Northwest **Power** and **Conservation** Council

July 5, 2018

MEMORANDUM

TO: **Fish and Wildlife Committee Members**

FROM: **Tony Grover**

SUBJECT: **NOAA Regional Partnership – update on provisional goals**

BACKGROUND:

Presenter: Council members and staff involved with the Columbia Basin Partnership Task Force.

Summary: Columbia Basin Partnership (CBP) Task Force members have agreed in principle to a vision statement and provisional goals. These will be shared with the Committee along with a brief update on the Task Force process to-date, current outreach effort, and next steps. The provisional qualitative and quantitative goals are included in Attachment 1 and are also available on the CBP Task Force Member Outreach Package Summer 2018 . Input received from the fish and wildlife committee members will be shared with the CBP Task Force during the August and October CBP Task Force meetings. Staff will also be seeking guidance from the committee on whether a similar update should be presented to the Full Council in August.

Relevance: Contributes to the 2014 Fish and Wildlife Program task for refining natural origin adult salmon and steelhead abundance quantitative objectives.

Background: The NOAA Fisheries' Marine Fisheries Advisory Committee's (MAFAC) Columbia Basin Partnership (CBP) Task Force met on June 19-20, 2018 and reached agreement, in principle, on the provisional goals and vision statement, and other

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elements included in the CBP Task Force Member Outreach Package Summer 2018. A subset of the CBP Task Force members will be providing an update on the Task Force's progress to the MAFAC committee meeting on June 27, 2019 in Portland Oregon. The next meeting for the CBP Task Force is scheduled for October 2-3, 2018 in Portland Oregon, with a tentative webinar scheduled for August 22, 2018 to check-in on the outreach progress made by CBP members with their constituents.

The input received from CBP Task Force members' constituents during the June-October 2018 outreach period will be discussed during the October 2-3, 2018 Task Force meeting and will inform recommendations submitted to the MAFAC in January 2019. By the end of the October meeting the CBP Task Force members will finalize what elements they support moving forward as part of their Recommendations Report to MAFAC. This Recommendation Report may include a description of the Task Force process, related work products, provisional goals, vision statement, and description of a Phase 2 process to continue the Task Force's work in integrating the goals across species and to begin analyzing how these goals can be achieved.

The Columbia Basin Partnership Task Force is a task force organized under NOAA Fisheries' Marine Fisheries Advisory Committee. The CBP task force consists of 28 members and 1 ex-officio representing states, tribes, and diverse stakeholder groups. The CBP is focused on developing goals for 24 stocks. These stocks represent groupings of the recognized 327 salmon and steelhead populations in the Columbia Basin, consisting of the 210 extant, 117 extirpated, and 18 reintroduced populations. 142 of the extant populations are ESA listed. The CBP workgroups, comprised of the region's tribal, state and federal fish managers, and technical consultant Ray Beamesderfer, have been instrumental in drafting (see first link below) low, medium and high potential goal ranges for natural and wild components of these 24 stocks, leveraging the objectives compile in the Council's Fish Objective Mapping tool. The CBP Task Force have met 5 times during 2017 (January, April, June, September, and December) and 3 times in 2018 (February, April, and June). Two more meetings are currently scheduled during 2018, an August 22, 2018 webinar and an October 2-3, 2018 meeting in Portland, Oregon. The CBP Task Force Recommendations Report is anticipated to be submitted to MAFAC by the end of January 2019.

The Northwest Power and Conservation Council agreed to merge their efforts of refining Program salmon and steelhead quantitative goals with the NOAA'S Columbia Basin Partnership Task Force effort. The Council has provided update of the Task Force effort and progress through its Council meetings. The Council is currently engaged in its Program amendment process and looks forward to recommendations submitted by September 14, 2018 from state and federal fish and wildlife agencies and the region's Indian tribes, as well as other interested parties, about whether some or all of these provisional quantitative goals should be considered for amendment into the Program.

More Info:
Columbia Basin Partnership Task Force membership and meeting materials web-page
CBP Task Force Member Outreach Package Summer 2018 available here
Columbia River Basin Fish and Wildlife Program amendment process web-page.

Attachment 1: Columbia Task Force Member Outreach Package Summer 2018

The Outreach Package provided to the Columbia Task Force Members to communicate with their constituents during the June-October 2018 outreach period consists of 8 documents.

- MAFAC CBP Task Force Vision & Proposed Guiding Principles - 6.21.2018 (1 page)
- MAFAC CBP Task Force Qualitative Goals Matrix - 6.21.2018, revised draft 6.28.2018 (4 pages)
- MAFAC CBP Task Force Prototype Team Leads and Members - 10.4.2017 (2 pages)
- CBP Task Force Talking Points Summer 2018 (2 pages)
- CBP Task Force Members (1 page)
- CBP Overview Slides for Summer 2018 (24 PowerPoint slides)
- CBP Task Force Backgrounder - 6.19.2018 (4 pages)
- CBP Quantitative Goals Methodology Summary 07.02.2018 (14 pages)

The content of the outreach package is included in this attachment for your review.

REVISED FINAL DRAFT DOCUMENT

MAFAC CBP Task Force
Vision Statement
(06/20/18 final)

A healthy Columbia River Basin ecosystem with thriving salmon and steelhead that are indicators of clean and abundant water, reliable and clean energy, a robust regional economy, and vibrant cultural and spiritual traditions, all interdependent and existing in harmony.

MAFAC CBP Task Force

Guiding Principles Small Group

(06/20/18 version)

Proposed Guiding Principles

FAIRNESS: Foster a culture of respect, equity and generosity and be accountable for our interests.

OPENNESS & TRANSPARENCY: Everything is on the table – recognize yours and others' needs, acknowledge fears, threats and limitations to success, and be willing to re-evaluate them together.

OBLIGATIONS & RESPONSIBILITIES: Honor legal, statutory, treaty/trust and regulatory obligations, rights, and responsibilities.

CLARITY: Collaboratively arrive at solutions that improve regulatory and legal certainty.

SUSTAINABILITY: Strive for durable and practical outcomes, seeking clarity while acknowledging a dynamic social/cultural, economic and natural landscape.

KNOWLEDGE & WISDOM: Ground decisions and recommendations in science, while accepting that science may not be definitive.

INNOVATION & ADAPTIVENESS: Plan for the long term, act in the short term and be bold in the face of uncertainty and change.

INTERCONNECTION & COMPLEXITY: Envision a healthy and resilient ecosystem. Assume there are multiple solutions to resolving Basin issues.

QUALITATIVE GOALS

[Add intro paragraph that discusses timeframes and numbering of goals (i.e., does not relate to priority); timeframes are indicators of progress, not goals themselves]

Natural Production

Goal 1. Restore salmon and steelhead in the Columbia Basin to healthy and harvestable/fishable levels.

[Add explanatory paragraph here. Include definition of "healthy" (i.e., implies that fish abundance, productivity, spatial structure and diversity are at high levels; addresses needs for dependent wildlife); address "fishable"; explain ESA recovery and broad-sense recovery, discuss time-frame issue – although some of these are long-term goals, strive to do them sooner (e.g., could achieve goal 1-Cb in a shorter timeframe, like 24 years, for some populations), take action as soon as practicable and move as fast as possible. Highlight the need for strategic prioritization in phase2, etc.]

Subgoals	*Within 25 years*	*Within 50 years*	*Within 100 years*
***1-A. Prevent Declines*: Reverse and prevent declines of both listed and unlisted salmon and steelhead.**	*a. Reverse and prevent declines of both listed and unlisted salmon and steelhead.*		
***1-B. Achieve ESA Delisting*: Recover ESA-listed salmon and steelhead to a point where they are no longer threatened or endangered.**	*a. Achieve ESA delisting for at least some salmon ESUs and steelhead DPSs.*	*b. Achieve ESA delisting for additional salmon ESUs and steelhead DPSs.*	*c. Achieve ESA delisting for all listed salmon and steelhead.*
***1-C. Achieve Broad Sense Recovery*: Restore listed and unlisted salmon and steelhead to healthy and harvestable levels.**	*a. Make significant, measurable progress toward broad sense recovery of all salmon and steelhead.*	*b. Achieve healthy and harvestable levels for some salmon and steelhead.*	*c. Achieve healthy and harvestable levels for all salmon and steelhead.*
***1–D. Expand Spatial and Temporal Range*: Rebuild spatial distribution and run timing of salmon and steelhead at local and basinwide scales, including in currently inaccessible areas within the historical range.**	*a. Make significant, measurable progress toward rebuilding spatial distribution and run timing of salmon and steelhead at local and basinwide scales, including beginning to study, develop, and implement plans for restoring salmon and steelhead to currently inaccessible areas within their historical range.*	*b. Continue rebuilding spatial distribution and run timing of salmon and steelhead at local and basinwide scales, including in currently inaccessible areas within their historical range.*	*c. Complete rebuilding of spatial distribution and run timing of salmon and steelhead at local and basinwide scales, including in currently inaccessible areas within their historical range.*
***1-E. Expand Diversity and Resiliency*: Rebuild salmon and steelhead runs that are adaptive and resilient to climate change and other environmental perturbations.**	*a. Rebuild salmon and steelhead runs that are adaptive and resilient to climate change and other environmental perturbations.*	*b. Continue rebuilding adaptive and resilient salmon and steelhead runs and proactively and adaptively manage for a changing climate.*	*c. Ensure continued resiliency of salmon and steelhead runs and continue to adaptively manage for a changing climate.*

Harvest & Fishing Opportunity

Goal 2. Provide diverse, productive, and dependable tribal and non-tribal harvest and fishing opportunities for Columbia Basin salmon and steelhead in fresh and marine waters.

