

Fish Flow Releases Advisory Group (FFRAG)

Jeff Dengel, WDFW



FFRAG Genesis: HB 2860 (2006)

- **HB 2860:** State Legislature instructs Ecology to, “aggressively pursue the development of water supplies to benefit both instream and out-of-stream uses”
- **Chapter 90.90 RCW:**
 - Columbia River Basin Water Management Program: “development of new water supplies ... in order to meet the economic and community development needs of people and the instream flow needs of fish”
 - Office of the Columbia River (OCR): created by Ecology to use Columbia River Basin Water Supply Development Account (\$200m) funds to develop new water supplies through storage, conservation, and voluntary agreements
- **90.90.20 RCW:**
 - (i) “Two-thirds of active storage shall be available for appropriation for out-of-stream uses; and”
 - (ii) “One-third of active storage shall be available to augment instream flows and shall be managed by the department of ecology. The timing of releases of this water shall be determined by the department of ecology, in cooperation with the department of fish and wildlife and fisheries comanagers, to maximize benefits to salmon and steelhead populations.”
- **Lake Roosevelt Incremental Storage Releases Program**

Lake Roosevelt Incremental Storage Releases Program (LRISRP)

- **OCR identified 1.8' of available water within Lake Roosevelt to supply:**
 - Source-switch for Odessa groundwater irrigators
 - Municipal and industrial needs
 - Columbia Mainstem streamflow enhancement
- **LRISRP Final Supplemental Environmental Impact Statement Alternatives (2008)**

Alt	Water Year	Release Period	Framework	Justification
Declined				
1A	wet - dry	July-August	Mainstem flow protection corresponding with VRA agreements (NRC 2004)	Water not available at the times needed to meet the purposes of the LRISRP
1B	wet - dry	April-October	Releases intended to match M&I seasonal demand	Demands not met in all months, releases constrained by river ops. flow limit of BOR's water right
1D	drought	April-September	Spring run flows only, M&I and interruptible met all season	Water not available in all years to meet demand
Accepted				
1C	wet - dry	April-September	Releases for all uses timed/combined to maximize fish benefit	Most flexible and informed process, Ecology to rely on advisory panel
1E	drought	April-September	Fish releases April-June, out-of-stream releases July-September	Most flexible and informed process, Ecology to rely on advisory panel, even distribution of flows

LRISRP Allocation Framework

Allocation of Incremental Storage Releases from Lake Roosevelt				
Use Category		Maximum Out-of-Stream Uses (ac-ft)	Streamflow Enhancement Below Grand Coulee (ac-ft)	Total ac-ft
Non-Drought Years	M & I	25,000	12,500	37,500
	Odessa*	30,000	15,000	45,000
	Total	55,000	27,500	82,500
Drought Years	M & I	25,000	12,500	37,500
	Odessa*	30,000	15,000	45,000
	Interruptible WRs	33,000	17,000	50,000
	Total	88,000	44,500	132,500

*USBR versus Ecology contracts with the East Columbia Basin Irrigation District for this delivery

FFRAG (2009)

- **90.90.20 RCW:**
 - “...The timing of releases of this water shall be determined by the department of ecology, in cooperation with the department of fish and wildlife and fisheries comanagers, to maximize benefits to salmon and steelhead populations.”
- **FFRAG Operations:**
 - Meets annually in March to review the NOAA Northwest River Forecast Center’s (NWRFC) March 1st April-August and April-September runoff forecasts at The Dalles Dam.
 - Employs NWRFC forecasts to categorize the water year relative to criteria established by the group during 2010-2012, and determine how the incremental releases will be distributed.
 - Ecology quantifies the M&I and Odessa allocations for each season
 - WDFW provides an official recommendation to Ecology on behalf of the FFRAG which is incorporated into Grand Coulee operations. Ecology and Reclamation subsequently identify the reservoir’s elevation benchmarks for the season.
 - Exploration of new Treaty and Non-Treaty water to bolster instream flow

