Columbia Basin Collaborative Hydropower & Blocked Areas Work Group

October 4th, 2022

Zoom Features

- If you have not **connected your audio**, click on the “Join Audio” at the bottom left of your screen.
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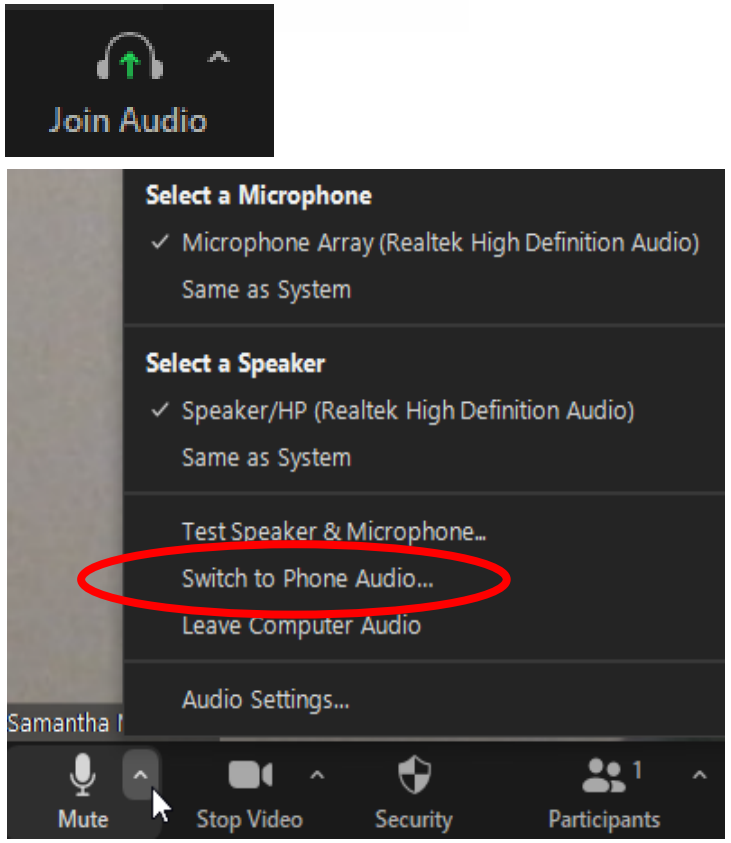

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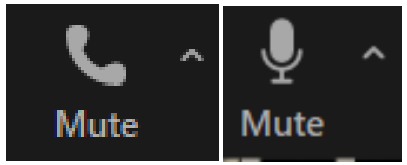
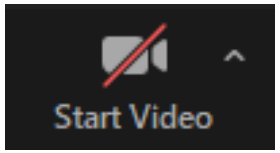
Zoom Features

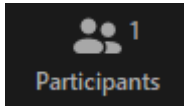
Keep yourself on mute when not speaking.

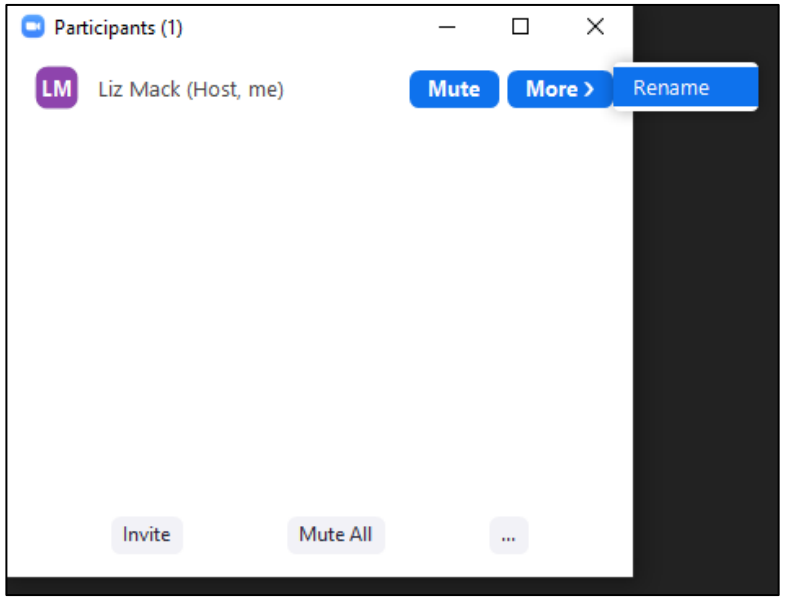


Use video, if possible, to promote face to face communication.