[Add explanatory paragraph – include explanation of "harvest," "fisheries" – also still need to work on consistency of usage within this document]

Subgoals	*Within 25 years*	*Within 50 years*	*Within 100 years*
2-A. <u>Ensure Sustainability</u>: **Manage harvest and fisheries at levels consistent with conserving natural salmon and steelhead populations**	*a. Ensure that fishery impacts on weak and listed stocks allow rebuilding of natural stocks and do not impede recovery.*	*b. Manage fisheries based on annual abundance to promote rebuilding of natural production and share the recovery burden.*	*c. Manage for optimum sustainable harvest and fishing opportunity as healthy stocks are restored.*
2-B. <u>Optimize Harvest and Fishery Opportunity</u>: **Optimize fishery opportunity and harvest of healthy natural and hatchery stocks based on availability.**	*a. Optimize fishery opportunity and access to harvestable surpluses of unlisted and hatchery stocks consistent with conservation.*	*b. Expand fishery opportunity concurrent with progress toward ESA delisting and broad sense recovery.*	*c. Fully realize harvest potential with increasing opportunity throughout the range of salmon and steelhead stocks.*
2-C. <u>Share Benefits</u>: **Realize all fishery obligations and share benefits among users.**	*a. Meet fishery obligations and share available harvest within the constraints imposed by conservation.*	*b. As constraints are reduced, move into focusing fisheries on sharing the benefits of increasing numbers of harvestable stocks.*	*c. Realize all fishery obligations and share benefits among users.*

Hatcheries / Mitigation

Goal 3. Produce hatchery salmon and steelhead to support conservation, mitigate for lost natural production, and support fisheries, in a manner that strategically aligns hatchery production with natural production recovery goals.

[Add explanatory paragraph, including explanation that supplementation is a tool. Also add supplementation to the definitions section. Mention broader uses of artificial production.]

Subgoals	*Within 25 years*	*Within 50 years*	*Within 100 years*
***3-A. Support Natural Production*: Utilize hatcheries to maintain, support and restore natural production where appropriate.**	*a. As appropriate, continue to utilize hatcheries to maintain, support and restore at-risk populations, including those affected by climate change.*	*b. Use conservation hatchery strategies as needed to proactively address future threats, including climate change.*	*c. Achieve a future where conservation hatcheries are not necessary unless unforeseen natural events require an emergency response.*
***3-B. Mitigate for Lost Production and Support Fisheries*: Produce hatchery fish to support tribal treaty/trust responsibilities and meaningful fishery opportunities to mitigate for historical losses due to development and to enhance fisheries.**	*a. Make progress in reducing reliance on hatchery production for mitigation consistent with improvements in natural production.*	*b. Consider changes in hatchery objectives and production levels as overall fishery opportunities are maintained through increased fish abundance.*	*c. Achieve a future where we rely less on hatchery production for mitigation and fishery enhancement only when natural production has increased.*
***3-C. Fish Protection*: Strategically align hatchery production with natural production recovery goals, consistent with tribal treaty/trust responsibilities, and with other legal and mitigation requirements.**	*a. Continue to implement changes in hatchery practices and programs based on best available science (including, in some cases, changes in stocks or species produced) to minimize adverse effects of hatchery-origin salmon and steelhead on naturally produced salmon and steelhead.*	*b. Continue to refine hatchery production, strategies and practices based on assessments of effectiveness and technology advances to minimize hatchery impacts on natural salmon and steelhead.*	*c. Reduce long-term hatchery impacts by rebuilding abundance, productivity, diversity, and distribution of natural salmon and steelhead.*

Social, Cultural, Economic & Ecological	
	Goal 4. Make decisions within a broader context that reflects, and considers effects to, the full range of social, cultural, economic, and ecosystem values and diversity in the Columbia Basin. *[Add explanatory paragraph, including the concept of inter-generational equity and considerations for future generations]*
	4-A. Social Goal: **Make decisions that reflect the social importance of salmon and steelhead to people throughout the Columbia Basin, recognizing the full range of social diversity and values that are present.**
	4-B. Cultural Goal: **Make decisions that reflect the cultural importance of salmon and steelhead to people throughout the Columbia Basin, recognizing the full range of cultural values that are present.**
	4-C. Economic Goal: **Make decisions that are based on the principle of equitable sharing of costs and benefits across economic sectors. Also, make decisions that recognize the great economic value of the Columbia River and its tributaries, and the importance of this natural capital as a major driver of the present and future economy for all in the Pacific Northwest.**
	4-D. Ecosystem Goal: **Make decisions that consider the role of salmon and steelhead in the ecosystem and that support a full range of ecological benefits, including the needs of dependent wildlife.**

MAFAC CBP Task Force
Prototype Teams #1-5 Leads and Members
(as of 10-04-17)

Prototype Team #1: Snake River Spring/Summer Chinook

1. Team leads:
    a. Mike Edmondson/Paul Kline

2. Additional members:
    a. Bert Bowler
    b. Bob Austin and potential designation
    c. Bob Lessard and Dave Johnson for Zach Penney
    d. Dan Rawding
    e. Jim Yost
    f. John McMillan and Kurt Fesenmyer for Rob Masonis
    g. Liz Hamilton and Rod Sando
    h. Norm Semanko, John Simpson, and Paul Arrington
    i. Tucker Jones
    j. Steve Martin and John Foltz

Prototype Team #2: Columbia River Chum

3. Confirm team lead:
    a. Tucker Jones

4. Additional members:
    a. Bill Bradbury, Art Martin, Jim Brick
    b. Bill Sharp for Zach Penney
    c. Guy Norman and Dan Rawding
    d. Liz Hamilton
    e. Steve Manlow

Prototype Team #3: Columbia River Coho

5. Team lead:
    a. Dan Rawding

6. Additional members:
    a. Guy Norman
    b. Keely Murdoch for Zach Penney
    c. Randy Friedlander and Casey Baldwin
    d. Steve Manlow
    e. Todd Pearsons and Steve Hays for Jeff Grizzel
    f. Joel Kawahara

Prototype Team #4: Mid-Columbia Steelhead

7. Team lead:
    a. Urban Eberhart

8. Additional members:
    a. Dan Rawding
    b. John McMillan for Rob Masonis
    c. Kevin Scribner
    d. Joe Zendt for Zach Penney
    e. Dave Fast
    f. Chris Frederiksen
    g. Ian Tattam

Prototype Team #5: Upper Columbia Summer Chinook

9. Team leads:
    a. Randy Friedlander and Casey Baldwin

10. Additional members:
    a. B.J. Kieffer and Conor Giorgi
    b. Guy Norman and Dan Rawding
    c. Heath Heikkila
    d. Joe Lukas
    e. Todd Pearsons and Steve Hays for Jeff Grizzel
    f. Tom Skiles for Zach Penney

CBP Task Force
Talking Points for sharing draft products & provisional goals, summer 2018

Background on the CBP Task Force – why long-term goals?

- NOAA Fisheries, states and tribes have multiple management responsibilities and plans.
- Without common, shared goals it is difficult to achieve any of them.
- In a 2013 Situation Assessment, conducted by the Oregon Consensus Program at Portland State University and the William D. Ruckelshaus Center at the University of Washington, many respondents voiced support for addressing the complexities of salmon recovery in a more coherent, integrated, and efficient way.
- NOAA Fisheries convened the CBP Task Force in 2017 to bring regional sovereigns and stakeholder together to develop shared, long-term goals for the future of steelhead.
- The CBP Task Force represents an opportunity to define a clear measure of success and a shared future for Columbia Basin salmon and steelhead.
- Having common, long-term goals would allow the region to align on a common path and means to measure progress and maintain accountability. It would also help to maintain public support for regional efforts.