FFRAG Members

- Confederated Tribes of the Colville Reservation
- Confederated Tribes and Bands of the Yakama Nation
- Upper Columbia River United Tribes
- Columbia River Inter-Tribal Fish Commission
- National Marine Fisheries Service
- U.S. Bureau of Reclamation
- Bonneville Power Administration
- Washington Department of Ecology
- Washington Department of Fish and Wildlife

FFRAG Allocation Framework

Water Year	Season	Criterion	Source
Wet	April - August	> 115% of Average	FFRAG 2010
Average	April - August	> 73 MAF, ≤ 115% of Avg.	LRISRP SEIS 2008 (Ops)
Dry	April - August	> 60 MAF, ≤ 73 MAF	LRISRP SEIS 2008 (Ops)
Drought	April - September	< 60 MAF	Chapter 173.563.056 WAC

Water Year	Use Category	Proportional Allocation by Month							
		Apr	May	Jun	Jul	Aug	Sept	Oct	
Wet	Fish	-	18%	20%	21%	21%	20%	-	
	M&I	8%	16%	20%	18%	20%	18%	-	
	Odessa	7%	13%	20%	27%	20%	10%	3%	
Average	Fish	-	25%	25%	25%	25%	-	-	
	M&I	8%	21%	24%	23%	24%	-	-	
	Odessa	7%	13%	20%	27%	20%	10%	3%	
Dry*	Fish	25%	50%	25%	-	-	-	-	
	M&I	15%	35%	23%	13%	14%	-	-	
	Odessa	7%	13%	20%	27%	20%	10%	3%	
Drought*	Fish	25%	50%	25%	-	-	-	-	
	M&I	17%	33%	23%	13%	14%	-	-	
	Odessa	7%	13%	20%	27%	20%	10%	3%	
	Drought Fish	25%	50%	25%	-	-	-	-	
	Interruptible	14%	23%	12%	21%	30%	-	-	

2020 FFRAG Release Recommendation

COLUMBIA - THE DALLES DAM (TDAO3) Forecasts for Water Year 2020

Official Water Supply

ESP with 10 Days QPF Ensemble: 2020-03-02 Issued: 2020-03-02

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	85901	93180	101	105368	92704
APR-JUL	74239	79523	100	90490	79855
APR-AUG	80502	87605	100	99407	87532
JAN-SEP	105521	111684	98	124871	114216
JAN-JUL	93993	98367	97	109413	101368
OCT-SEP	117845	124008	95	137196	130518

FFRAG Allocation Criteria

- ~100% of average for Apr-Sept
- ~87.6 MAF forecasted Apr-Aug
- >73 MAF, ≤ 115% of Avg. = “average”