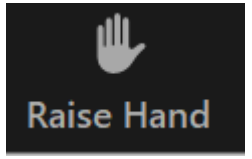


If needed **rename yourself** in the participant panel.



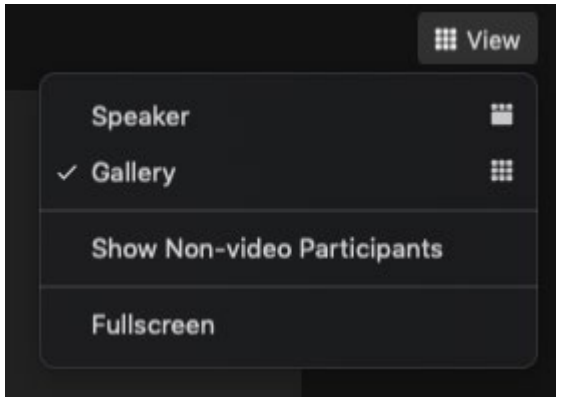


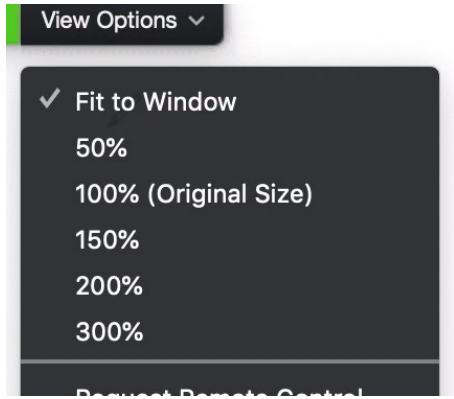
Find your **raise hand function** at the bottom of your screen

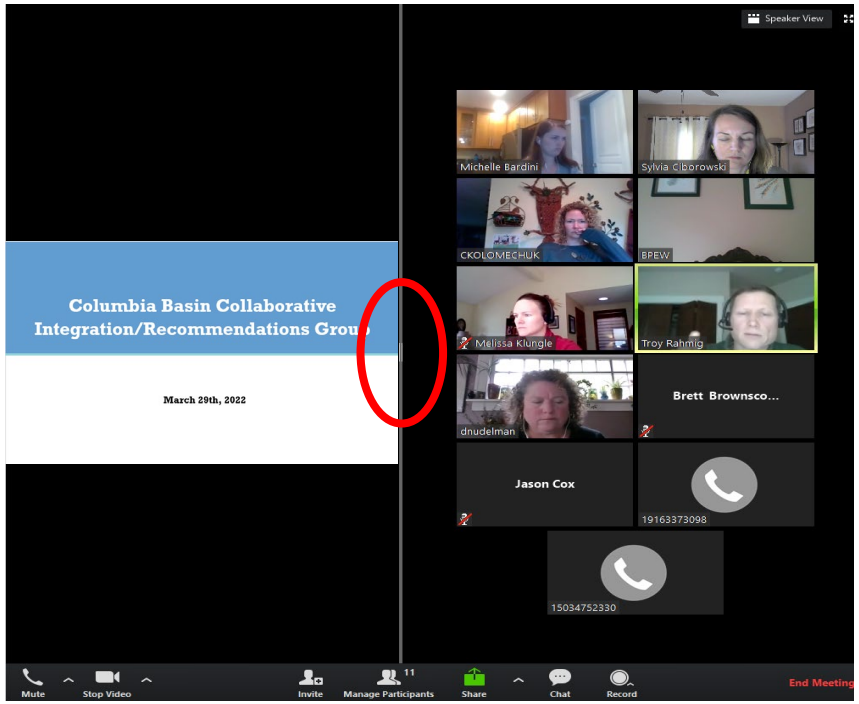


Zoom Features

Adjust view options







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Welcome, Meeting Guidelines, and Proposed Agenda

Collaboration

Focus on your interests, not positions

Positions are a particular stance,
“What I want”

Interests are the intangible motivation underlying your stance,
“Why I want what I want”

Collaboration

Invent options for mutual gain

- Work for creative solutions
- Increase the size of the pie

Collaboration

Separate the people from the problem

- Put yourself in others' shoes
- Recognize and understand others and your own emotions
- Build a working relationship
- Be hard on the problem, soft on people!