CBP Task Force work:

- The purpose of the CBP Task Force is to provide for a science-based, results-driven, transparent, and publicly embraced process to recommend "broad-sense" goals for Columbia Basin salmon and steelhead, both ESA-listed and non-listed, that incorporate long-term conservation and provides harvest/fishing opportunities, while also satisfying tribal treaty/ trust responsibilities.
- These goals will address long-term conservation, harvest/fishery, and hatchery production/mitigation needs across the basin for both ESA-listed and non-listed species.
- So far, the CBP Task Force has developed various interrelated components of its recommendations, including a draft vision statement, guiding principles, provisional qualitative goals, and provisional quantitative goals.
- The provisional goals cover 24 salmon and steelhead stocks in the Columbia River Basin, including all its tributaries and both listed and non-listed salmon and steelhead, and historical anadromous production areas that are currently blocked.
- Provisional qualitative goals describe desired outcomes CBP Task Force members hope to achieve within selected timeframes, or sooner. Qualitative goals cover natural production; harvest and fishing opportunities; hatchery/mitigation, and social, cultural, economic, and ecological considerations. The qualitative goals guide the development of quantitative goals.
- To develop the provisional quantitative goals, the CBP Task Force convened regional teams composed of technical experts with expertise in the subject area.
- The regional teams identified provisional quantitative goals in several categories (natural production, harvest, hatchery production, and total run size) for each stock. For each category, they also developed goals in low, medium, and high ranges that reflect a

continuum of aspiration for progressive improvements to be achieved over an extended time period.

- The goals take into account a number of factors, including ESA de-listing requirements, habitat constraints and production potential, density dependence, cultural needs of tribes, fishing interests and sustainability, and mitigation responsibilities including currently blocked historical anadromous production areas.

Other benefits of CBP Task Force: relationships and cross-sector education:

- In addition to shared goals, the CPB Task Force provides a venue to foster engagement and build relationships among different interests.
- Task Force members have increased their knowledge of each other's perspectives and developed a common understanding of the complexities of salmon recovery.
- Constructive relationships and opportunities for building common ground, based on joint interests, have emerged from these interactions.

How would these goals be used?

- The intent is that NOAA Fisheries will use the goals the CBP Task Force recommends to guide its future management decisions.
- While the CBP Task Force recommendations will not result in any regulatory decisions or commit any party to specific activities, it is our hope that the prospect of a common, long-term set of goals will inspire our many partners to use them in similar ways, and to integrate efforts and seek efficient ways to achieve these common goals.

Questions for feedback on provisional goals and draft products:

- Do you understand our provisional goals and what they represent?
- Can you support our CBP Task Force recommending these provisional goals to MAFAC and NOAA Fisheries? If not, why not?
- Can you support the CBP Task Force continuing its work to further explore and refine these provisional goals?
- Would you like more information? Would you like to keep up to date on CBP Task Force activities?

Next steps for the CBP Task Force:

- In the fall 2018, the CBP Task Force will be drafting its recommendations to the NOAA Fisheries' Marine Fisheries Advisory Committee (MAFAC) for consideration and transmission to the NOAA Fisheries Administrator. MAFAC is the umbrella organization to the CBP Task Force to ensure compliance with the Federal Advisory Committee Act.
- The CBP Task Force is also seeking an extension from the MAFAC to continue its work by further refining the provisional goals. These refinements may include integrating the goals across all species and considering all limiting factors and potential constraints to achieving the goals. Scenario planning is one tool that could help accomplish this work.

Columbia Basin Partnership Task Force Members

Stakeholders

Bert Bowler, Idaho Rivers United, Idaho Conservation League, Idaho Wildlife Federation, International Federation of Fly Fishers, Idaho Sierra Club, and Snake River Waterkeeper

Ben Enticknap, Oceana

Kevin Scribner, Salmon Safe

Steve Fick, Fishhawk Fisheries

Joel Kawahara, Coastal Trollers Association

Glen Spain, Pacific Coast Federation of Fisherman's Association

Liz Hamilton, Northwest Sport Fishing Industry Association

Heath Heikkila, Coastal Conservation Association, Pacific Northwest Fisheries

Rob Masonis, Trout Unlimited

Jeff Grizzel, Grant County Public Utility District

Joe Lukas, Western Montana Electric Generating and Transmission Cooperative

Marla Harrison, Port of Portland

Kristin Meira, Pacific Northwest Waterways Association

Jess Groves, Port of Cascades Locks

Norm Semanko, Idaho Water Users Association

Mike Edmondson, Idaho Governor's Office of Species Conservation

Deb Marriott, Lower Columbia Estuary Partnership

Steve Martin, Snake River Salmon Recovery Board

Urban Eberhart, Kittitas Reclamation District

Liza Jane McAlister, 6 Ranch, Inc.

State & Tribal Representatives

Guy Norman, Northwest Power and Conservation Council, Washington

Jim Yost, Northwest Power and Conservation Council, Idaho

Jennifer Anders, Northwest Power and Conservation Council, Montana, Salish-Kootenai Tribes and Kootenai Tribe of Idaho

Bill Bradbury, Northwest Power and Conservation Council, Oregon

Bob Austin, Snake River Tribes Foundation, Shoshone-Paiute Tribes of the Duck Valley Reservation, Shoshone-Bannock Tribes of the Fort Hall Reservation, Fort McDermitt Paiute Shoshone Tribe and Burns Paiute Tribe.

BJ Keiffer, Spokane Tribe

Randy Friedlander, Colville Tribes

Zach Penny, Columbia Inter-Tribal Fish Commission, Nez Perce, Yakama, Umatilla and Warm Springs Tribes

Tony Grover, Northwest Power and Conservation Council, *ex-officio*

NOAA FISHERIES

Update on Columbia Basin Partnership Task Force

MAFAC

June 27, 2018

Major Columbia Basin Dams & ESA-Listed Fish

Columbia Basin salmon landscape:

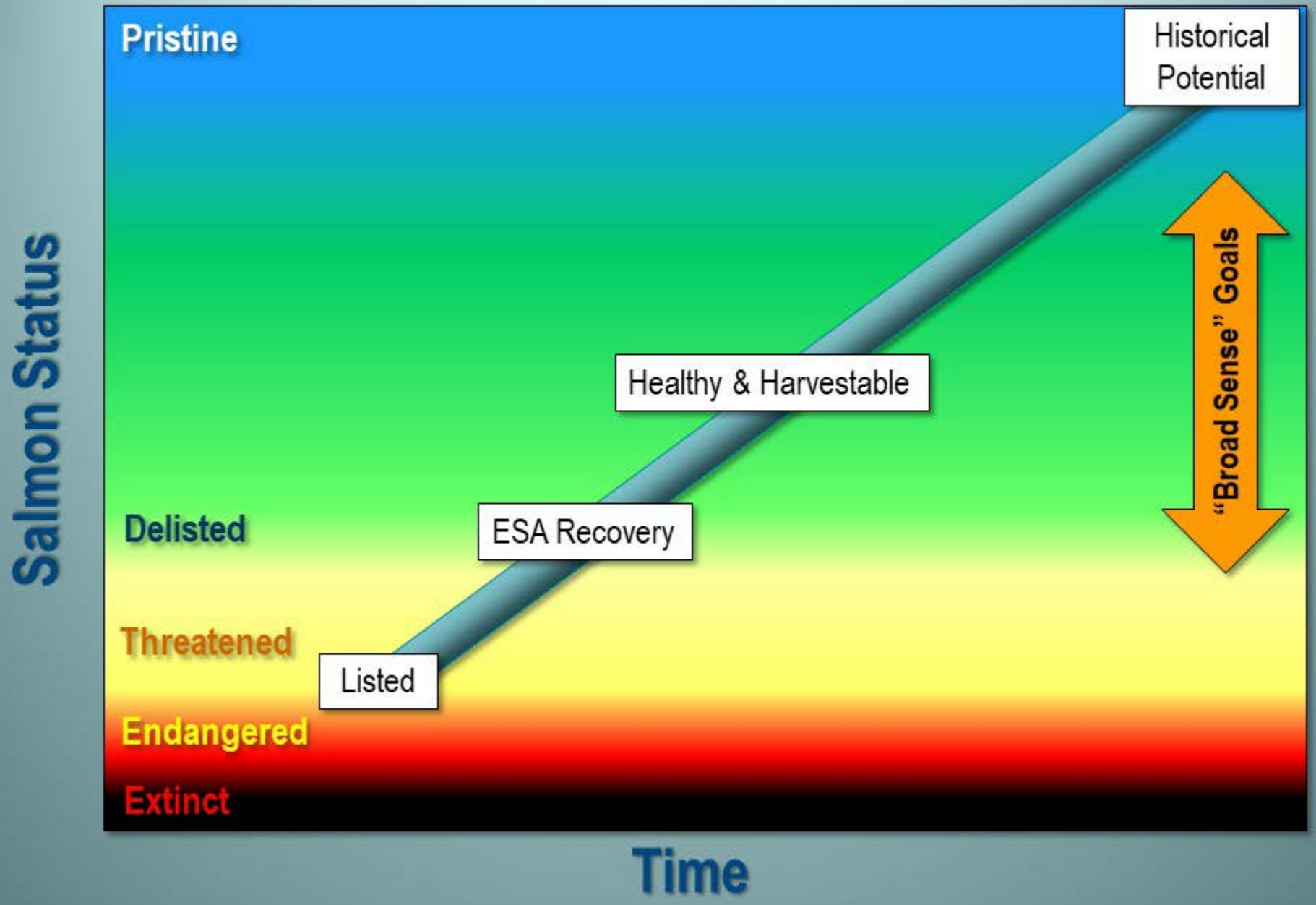
- NOAA Fisheries has multiple responsibilities such as ESA, Magnuson-Stevens Act, treaty/trust to tribes, and mitigation.
- 24 salmon stocks - 13 listed under ESA.
- Plans and processes related to habitat, hydrosystem, harvest, and hatchery address varying aspects of salmon management.
- 4 states, 13 tribes, and stakeholders covering commercial and recreational fishing, agriculture, irrigation, navigation/ports, public utilities, environmental groups and recreation.
- Ongoing litigation since mid- 1990's.

