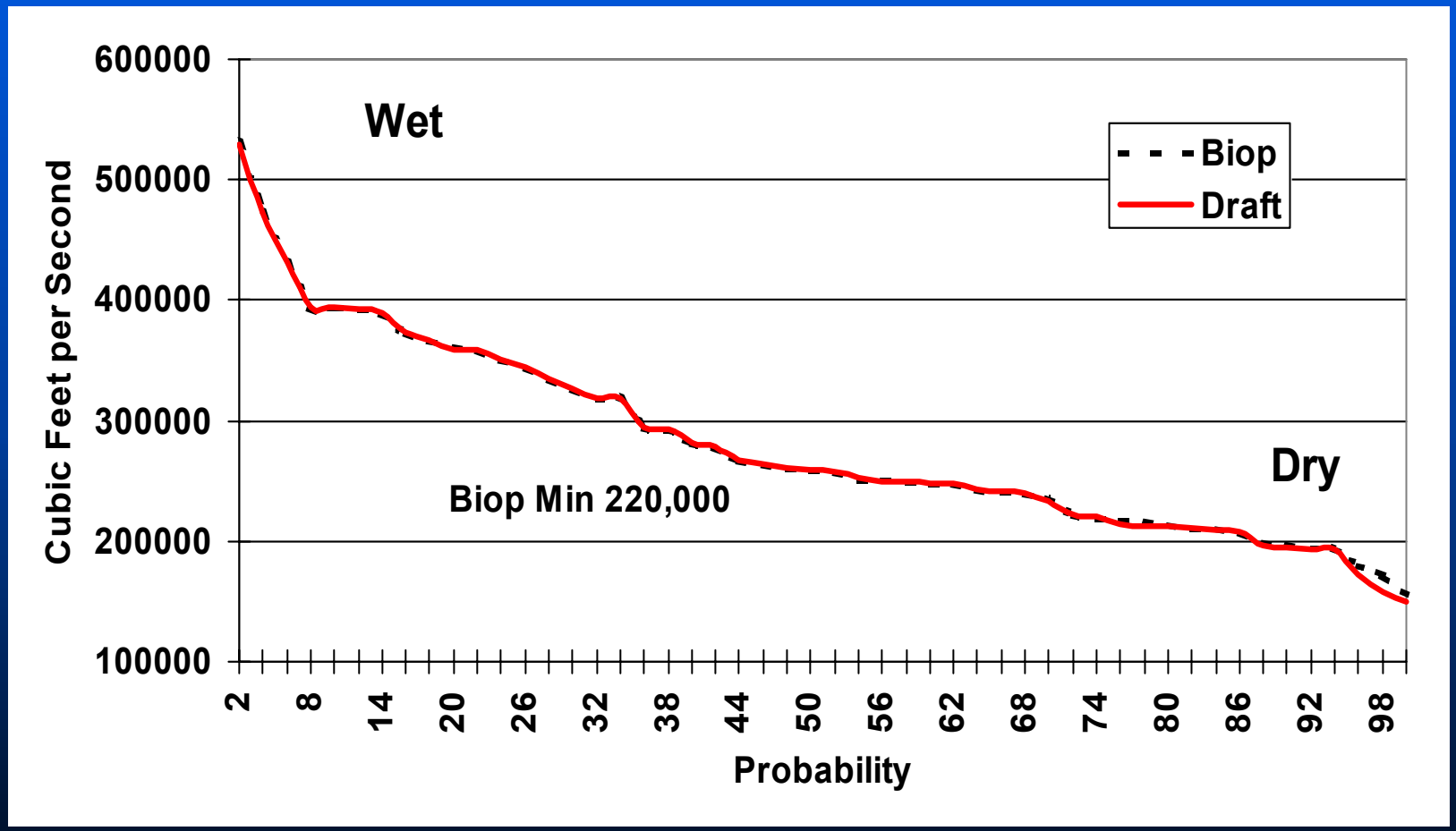
Flow Impacts – McNary May



Flow Profiles – McNary June



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