Meeting Guidelines

- Honor the agenda
- Listen to understand and ask questions to clarify
- Balance speaking time
- Don’t pile on
- Be hard on the problems, soft on the people
- Seek alignment and common ground wherever possible
- Be present

Agenda Review

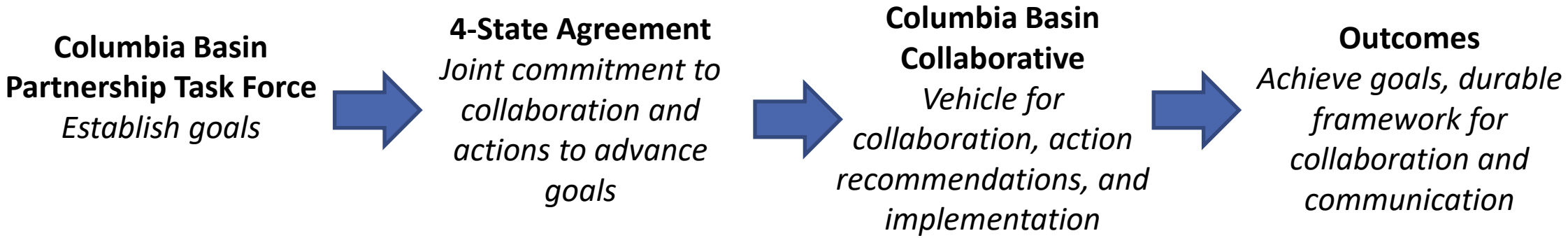
Time (PT)	Topic
9:00 – 9:20 am	Welcome, Agenda Review, Updates, and Introductions
9:20 – 9:35 am	Overview and Context
9:35 – 9:45 am	Columbia Basin Partnership Data
9:45 – 10:20 am	Hydropower Blocked Areas Discussion of Resources and Gaps
10:20 – 10:30 am	Break
10:30 – 11:25 am	Hydropower Mainstem Discussion of Resources and Gaps
11:25 – 11:55 am	Work Plan and Next Steps
11:55 am – 12:00 pm	Confirm Next Steps, Upcoming Meeting Topics, and Summary

Introductions

- Name
- Affiliation
- Hope to accomplish through the work group (in the Jamboard)

Columbia Basin Collaborative Overview and Context

Columbia Basin Collaborative



Columbia Basin Partnership Task Force

Focus: Develop goals for salmon/steelhead stocks (broad-sense recovery including sustainable and harvestable)