CBP Task Force Purpose

- NOAA Fisheries, states and tribes have multiple management responsibilities and plans. Without common, shared goals it is difficult to achieve any of them.
- 2012 Situational Assessment by Ruckleshaus Center and Oregon Consensus found the need for:
  - ✓More coherent, integrated, and efficient means of addressing the complexities of salmon recovery.
  - ✓NOAA Fisheries to convene regional sovereigns and stakeholders to develop common, long-term goals for salmon and steelhead.
- CBP Task Force established in fall 2016 and began in January, 2017.
- 28 members from states, tribes and stakeholders.

Questions About Salmon Goals and Plans

- Are we using our resources effectively and efficiently?
- Are we optimizing harvest opportunities consistent with recovery?
- Do we have ways to measure progress and success?
- Are we using non-listed stocks effectively and efficiently to help relieve pressure on listed stocks?
- Are goals attainable given current habitat conditions and likely effects of climate change? How should we consider future habitat conditions?
- Are we optimizing our hatcheries for recovery and harvest?


Salmon Status
Pristine
Historical Potential
"Broad Sense" Goals
Healthy & Harvestable
ESA Recovery
Delisted
Threatened
Listed
Endangered
Extinct
Time

Desired CBP Task Force Outcomes

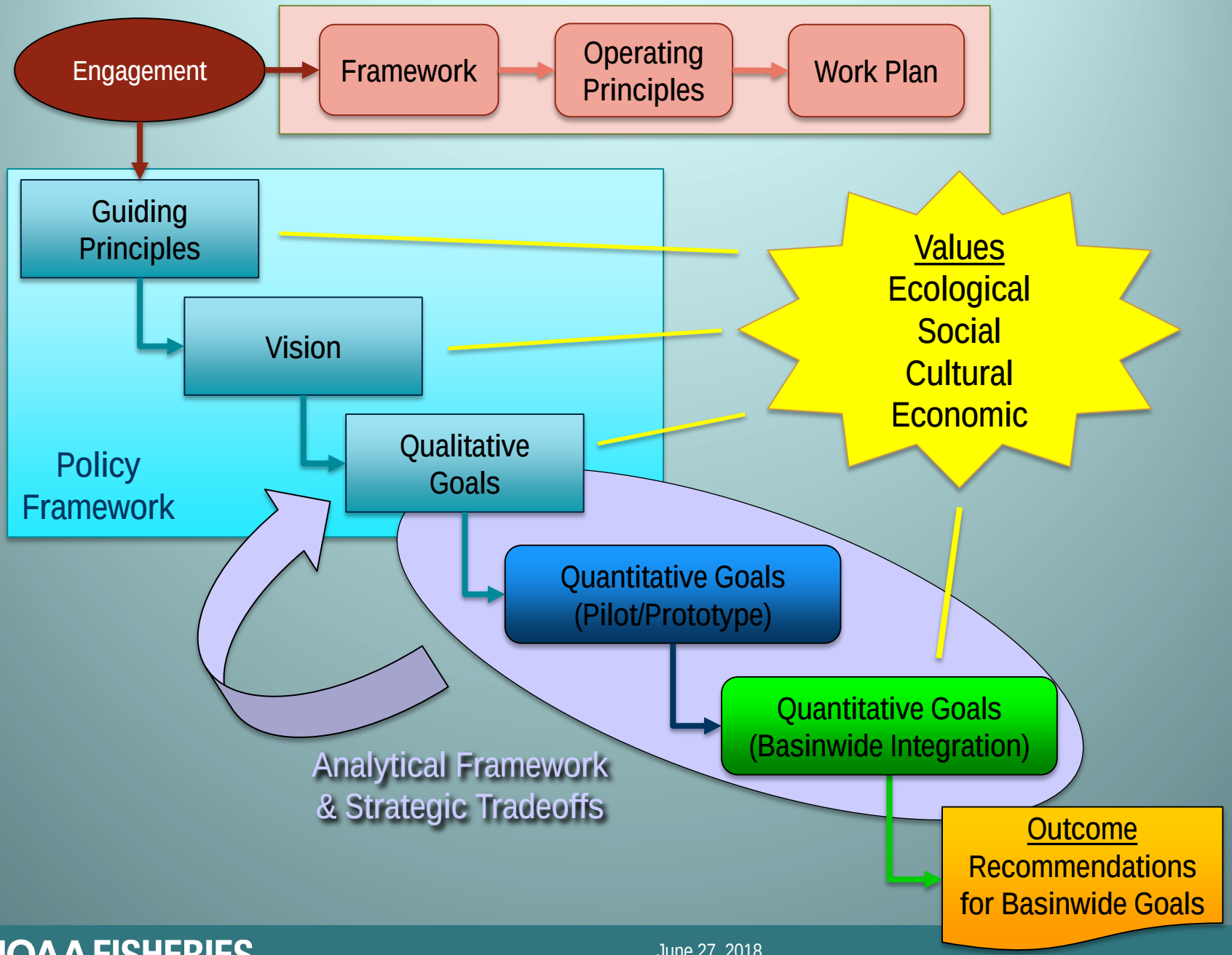
- Goals that address both conservation and harvest/fishing aspirations.
- Goals that are understandable and consider various users of Columbia Basin resources.
- Quantitative adult abundance goals for both listed and non-listed stocks.
- Better coordination, more effective use of resources, and alignment of strategic priorities.
- Enhanced relationships, trust, and knowledge.

CBP Task Force: Progress and Products

Relationships and Cross-Sector Understanding by CBP Task Force Members

- Represent diverse interests and perspectives from across the basin who have not been at one table before.
- Shared their stories throughout the process to gain a better understanding of each other's core values, interests, and concerns.
- Sharing background information and issue-based discussions (e.g. harvest, hatchery, hydrosystem, habitat and ecological considerations) have helped provide a common foundation of understanding and increased knowledge of each other's perspectives across sectors.
- Constructive relationships and opportunities for building common ground based on joint interests has emerged from these interactions and this process.