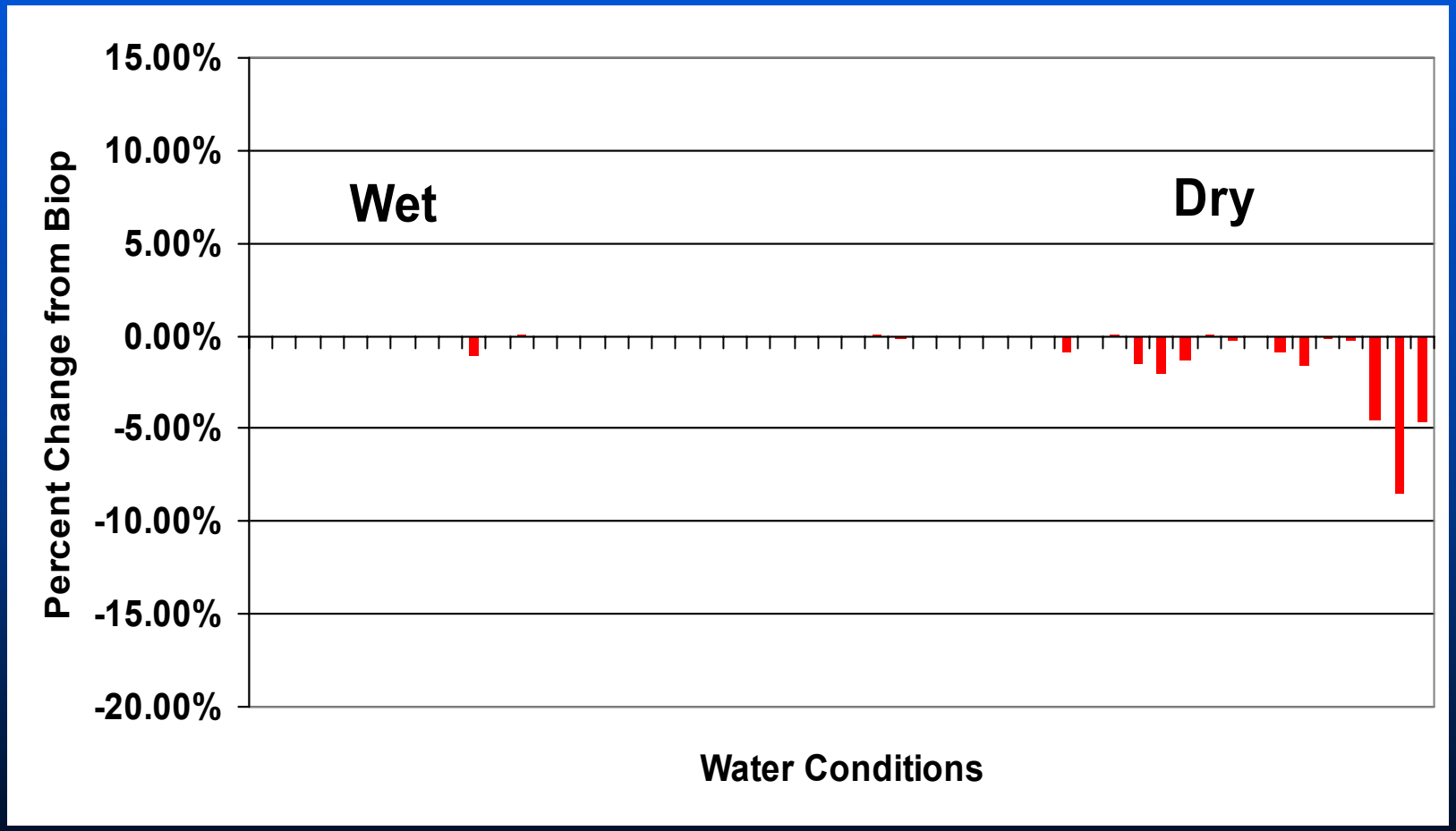
Flow Impacts – McNary June



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