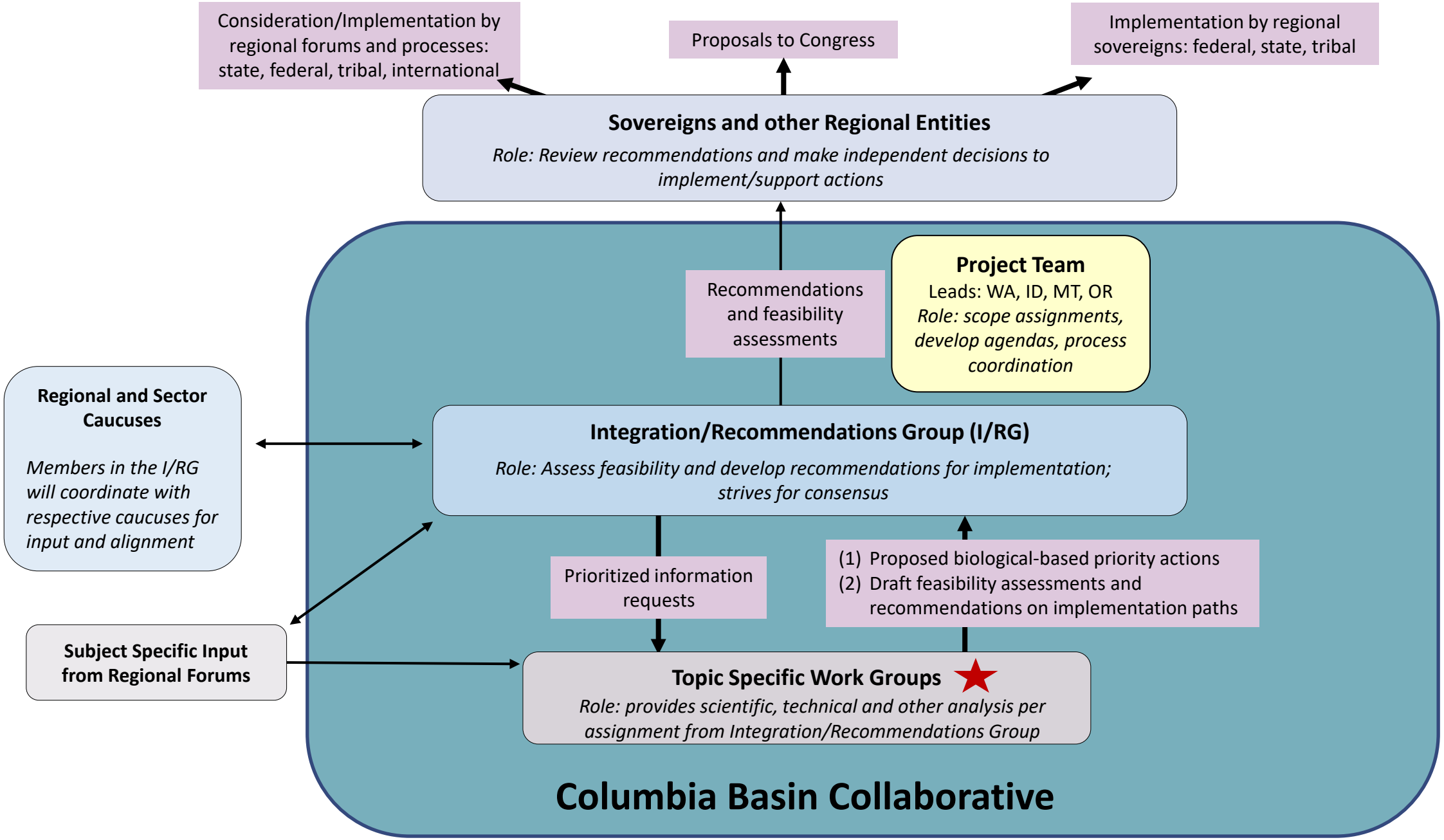
Scope: Holistic, basin-wide perspective for historic range of anadromous fish.

Process: Inclusive; 3-yr collaboration among Columbia Basin sovereigns and stakeholders

Outcome: Consensus on a regional vision, and qualitative and quantitative goals for all 27 Columbia Basin stocks of salmon and steelhead.

- NOAA Fisheries acceptance Oct 2020

A regional approach to achieving the Columbia Basin Partnership goals



Integration/Recommendations Group Membership

Tribe
Burns Paiute Tribe
Coeur d'Alene Tribe
Confederated Tribes of the Colville Reservation
Confederated Tribes of the Grand Ronde
Confederated Tribes of the Umatilla Indian Reservation
Confederated Tribes of Warm Springs
Cowlitz Indian Tribe
Fort McDermitt Paiute and Shoshone Tribe
Nez Perce Tribe
Shoshone-Paiute Tribes
Spokane Tribe of Indians
Yakama Nation

Federal entity
NOAA National Marine Fisheries
Federal action agencies: BPA, Army Corps, and/or Bureau of Reclamation
Columbia Basin Federal Caucus

States
State of Idaho
State of Montana
State of Oregon
State of Washington

Sector	Primary Representative	Alternate Representative
Utilities	Seattle City Light	Western Montana G&T
Utilities	Benton PUD	Idaho Consumer-Owned Utilities Association
Non-tribal fisheries	Coastal Trollers Association	Commercial Salmon Fisherman
Non-tribal fisheries	Northwest Sportfishing Industry Association	Idaho Wildlife Federation
River Economies	Idaho Water Users	Kittitas Reclamation District
River Economies	Port of Lewiston	Wheat Farmer
Conservation	Salmon Safe	American Rivers
Conservation	Trout Unlimited	Northwest Energy Coalition

Topic Specific and Science Integration Work Groups

Work Groups

- Estuary/Tributary Habitat
- Hatcheries/Harvest
- **Hydropower Mainstem and Blocked Areas**
- Predation
- Science Integration Work Group

Purpose of Work Groups

- **Develop draft recommendations** for actions, and assist the I/RG in feasibility assessments of those actions
- **Work collaboratively** to clarify and assess subject-specific issues and potential actions and solutions
- **Leverage existing data and studies** to support their assessments
- **Coordinate and collaborate** across other Work Groups for complementary analyses and solutions