Abundant
Healthy
Sustainable
Thrive
Salmon
Resilient
Balance
Wild
Clean
Robust
Inclusive
ecosystem
harvest
Equitable
Plentiful
Integrated
cultural
fish
Productive
vibrant
stable
cheap
risks
Snow
Stewardship
future
Value
benefits
Heathy
Nutrition
water
Sustenance
Water
Shared
Harvestable
Ever-changing
Human-centric
Reliable
Collaborative
Culture
Snake
Restraint
Honest
communities
regime
Cold
energy
clean
Wet
impediments
Collaboration
ESA
Complete
Reinvigorate
Defend
Inter-connected
Proper
healthy
Viable
Fishing
Ask
Incorporated
Imaginative
function
Good
runs
control
sustainable
Round
Climate
Complex
World-class
Nourishing
Economy
Cooler
Jobs
Diversified
salmon
Rational
Responsibility
Symbiotic
populations
Bountiful
Language
enjoy
flood
kill
court
Fulfill
supply
Build
identity
Help
listings
Ecosystem
Replace
Restore
Rationalize
Manage
Food
River
Harmony
actions
Historical
Economically
service
Rebirth
Environmentally
history
Diverse
people
basin
Functional
Safe


Engagement
Framework
Operating Principles
Work Plan
Guiding Principles
Vision
Qualitative Goals
Policy Framework
Values
Ecological
Social
Cultural
Economic
Quantitative Goals (Pilot/Prototype)
Quantitative Goals (Basinwide Integration)
Analytical Framework & Strategic Tradeoffs
Outcome
Recommendations for Basinwide Goals

Work Products and Progress: Guiding Principles

- FAIRNESS:
- OPENNESS & TRANSPARENCY
- OBLIGATIONS & RESPONSIBILITIES
- CLARITY
- SUSTAINABILITY
- KNOWLEDGE & WISDOM
- INNOVATION & ADAPTIVENESS
- INTERCONNECTION & COMPLEXITY

Work Products and Progress: Draft Vision

A healthy Columbia River Basin ecosystem with thriving salmon and steelhead that are indicators of clean and abundant water, reliable and clean energy, a robust regional economy, and vibrant cultural and spiritual traditions, all interdependent and existing in harmony.

Work Products and Progress: Provisional Qualitative Goals

- Reflect Guiding Principles and Vision
- Provide a foundation for Quantitative Goals
- Important link between Vision and Quantitative Goals
- Four categories
    - Natural production
    - Hatchery/mitigation
    - Harvest/fisheries
    - Social, cultural, economic, and ecological
- Sub-group development, multiple iterations
- Words matter!

Work Products and Progress: Provisional Quantitative Goals

- Three categories – natural production, hatchery/mitigation and harvest/fishing.
- Aggregate run reconstructions total all goals.
- Where possible, used goals identified in the variety of recovery, management, and mitigation plans that exist in the basin.
- Started with 5 prototype species; now cover all 24 stocks with geographic subgroups.
    - Includes all salmon and steelhead in the Columbia River Basin and its tributaries, listed and non-listed populations, and historical anadromous production areas that are currently blocked.
- Goals are identified for stock units, based on
    - Species (Chinook, coho, sockeye, and chum salmon; and steelhead)
    - Region of origin (e.g., Lower Columbia, Middle Columbia, Upper Columbia, Snake, or Willamette)
    - Run type (e.g. spring, summer, fall, late fall).

Work Products and Progress: Provisional Quantitative Goals

- Goals identify low, medium and high numbers reflecting a continuum of aspiration for progressive improvements to be achieved over an extended time period.
- Goals are defined based on abundance of adult salmon and steelhead.
- Numbers take into account a number of factors including ESA requirements, habitat constraints and future potential, density dependence, cultural needs of tribes, fishing interests and sustainability, and mitigation responsibilities including currently blocked historical anadromous production areas.

Work Products and Progress: Provisional Quantitative Goals

- Work was aided by regional teams composed of technical experts with specific experience in the subject area were formed.
- Technical experts were identified by CBP members and generally included local staff from state, tribal, and other partner Task Force participants.
- Work groups operated under the Guiding Principles set by the CBP, including the principle that recommendations be firmly grounded in sound science.

Work Products and Progress: Provisional Quantitative Goals

Natural Production Goals:

- Low end goals represent abundance numbers to avoid listing (for non-ESA listed stocks) or delisting (for ESA listed stocks)
- Mid-range goals are approximately half-way between low end (conservation) goals and the high-end goals.
- High number reflects aspirational “healthy and harvestable” levels that might potentially be achieved with improvements in habitat and other conditions currently limiting stocks.
- High end goals are typically about three times greater than low end goals and generally 50% of historic average or less.

Work Products and Progress: Provisional Quantitative Goals

Hatchery/Mitigation goals:

- Existing hatchery goals were identified for conservation and mitigation programs throughout the basin. Numbers identify current hatchery production and corresponding adult returns.
- Additional production was identified where:
    - Defined in existing processes and plans (e.g., John Day Mitigation program), or
    - Proposed to address specific purposes identified by CBP partners (e.g., currently blocked historical anadromous production areas).

Work Products and Progress: Provisional Quantitative Goals

Harvest/ Fishing Goals:

- Current harvest levels and exploitation rates are identified by species and run type based on the complex of existing plans, agreements, and processes.
- Increases in abundance-based exploitation rates and harvest are projected to result from increasing natural production.

Work Products and Progress: Provisional Quantitative Goals

Aggregated Run Sizes:

- Aggregate numbers for natural production, harvest/fishing, and hatchery/mitigation production are reported at basin wide and species scales.
- Useful for evaluating status and goals relative to a variety of needs across the basin.

Feedback Requested:

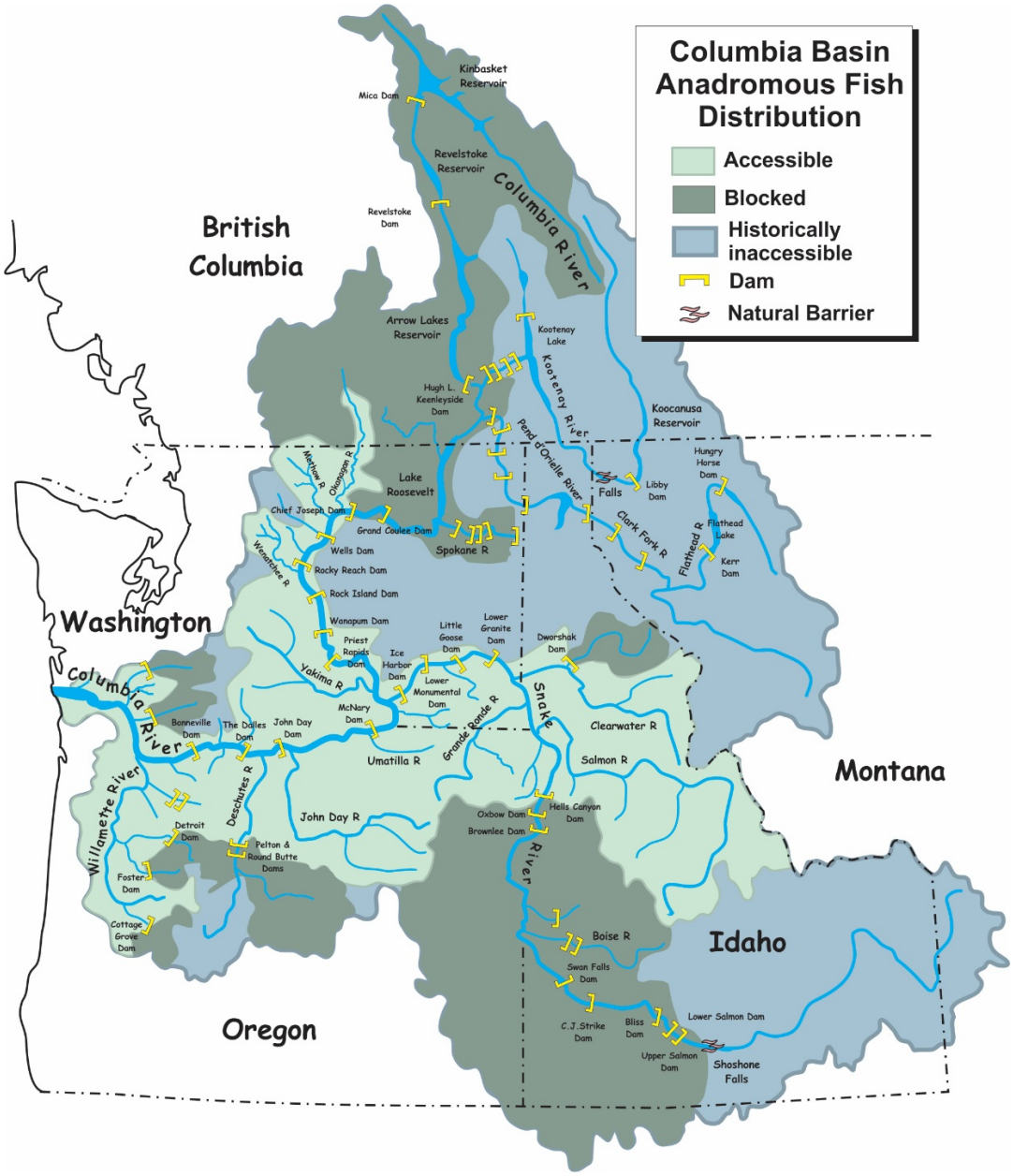
- Do you understand our provisional goals and what they represent?
- Can you support our CBP Task Force recommending these provisional goals to MAFAC and NOAA Fisheries? If not, why not?
- Can you support the CBP Task Force continuing its work to further explore and refine these provisional goals?
- Would you like more information? Would you like to keep up to date on CBP Task Force activities?