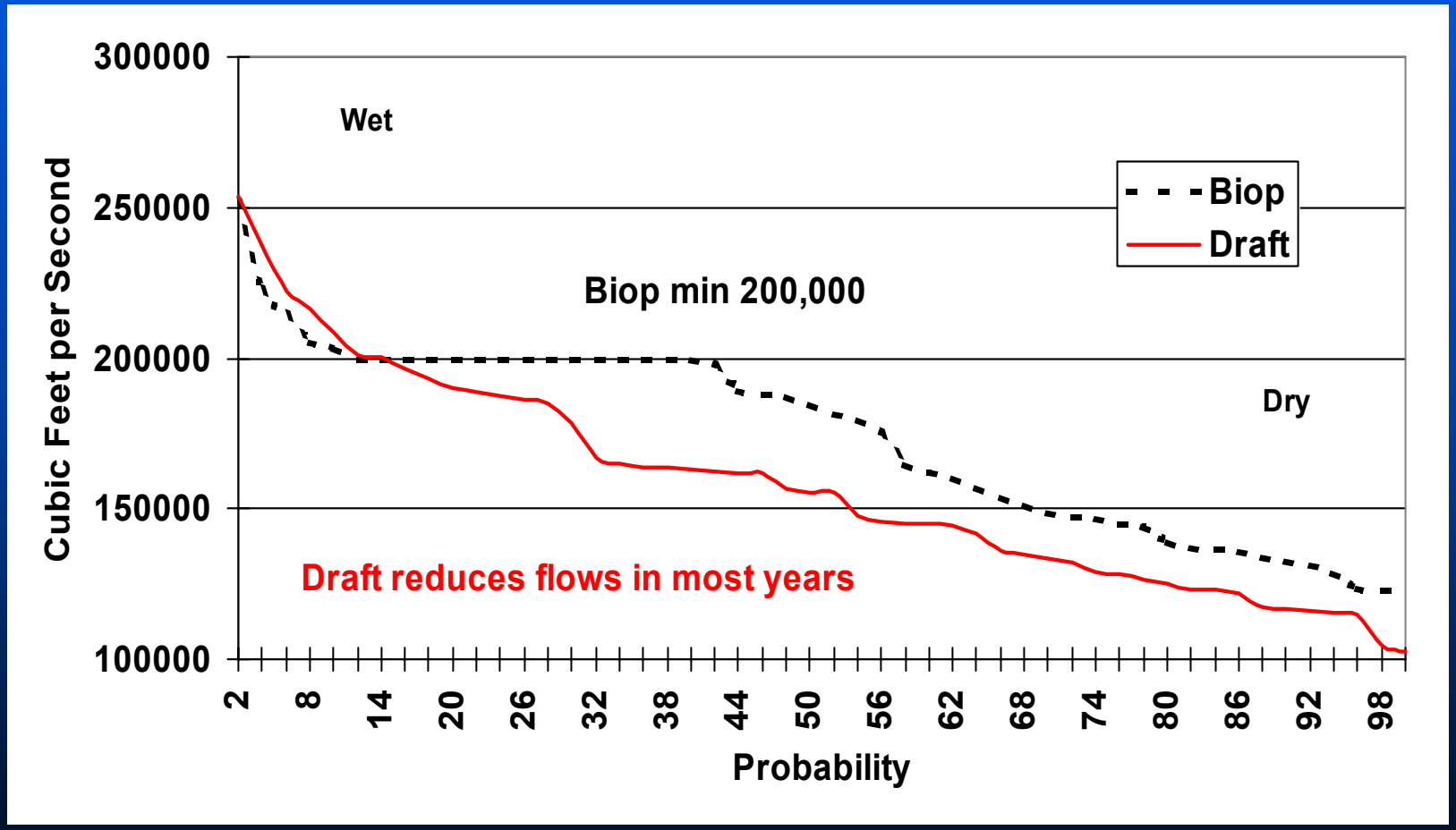
Flow Profiles – McNary August 1-15



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