Hydropower Mainstem & Blocked Areas Work Group

- Aberdeen-Springfield Canal Company
- AgriNorthwest
- Army Corps of Engineers
- Bonneville Power Association
- Burns Paiute Tribe
- Orca Conservancy
- Colville Tribes
- Confederated Tribes of Grand Ronde
- Columbia River Inter-Tribal Fish Commission
- Columbia River Research Laboratory Western Fisheries Research Center
- Douglas County Public Utility District
- Fort McDermitt Paiute and Shoshone/Upper Snake River Tribes
- Idaho Conservation League
- Idaho Outfitters and Guides Association
- Idaho Power Company
- Idaho Water Users
- Idaho Wildlife Federation
- Idaho Fish & Game
- Shaver Transportation
- Kalispel Tribe of Indians
- Kootenai Valley Reclamation Association
- Lake District
- Lower Columbia Fish Recovery Board
- McGregor Company
- Nez Perce Tribe
- National Marine Fisheries Service
- Northwest Sportfishing Industry Association
- Oregon Department of Fish and Wildlife
- Pacific Coast Federation of Fishermen's Associations
- Pacific Northwest Waterways Association
- Port of Clarkston
- Port of Lewiston
- Quincy-Columbia Basin Irrigation District, Lakes Commission
- Rigby, Andrus & Rigby Law, PLLC
- Spokane Tribe of Indians
- Temco
- Tidewater Transportation and Terminals
- Trout Unlimited
- United States Fish and Wildlife Service
- Umatilla Tribes
- Upper Columbia Salmon Recovery Board
- United States Bureau of Reclamation
- United States Geological Survey
- Washington Department of Fish and Wildlife
- Yakama Nation Fisheries

Columbia Basin Partnership Data

Compiled Impacts by Stock

			Abundance			MAFAC Phase II Impact Priority							
Sub- Region	Stock	Status	Current	MAFAC Medium goal	Current as % of Medium Goal	Tributary Habitat	Estuary Habitat	Hydro (Mainstem)	Hydro (Latent)	Hydro (Blocked)	Predation	Harvest	Hatchery
Low-C	L Col R Spring Chinook	Threatened	2,240	21,550	10%	1	3	3	3	2	3	3	2
Low-C	L Col R Winter Steelhead	Threatened	5,989	27,900	21%	1	2	3	3	3	3	3	3
Low-C	L Col R Fall (tule) Chinook	Threatened	12,329	54,100	23%	1	2	3	3	3	3	1	2
Low-C	L Col R Coho	Threatened	31,524	129,550	24%	1	3	3	3	3	3	3	2
Low-C	L Col R Summer Steelhead	Threatened	10,594	29,800	36%	2	4	4	4	2	4	4	4
Low-C	Col R Chum	Threatened	11,762	33,000	36%	2	2	4	4	4	4	4	4
Low-C	SW WA Winter Steelhead	Threatened	3,252	5,850	56%	2	4	5	5	5	5	5	5
Low-C	L Col R Late Fall (bright) Chinook		10,800	16,700	65%								
Low-C	L Col R Fall (bright) Chinook	Threatened	11,000	11,000	100%	5	5	5	5	4	5	4	5
Mid-C	M Col Sockeye	Not Listed	1,036	45,000	2%	3	3	3	2	1	3	3	
Mid-C	M Col R Spring Chinook	Not Listed	11,600	40,425	29%	2	4	4	4	4	4	4	4
Mid-C	M Col R Summer Steelhead	Threatened	18,155	43,850	41%	2	4	4	4	4	2	4	4
Mid-C	M Col R Coho	Not Listed	6,324	11,600	55%		5	4	5	5	5	4	
Mid-C	M Col R Summer/Fall Chinook	Not Listed	11,500	13,000	88%	5	5	5	5	5	5	4	5
Up-C	U Col R Coho	Not Listed	392	15,000	3%								
Up-C	U Col R Summer Steelhead	Threatened	1480	31,000	5%	1	1	2	1	1	1	3	2
Up-C	U Col R Sockeye	Not Listed	40,850	580,000	7%	1	3	1	1	1	2	3	3
Up-C	U Col R Spring Chinook	Endangered	1430	19,840	7%	1	3	1	1	1	2	3	1
Up-C	U Col R Summer Chinook	Not Listed	16920	78,350	22%	1	2	1	1	1	3	1	2
Up-C	U Col R Fall Chinook	Not Listed	92,400	62,215	149%	5	5	4	5	5	5	4	5
Snake	Snake R Coho	Not Listed	100	26,600	0%								
Snake	Snake R Sockeye	Endangered	100	15,750	1%	3	3	1	1	1	2	3	
Snake	Snake R Spring/Summer Chinook	Threatened	6,988	98,750	7%	1	3	1	1	2	2	3	3
Snake	Snake R Summer Steelhead	Threatened	28,000	75,000	37%	2	4	4	2	2	2	4	4
Snake	Snake R Fall Chinook	Threatened	8,360	10,780	78%	5	5	4	4	4	5	4	
Willam	U Will R Spring Chinook	Threatened	4,278	47,850	9%	1	2	3	3	1	3	3	2
Willam	U Will R Winter Steelhead	Threatened	2,816	27,805	10%	1	2	3	3	3	1	3	3