Recommendations to MAFAC: Next steps

- The CBP Task Force would like to continue the effort to integrate quantitative goals across species for natural production, hatchery/mitigation, and harvest/fishing purposes, and begin to analyze them.
- Scenario planning is one tool that could be used to accomplish this. CBP Task Force members are further developing next steps over the summer for discussion at October meeting.

Questions and Discussion

The Columbia Basin Partnership Task Force
Background and Update
June 2018



Draft 6-11-18

The Columbia Basin is home to salmon and steelhead that hold great ecological, cultural, spiritual, and economic value. NOAA Fisheries is charged with a complex of related management authorities and responsibilities: Endangered Species Act (ESA) authorities to protect and recover ESA-listed salmon and steelhead; fisheries management mandates under the Magnuson-Stevens Fisheries Conservation and Management Act; and tribal treaty and trust responsibilities. In addition, numerous federal, state, and tribal management plans address various aspects of salmon management and recovery, including habitat, harvest, hydropower impacts, and hatcheries.

In 2012, NOAA Fisheries commissioned two neutral, university-based institutions – the Oregon Consensus Program at Portland State University and the William D. Ruckelshaus Center at the University of Washington – to gather the views of representatives of Columbia Basin states, tribes, federal agencies, and stakeholders regarding long-term salmon recovery strategies. The resulting Columbia Basin Situation Assessment Report (Assessment Report), issued in December 2013,[1] highlighted the absence of common goals and called for bold leadership to address the complexities of salmon recovery in a more coherent, integrated, and efficient way.

In the spring of 2016, after additional discussions with Columbia Basin managers and stakeholders, NOAA Fisheries presented the outcome of the Columbia Basin Situation Assessment Report to its Marine Fisheries Advisory Committee (MAFAC). NOAA Fisheries identified the opportunity to establish a task force within the MAFAC framework as a way to convene regional stakeholders and sovereigns to collaborate on long-term salmon and steelhead recovery goals. The MAFAC agreed to support the task force, and NOAA Fisheries then held an open nomination process for members. In January 2017, NOAA Fisheries formed the Columbia Basin Partnership (CBP) as a MAFAC Task Force. The CBP Task Force consists of 28 members, including:

- Four representatives from the states in the Basin (Oregon, Washington, Idaho, and Montana; one representative per state),
- Four tribal representatives (covering 13 tribes), and
- 20 stakeholders representing commercial and recreational fishing, navigation and river users (e.g., ports and navigation), public utilities, agriculture, irrigation, environmental groups, and local recovery planning entities.

The purpose of the CBP Task Force is to provide a science-based, results-driven, transparent, and publicly embraced process for identifying "broad-sense" goals for Columbia Basin salmon and steelhead based on the multiple overlapping federal, state, and tribal recovery and management responsibilities and plans that currently exist. These goals will address long-term conservation, harvest/fishery, and hatchery production/mitigation needs across the basin for both ESA-listed and non-listed species.

So far, the CBP Task Force has developed various interrelated, draft components of its recommendations to MAFAC, including a draft vision statement, guiding principles, provisional qualitative goals, and provisional quantitative goals.

The CBP Task Force identified provisional qualitative goals that describe desired outcomes they hope to achieve within selected timeframes, or sooner. Qualitative goals cover natural production; harvest and

[1] The Assessment Report is available at http://oregonconsensus.org/wp-content/uploads/2013/11/Columbia-River-Basin-Salmon-and-Steelhead-Long-Term-Recovery-Situation-Assessment-Final-Report.pdf

fishing opportunities; hatchery/mitigation, and social, cultural, economic, and ecological considerations. The qualitative goals guide the development of quantitative goals.

The CBP Task Force is also developing provisional quantitative goals for 24 salmon and steelhead stocks including historical production areas in the Columbia River Basin, some of which are currently blocked to salmon. To develop the goals, the CBP Task Force convened regional teams composed of technical experts with expertise in the subject area. The regional teams identified draft goals in several categories (natural production, harvest, hatchery production, and total run size) for each stock. Low, medium, and high range numbers were identified to reflect a continuum of aspiration for progressive improvements to be achieved over an extended time period. The goals take into account a number of factors, including ESA de-listing requirements, habitat constraints and production potential, density dependence, cultural needs of tribes, fishing interests and sustainability, and mitigation responsibilities including currently blocked historical anadromous production areas.

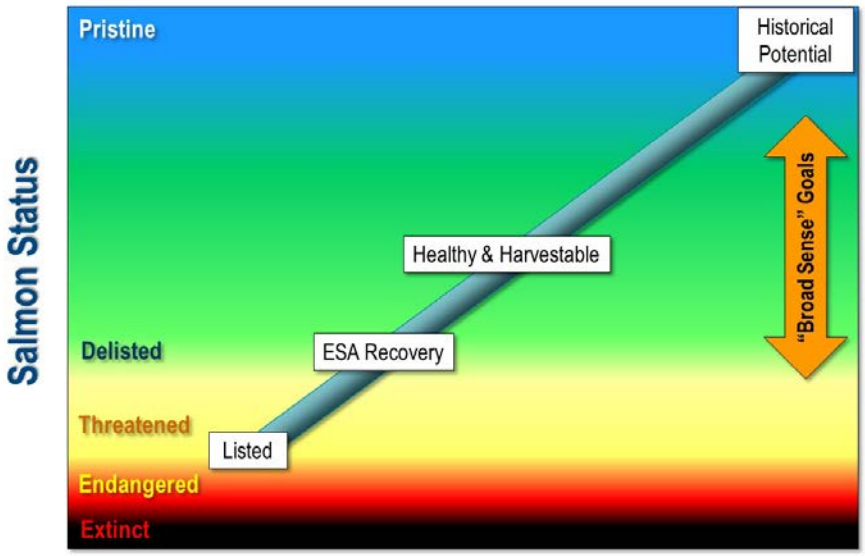


Figure 1. Conceptual depiction of a continuum of salmon status between threatened/endangered (ESA-listed) and historical potential. The provisional quantitative goals target the green "healthy and harvestable" range on this continuum.

In addition to developing shared goals, the CPB Task Force provides a venue to foster engagement and build relationships among different interests. Task Force members have increased their knowledge of each other's perspectives and developed a common understanding of the complexities of salmon recovery. Constructive relationships and opportunities for building common ground, based on joint interests, have emerged from these interactions.

As of June 2018, the CBP Task Force has agreed in principle on these provisional products and is seeking feedback from communities across the Columbia Basin throughout the summer. In the fall 2018, the CBP Task Force will be drafting its recommendations to MAFAC for consideration and transmission to the NOAA Fisheries Administrator.

The CBP Task Force is also seeking an extension from the MAFAC to continue its work to further refine the provisional goals. These refinements may include integrating the goals across all species and considering limiting factors and potential constraints to achieving the goals.

The CBP Task Force represents an opportunity to define a clear measure of success and a shared future for Columbia Basin salmon and steelhead. Having common, long-term goals would allow the region to align on a common path and means to measure progress and maintain accountability. It would also help to maintain public support for regional efforts.

The intent is that NOAA Fisheries will use the goals the CBP Task Force recommends to guide its future management decisions. While the CBP Task Force recommendations will not result in any regulatory decisions or commit any party to specific activities, it is our hope that the prospect of a common set of long-term goals will inspire our many partners to use them in similar ways, and to integrate efforts and seek efficient ways to achieve them.