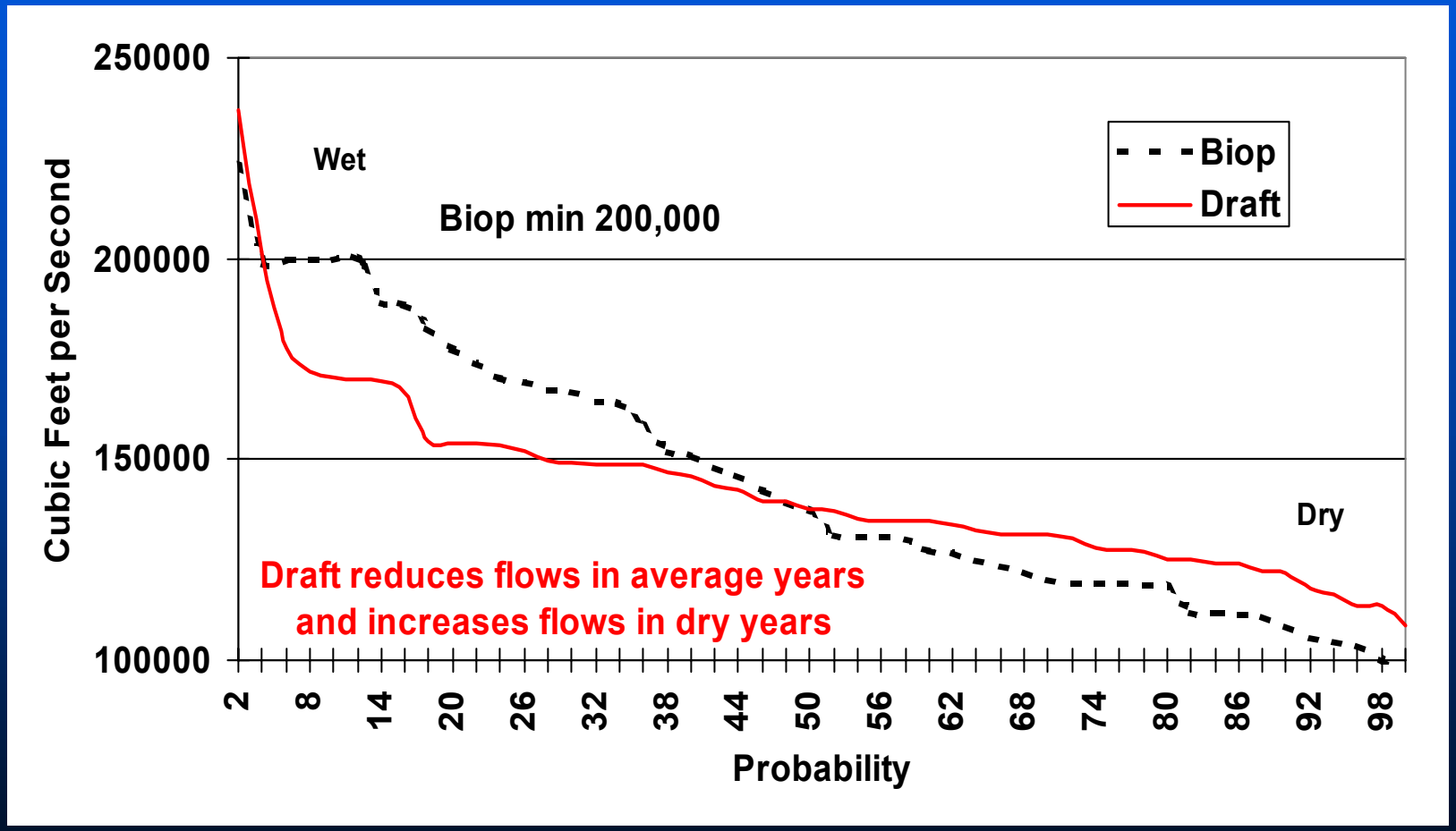
Flow Profiles – McNary August 16-31



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