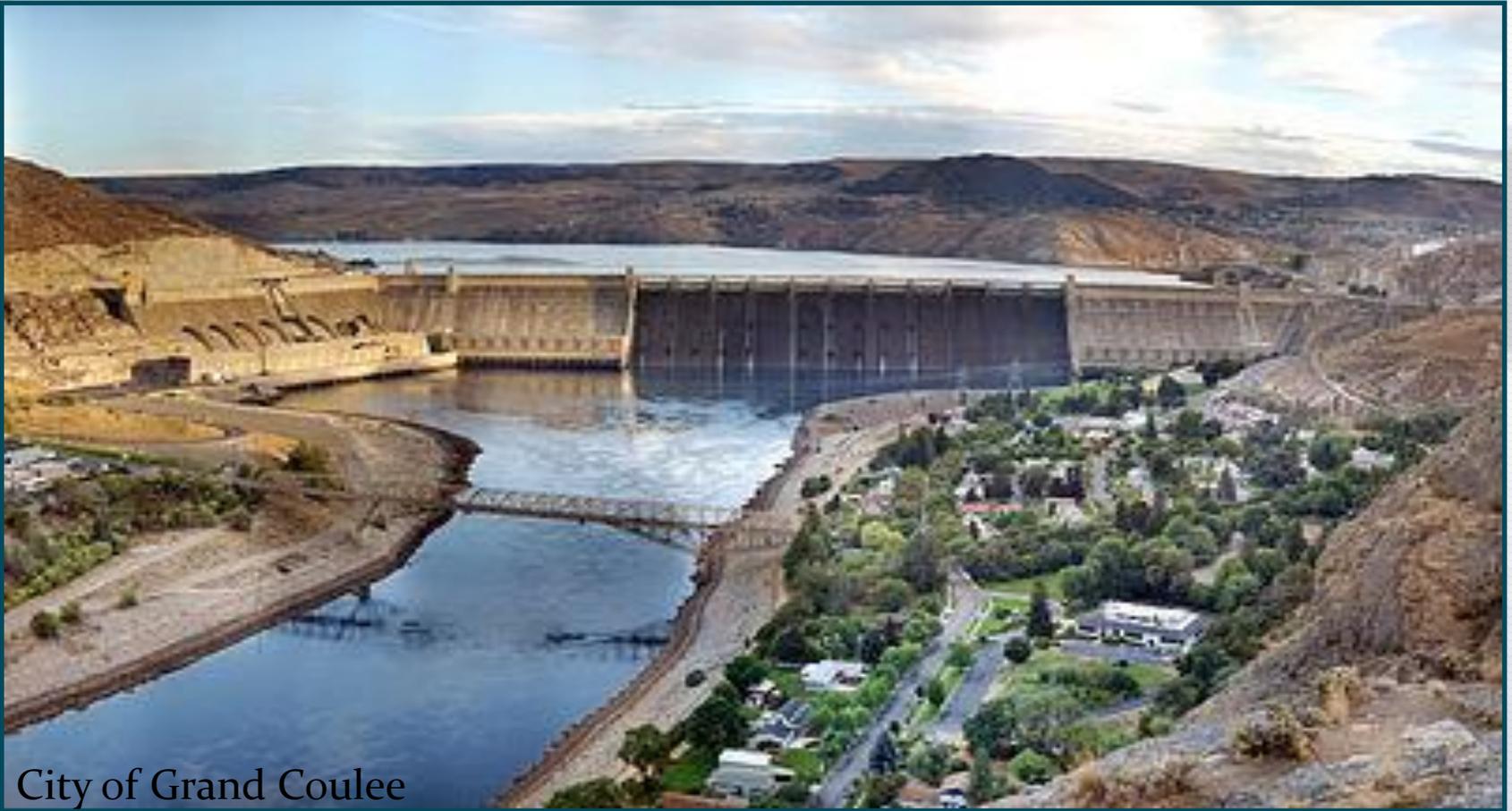
https://www.nwrfc.noaa.gov/water_supply/ws_forecasts.php?id=TDAO3

2020 FFrag Release Recommendation

Water Year	Use Category	Proportional Allocation by Month						
		Apr	May	Jun	Jul	Aug	Sept	Oct
Average	Fish	-	25%	25%	25%	25%	-	-
	M&I	8%	21%	24%	23%	24%	-	-
	Odessa	7%	13%	20%	27%	20%	10%	3%

Use Category	Contracted Allocation (ac-ft)	Proportional Allocation by Month						
		Apr	May	Jun	Jul	Aug	Sept	Oct
M&I	18,000	1,440	3,780	4,320	4,140	4,320	-	-
Odessa	8,964	627	1,165	1,793	2,420	1,793	896	269
Subtotal	26,964	2,067	4,945	6,113	6,560	6,113	-	-
Fish (M&I)	9,000	-	2,250	2,250	2,250	2,250	-	-
Fish (Odessa)	4,482	-	1,121	1,121	1,121	1,121	-	-
Subtotal	13,482	-	3,371	3,371	3,371	3,371	-	-
Grand Total	40,446	2,067	8,316	9,483	9,931	9,483	896	269

Questions?



City of Grand Coulee