DEVELOPMENT OF PROVISIONAL QUANTITATIVE GOALS FOR THE COLUMBIA BASIN PARTNERSHIP (CBP) TASK FORCE

PART 1 – METHODOLOGY SUMMARY

Scope

- Provisional quantitative goals (goals) are being developed for all salmon and steelhead in the Columbia River Basin and its tributaries – including goals for both listed and non-listed salmon and steelhead as well as goals for historical anadromous production areas that are currently blocked.
- Goals are being identified for natural production, harvest, hatchery production, and run size and are being quantified in terms of adult abundance.
- Adult abundance goals in each of the above categories are being identified for 24 "stocks" that we defined for the purposes of this exercise. These stocks were defined by species (Chinook, Coho, Sockeye, Chum, and Steelhead), run type (spring, summer, fall, late fall), and region of origin (Lower Columbia, Middle Columbia, Upper Columbia, Snake, or Willamette) – for instance, Upper Columbia summer Chinook. These stocks are generally the same as listing units (ESUs or DPSs) except that different run types in the same ESU were separated for consistency with fishery management units.

Goal Overview

- Wherever possible, the provisional goals are based on existing goals set by state, federal and tribal entities.[1]
- Goals for each stock and each category (natural production, harvest, and hatchery production, run sizes) are being identified in low, medium, and high categories that reflect a continuum of aspiration for progressive improvements to be achieved over an extended time period.
- The goals take into account a number of factors, including ESA de-listing requirements, habitat constraints and productive potential, density dependence, cultural needs of tribes, fishing interests and sustainability, and mitigation responsibilities including currently blocked historical anadromous production areas.

Regional Teams

- To develop the goals, the CBP task force convened regional teams composed of technical experts with expertise in the subject area.
- Technical experts were identified by CBP members and generally included local staff from state, tribal, and other task force participants.
- These regional teams operated under the guiding principles set by the CBP, including the principle that recommendations be firmly grounded in sound science.

[1] *Existing natural production goals are documented in a database developed by the Northwest Power and Conservation Council, available at* https://app.nwcouncil.org/ext/maps/AFObjPrograms/

- Regional teams are continuing to review and refine draft goals in some cases.

Natural Production Goals

- The low-range goals represent the best scientific knowledge for the abundance necessary to avoid extinction or avoid being listed under ESA. Typically, these were based on ESA de-listing goals for listed species. For non-listed species, low-range goals were based on application of the same technical guidance used in recovery plans to identify delisting levels. In the case of unlisted populations which currently occur at levels substantially greater than minimum viability levels, low-range values represent biological reference points rather than current management or recovery goals.
- Mid-range goals are approximately half-way between the low-range goals and the high-range goals. Optimum escapement levels under current conditions were identified as mid-range goals for some healthy stocks.
- High-range goals reflect aspirational "healthy and harvestable" levels that might potentially be achieved with aggressive improvements in habitat and other conditions currently limiting stocks.
- High-range goals are typically about three times greater than low-range goals and are also generally about 50 percent of less of historical average abundance estimates.

Harvest & Fishery Goals

- We have identified current harvest levels and exploitation rates by species and run type based on existing harvest management plans, agreements, and processes.
- We have also used the abundance-based management plans that currently exist as part these existing harvest management processes to project the harvest levels and exploitation rates that would result if natural production increased consistent with the CBP goals.
- Aspirational fishery goals were identified based on harvest rates consistent with the production potential of healthy salmon and steelhead stocks.

Hatchery Production Goals

- We have also identified existing hatchery production goals for conservation and mitigation programs throughout the basin. The goals are expressed in terms of current hatchery production and corresponding adult returns.
- We identified additional hatchery production goals where they are (1) defined in existing processes and plans (e.g., the John Day Mitigation program) or (2) proposed by CBP task force members to address specific purposes (e.g., currently blocked historical anadromous production areas).

Run Size Goals

- Aggregate numbers for natural production, fisheries, and hatchery production will be developed at basin and species scales and used for evaluating status and goals relative to a variety of needs across the basin. These goals are still in development.

PART 2 - QUANTITATIVE GOALS FOR NATURAL PRODUCTION

Qualitative goals contemplated by the Columbia Basin Partnership (CBP) call for restoration of salmon and steelhead in the Columbia Basin to healthy and harvestable levels. This goal likely reflects a substantial improvement in natural production of these species. Goals for species natural production (numbers of natural-origin adults spawning naturally) were identified in three categories – low, medium, and high – for each salmon and steelhead population. Current and historical abundance were also quantified in place goals into context. Historical is defined as pre-development and corresponding numbers were estimated by various means. Box 1 identifies the hierarchy of rules by which potential low, medium and high natural production numbers were identified by regional working groups of technical experts.

Rule Set

Box 1. Rule set for quantifying low, medium, and high range goals for natural production by the Columbia Basin Partnership Task Force. Rules are numbered in priority of application.

Low range

1. *Delisting abundance goal consistent with recovery scenario as specified in ESA recovery plan. (Not every population required to achieve high level of viability).*
2. *Minimum abundance threshold specified for population in ESA recovery plan (equivalent to a viable population with ≤5% risk of extinction in 100 years).*
3. *Minimum abundance threshold inferred from rule set developed and applied by Technical Recovery Teams to similar populations by species. (Applicable where population-specific viability goals were not otherwise identified.)*

Medium range

1. *From existing plans where identified and consistent with low and high range goals identified by the CBP Task Force.*
2. *Mid-way between low and high range goals for listed populations where not otherwise identified in existing plans.*
3. *Based on yield-based escapement goals where defined for unlisted populations based on stock-recruitment analyses.*
4. *Based on current abundance where yield-based goals have not been identified for unlisted populations.*

High range

1. *Based on broad sense goals identified in existing plans where consistent with qualitative goals identified by the CBP Task Force.*
2. *Equivalent to empirical estimates of abundance under historical conditions when populations were considered to be reasonably healthy.*
3. *Based on habitat-model inferences of abundance that would result from reasonably feasible habitat restoration actions and/or favorable habitat conditions.*
4. *Default value (generally three times the low range value) were used where historical or model-derived values were not available (not to exceed the estimated pre-development habitat potential).*

Results

Figure 1 shows low and high goal ranges in aggregate by stock in relation to current abundance. Corresponding numbers are identified in Table 1. Values are normalized so that ranges for more or less abundant stocks can be illustrated on the same graph. The gap between current (value of 1) and the low end of the goal range shows identifies the proportional increase in abundance need to reach the minimum goal. Current values overlap the goal range for stocks that are relatively healthy in terms of abundance.