Biological Matrices - Methods

TABLE 8. Aggregate stock-specific abundance values for natural-origin escapement under current and historical conditions, and low, medium, and high goal ranges.

Stock	Current	Historical	Low goal	Med goal	High goal	High as % of historical
L Col R Spring Chinook	2,240	101,700	9,800	21,550	33,300	33%
L Col R Fall (tule) Chinook	12,329	169,700	28,050	54,100	82,000	48%
L Col R Late Fall (bright) Chinook	10,800	33,000	11,100	16,700	22,200	67%
L Col R Fall (bright) Chinook	11,000	0	11,000	11,000	11,000	-
L Col R Coho	31,524	301,900	67,925	129,550	191,400	63%
Col R Chum	11,762	461,300	16,500	33,000	49,500	11%
SW WA Winter Steelhead	3,252	19,100	4,650	5,850	6,950	36%
L Col R Winter Steelhead	5,989	41,900	19,000	27,900	36,400	87%
L Col R Summer Steelhead	10,594	61,200	21,100	29,800	38,100	62%
M Col R Spring Chinook	11,600	246	7,750	40,425	114,500	4
M Col R Summer/Fall Chinook	11,500	17,000	4,000	13,000	16,000	94%
M Col R Coho	6,324	75,000	5,300	11,600	19,900	27%
M Col Sockeye	1,036	230,000	7,500	45,000	107,500	47%
M Col R Summer Steelhead	18,155	132,800	21,500	43,850	69,150	52%
U Col R Spring Chinook	1,430	259,450	11,500	19,840	30,135	12%
U Col R Summer Chinook	16,920	733,500	9,000	78,350	131,300	18%
U Col R Fall Chinook	92,400	680,000	9,200	62,215	87,835	13%
U Col R Coho	392	44,500	7,500	15,000	26,000	58%
U Col R Sockeye	79,511	,800,000	31,500	580,000	1,235,000	69%
U Col R Summer Steelhead	1,480	1,121,400	7,500	31,000	47,000	4%
Snake R Spring/Summer Chinook	6,988	1,000,000	33,500	98,750	159,500	16%
Snake R Fall Chinook	8,360	500,000	4,200	10,780	23,360	5%
Snake R Coho	100	200,000	8,900	26,600	44,100	22%
Snake R Sockeye	100	84,000	5,500	15,750	26,000	31%
Snake R Summer Steelhead	28,000	600,000	22,500	75,000	131,500	22%
U Will R Spring Chinook	4,278	312,170	28,900	47,850	66,800	21%
U Will R Winter Steelhead	2,816	220,000	16,290	27,805	39,320	18%
Totals	352,119	9,446,120	441,165	1,572,265	2,845,750	30%

FIGURE 13. Heat map of impacts of limiting factors by stock and region, including ranges reflecting uncertainties where appropriate. Units are percentage reductions in equilibrium abundance (generally equivalent to mortality rates).

	Stock	Tributary Habitat	Estuary Habitat	Hydro (mainstem)	Hydro (latent)	Hydro (blocked)	Predation	Fishery	Hatchery
Lower Columbia	Spr Chinook	85	17	0	0 (0-0)	30	14	17	29 (4-54)
	Fall (tule) Chinook	70	21	0	0 (0-0)	15	11	33	25 (3-47)
	Fall (bright) Chinook	10	21	0	0 (0-0)	40	11	47	0 (0-0)
	Chum	95	50	5	0 (0-0)	0	2	1	10 (1-18)
	Coho	80	11	0	0 (0-0)	5	13	17	22 (3-42)
	Sumr Steelhead	65	28	4	0 (0-0)	40	19	5	8 (1-15)
	Win Steelhead SWW	60	28	0	0 (0-0)	0	19	5	17 (2-33)
	Win Steelhead LCR	65	28	0	0 (0-0)	10	19	5	9 (1-16)
Willamette	Spr Chinook	85	20	0	0 (0-0)	50	19	13	25 (3-46)
	Win Steelhead	80	28	0	0 (0-0)	20	32	3	2 (0-4)
Middle Columbia	Spr Chinook	85	17	23	14 (3-25)	25	25	15	24
	Fall Chinook	20	27	13	9 (2-17)	5	10	55	0 (0-0)
	Coho	NA	11	30	19 (5-33)	0	17	22	NA
	Sockeye	0	17	19	9 (2-17)	95	8	3	NA
	Sumr Steelhead	80	28	11	14 (3-25)	20	33	10	17 (2-33)
Upper Columbia	Spr Chinook	45	18	49	38 (9-67)	75	29	15	32 (5-59)
	Summer Chinook	50	27	49	38 (9-67)	50	13	61	27 (4-51)
	Fall Chinook	25	27	65	19 (5-33)	5	13	61	10 (1-18)
	Sockeye	50	17	38	38 (9-67)	80	24	12	10 (1-18)
	Sumr Steelhead	40	31	30	38 (9-67)	95	52	10	24 (3-45)
Snake	Spr Chinook	50	16	39	38 (9-67)	30	29	14	15 (2-28)
	Fall Chinook	25	27	62	38 (9-67)	80	13	45	NA
	Sockeye	10	17	47	38 (9-67)	70	24	6	NA
	Sumr Steelhead	45	27	30	38 (9-67)	40	43	25	24 (3-45)

<5%	5-20%	21-30%	31-50%	>50%

Hydropower Blocked Areas

Stock Status \ Impact Level	Low	Medium	High	Very High
Low	LC Tule FCH LC Coho LC WSthd	LC SpCH Will WSthd SN SpCH	Will SpCH UC Sum CH	MC Sock UC SpCH UC Sock UC Sum Sthd SN Sock
Medium	LC Chum	MC SpCH MC Sum Sthd	LC Sum Sthd SN Sum Sthd	
High	SWW WSthd MC Coho			
Very High	MC FCH UC FCH		LC Bright FCH	SN FCH

Impact Level
Low: less than 20%
Medium: 20-30%
High: 31-50%
Very High: Greater than 50%

Stock Status (based on CBP medium goal)
Low: less than 25%
Medium: 25-50%
High: 51-75%
Very High: greater than 75%

Prioritization Status
Red: Priority 1
Orange: Priority 2
Yellow: Priority 3
Blue: Back burner
Green: Good shape

NA: LC Late BFCH, UC Coho, SN Coho

Blocked Areas

Stock Status \ Impact Level	Low	Medium	High	Very High
Low	LC Tule FCH LC Coho LC WSthd	LC SpCH Will WSthd SN SpCH	Will SpCH UC Sum CH	MC Sock UC SpCH UC Sock UC Sum Sthd SN Sock
Medium	LC Chum	MC SpCH MC Sum Sthd	LC Sum Sthd SN Sum Sthd	
High	SWW WSthd MC Coho			
Very High	MC FCH UC FCH		LC Bright FCH	SN FCH

Impact Level
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Low: less than 25%
Medium: 25-50%
High: 51-75%
Very High: greater than 75%

Prioritization Status
Red: Priority 1
Orange: Priority 2
Yellow: Priority 3
Blue: Priority 4
Green: Priority 5

NA: LC Late BFCH, UC Coho, SN Coho

Hydro-Mainstem (without latent mortality)

Stock Status \ Impact Level	Low	Medium	High	Very High
Low	LC SpCH LC Tule FCH LC Coho LC WSthd Will SpCH Will Sthd MC Sock	UC SumSthd	UC SpCH UC Sum CH UC Sock SN SpCH	SN Sock
Medium	LC Chum LC Sum Sthd MC Sum Sthd	MC SpCH SN Sum Sthd		
High	SWW WSthd	MC Coho		
Very High	LC Bright FCH	MC FCH	SN FCH	UC FCH

Impact Level
Low: less than 20%
Medium: 20-30%
High: 31-50%
Very High: Greater than 50%

Stock Status (based on CBP medium goal)
Low: less than 25%
Medium: 25-50%
High: 51-75%
Very High: greater than 75%

Prioritization Status
Red: Priority 1
Orange: Priority 2
Yellow: Priority 3
Blue: Priority 4
Green: Priority 5

NA: LC Late BFCH, UC Coho, SN Coho

Hydro-Mainstem (with latent mortality)

Stock Status \ Impact Level	Low	Medium	High	Very High
Low	LC SpCH LC Tule FCH LC Coho LC WSthd Will SpCH Will WSthd	MC Sock		UC SpCH UC Sum CH UC Sock UC Sum Sthd SN SpCH SN Sock
Medium	LC Chum LC Sum Sthd	MC Sum Sthd MC SpCH		SN Sum Sthd
High	SWW WSthd	MC Coho		
Very High	LC Bright FCH		MC FCH	UC FCH SN FCH

Impact Level
Low: less than 20%
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Stock Status (based on CBP medium goal)
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Yellow: Priority 3
Blue: Priority 4
Green: Priority 5

NA: LC Late BFCH, UC Coho, SN Coho

Action Type	Steps	Description	Status/Schedule	Responsible Group	Deliverable
CBPTF Technical Planning	1) Define Fish Goals	**ESTABLISH GOALS** Identify current status and L, M & H goals by species and by sub-region based on historic data and available habitat	Completed in 2019 as part of CBPTF Ph I	Developed by CBPTF consultant and sub-region tech teams and agreed upon by Task Force members	CBPTF Phase 1 Report
	2) Define Current Fish Mortalities	**IDENTIFY FISH LOSSES** Quantify anthropogenic fish mortality factors throughout life history by species and by sub-region (summarized on "heat map")	Completed in 2020 as part of CBPTF Ph II	Developed by CBPTF consultant and sub-region tech teams and agreed upon by Task Force members	CBPTF Phase 2 Report
	3) Develop Salmon Analyzer Predictive Model	**CONSTRUCT "SLIDER" MODEL** Develop model with variable restoration components and levels to predict fish restoration action responses and level of goal achievement by species	Completed in 2020 as part of CBPTF Ph II	Developed by CBPTF consultant and sub-region tech teams and agreed upon by Task Force members	Salmon Analyzer Predictive Model
CBC Technical Planning	4) Confirm science-based approach for working groups	**CONFIRM BIOLOGICAL FOUNDATION** Review and confirm matrices that use the data from the CBPTF to serve as the foundation of the working groups	April 2022- June 2022	Biological Sub-group	- Biological Matrices - Approach for TSWGs
	5) Identify Needs for: - Tributary Habitat - Mainstem Hydro - Blocked Areas - Estuary Habitat - Predation - Hatcheries - Harvest - Integration across threat categories	**IDENTIFY ACTIONS/PROJECTS BY TOPIC** - Using CBPTF tools and data, identify priority restoration actions/programs that address impact reduction need for each respective mortality factor and collaborate with existing forums (for example, regional recovery organizations) and the IRG as needed - Consider recommendations, actions, and shovel-ready projects from existing forums (for example the CBPTF P2 report) - Consider actions that benefit multiple stocks and regions/watershed populations - Estimate mortality magnitude, source, and location	Ongoing starting July 2022	Topic Specific work groups	List of actions to address needs
		- Acknowledging tribal and treaty rights and legal constraints			
		IDENTIFY ACTIONS/PROJECTS INTEGRATED PACKAGES Using CBPTF tools and data as well as additional information to look across threat categories to identify cross-cutting actions to achieve L/M/H	Ongoing starting July 2022	Science Integration work group	List of actions to address needs

Hydropower Blocked Areas
Discussion of Resources and Gaps

- What existing forums or efforts are currently operating?
- What are the gaps in efforts, resources, and understanding?

Break

10 minutes

Hydropower Mainstem
Discussion of Resources and Gaps

- What existing forums or efforts are currently operating?
- What are the gaps in efforts, resources, and understanding?

Thank you ~

Photo credit: Roger Tabor