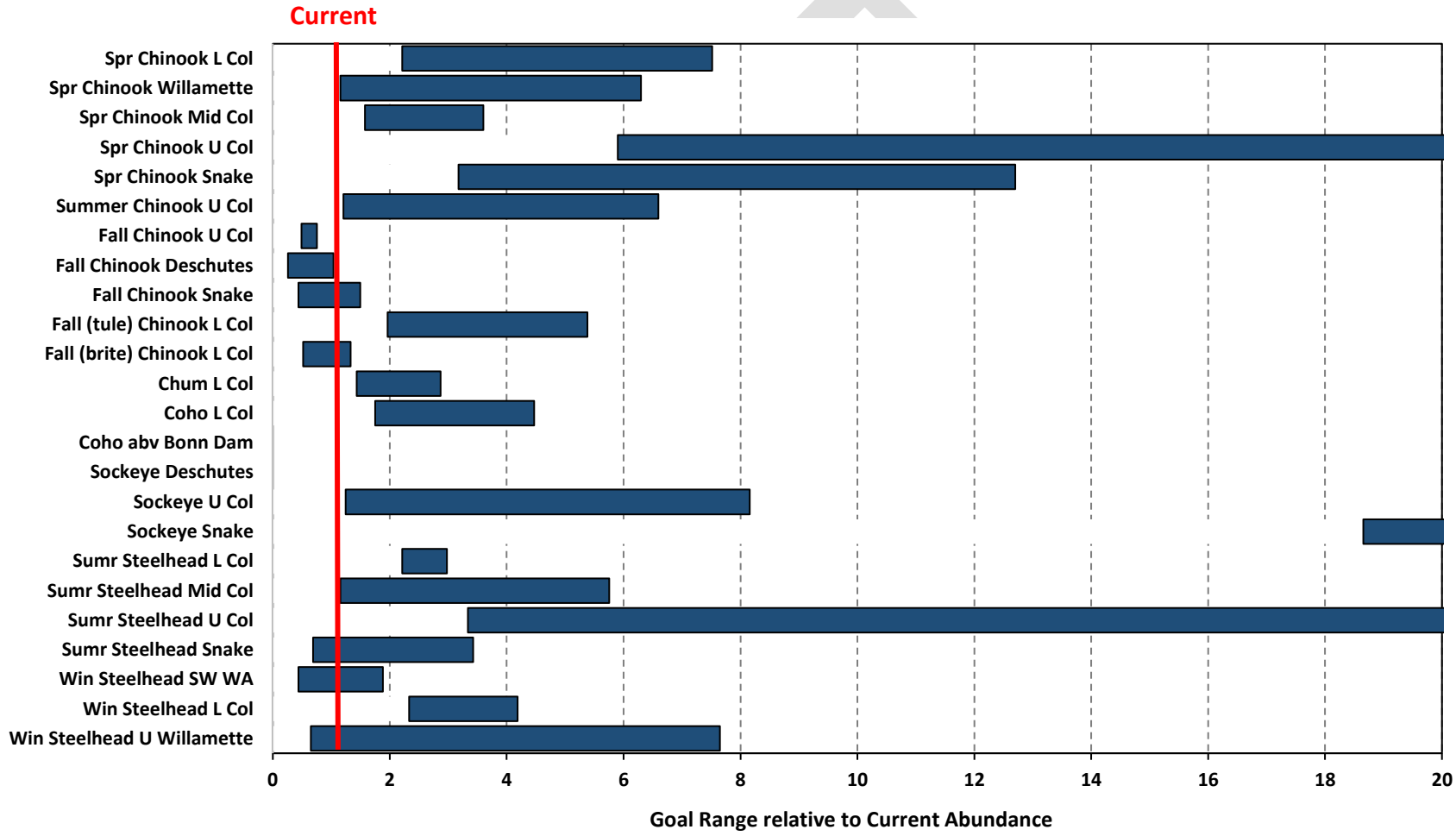


Figure 1. Aggregate abundance values for natural-origin escapements under current, historical (pre-development), and low, medium and high escapement goal ranges.

Table 1. Aggregate abundance values for natural-origin escapements under current, historical (pre-development), and low, medium and high escapement goal ranges. Numbers reflect current progress by work groups and may be revised based on new information.

Evolutionarily Significant Unit or Distinct Population Segment		Run Type	Current	Historical	Low	Med	High	High as % of historical
Chinook	L Columbia	Spring	4,431	101,700	9,800	21,550	33,300	33%
Chinook	U Willamette	Spring	4,095	312,173	4,725	15,262	25,798	8%
Chinook	M Columbia Spr	Spring	10,000	103,700	15,750	25,875	36,000	35%
Chinook	U Columbia Spr	Spring	1,090	259,432	6,433	16,968	25,452	10%
Chinook	Snake Spr/Sum	Spring/Summer	10,000	671,000	31,750	79,375	127,000	19%
Chinook	U Columbia Sum/Fall	Summer	18,771	693,952	22,704	81,398	123,841	18%
Chinook	U Columbia Sum/Fall	Fall	85,500	533,900	41,950	53,188	64,425	12%
Chinook	Deschutes Sum/Fall	Summer/Fall	15,400	17,000	4,000	13,000	16,000	94%
Chinook	Snake Fall	Fall (brights)	9,600	500,000	4,200	9,280	14,360	3%
Chinook	L Columbia	Fall (tules)	12,510	166,100	24,550	46,300	67,300	41%
Chinook	L Columbia	Fall (late brights)	11,593	33,000	6,000	9,200	15,400	47%
Chum	Columbia	Late Fall	11,178	900,000	16,050	24,075	32,100	4%
Coho	L Columbia	Fall (early & late)	31,401	288,200	54,900	98,150	140,400	49%
Coho	(Columbia upriver)	Fall		1,111,800				
Sockeye	(Mid Columbia)	Summer	5	50,000	1,000	3,000	5,000	10%
Sockeye	(U Columbia)	Summer	228,000	1,850,000	283,500	685,000	1,860,000	101%
Sockeye	Snake	Summer	134	150,000	2,500	5,750	9,000	6%
Steelhead	L Columbia	Summer	2,100	7,600	4,650	5,500	6,250	82%
Steelhead	Mid Columbia	Summer	18,155	132,800	21,000	62,750	104,500	79%
Steelhead	U Columbia	Summer	2,011	577,500	6,713	29,252	43,878	8%
Steelhead	Snake	Summer	30,500	172,200	21,000	62,750	104,500	61%
Steelhead	SW Washington	Winter	11,200	41,900	4,900	13,200	21,100	50%
Steelhead	L Columbia	Winter	8,570	58,000	20,000	27,900	35,900	62%
Steelhead	U Willamette	Winter	5,150	110,000	3,350	21,375	39,400	36%
			531,394	***8,841,957***	***611,425***	***1,410,098***	***2,950,904***	33%

Note: Numbers depicted in red are placeholders for work in progress by regional work groups.

PART 3 - QUANTITATIVE GOALS FOR HARVEST & FISHERIES

Qualitative goals contemplated by the Columbia Basin Partnership (CBP) call for providing diverse, productive and dependable fisheries for Columbia Basin salmon and steelhead. This goal will reflect a substantial improvement from the current state of these fisheries.

Current fisheries are generally regulated by harvest rate limits prescribed by a complex of existing management plans, agreements and processes. These rates do not represent fishery goals *per se* but rather constraints designed to protect weak and listed stocks. However, rates and corresponding harvests can be considered a baseline against which any desired future levels can be measured against. Therefore the CBP has documented current harvest rates for all Columbia Basin salmon and steelhead stocks.

Abundance-based management frameworks were developed primarily as guidance for annual fisheries in response to normal annual variability in run size. However, the practical effect in a recovering stock is to allow for higher harvest rates and numbers as average abundance improves over time – benefits of natural production improvements are thus shared between wild/natural escapements and fisheries as an outcome of the existing fishery management structure. For reference purposes, we also projected approximate increases in harvest rates that might be expected under current management frameworks with increases in abundance of wild/natural fish currently under consideration by the CBP (Figure 2). "Low" natural production goals identified by the CBP generally correspond to ESA delisting. "High" natural production goals generally describe aspirational higher numbers that might reasonably be achieved with "broad sense" recovery actions to provide species viability, harvestability and ecological benefits. Increases in harvest rates will be triggered for stocks where fisheries are currently regulated under abundance-based management frameworks.

Existing management frameworks designed to protect weak and listed stocks, generally do not optimize harvest of healthy stocks consistent with CBP goals for diverse, productive and dependable fisheries. Healthy stocks can typically support substantially higher harvest rates than are currently identified in existing management frameworks. Therefore, the CBP identified aspirational goals for fisheries which increase harvest rates consistent with levels sustainable by abundant and productive salmon stocks (Figure 3). Goals are generally conservative relative to historical harvest rates and those sustained by salmon stocks in more pristine areas of the North Pacific. Goals also reflect needs of the mixed stock fisheries and related opportunities for higher harvest rates on surplus hatchery fish.

Fishery goals are defined based on exploitation or harvest rates consistent with current management frameworks. These rates are for wild/natural fish which currently drive management. Higher harvest rates may be achieved for hatchery-origin fish through fishery time, area or gear measures. Corresponding harvest numbers are being calculated based on projections of future abundance consistent with natural production goals identified by the CBP task force. Aspirational harvest rate goals do not attempt to allocate fishery opportunities among specific fisheries. It is assumed that opportunities for additional harvest will be distributed among fisheries through existing management authorities and processes.

Rule Set

Box 1. Approach to identifying fishery implications of natural production goals identified by the Columbia Basin Partnership Task Force.

Current Harvest Rates

1. *Defined by a complex of existing plans, agreements and processes (US v Oregon, Pacific Fishery Management Council, Pacific Salmon Treaty).*
2. *Include a combination of abundance-based, escapement-based, and harvest rate-based goals defined for specific stocks.*
3. *Weak and ESA-listed stocks are protected by low fishing rates intended to minimize conservation risks.*
4. *Weak stock constraints limit access to harvestable surpluses of strong and hatchery stocks for which goals are generally based on maximum or optimum sustainable yields.*

Harvest Rates under current management frameworks @ low, medium and high range wild/natural abundance goals

1. *Average annual harvest rates increase by stock with increasing wild/natural numbers according to existing abundance-based management schedules which have been defined for some but not all stocks.*
2. *Harvests by stock are projected with increased wild/natural abundance and incremental increases in abundance-based harvest rates according to existing management frameworks.*

Low Range Goals

1. *Assume that existing management frameworks for weak stock management remain in place until such time as low range natural production goals consistent with delisting are achieved.*
2. *Based on existing management frameworks for currently-healthy stocks.*
3. *Ranges reflect annual variation in harvest rates based on abundance in order to meet wild/natural spawning escapement goals and access higher numbers during large run years.*
4. *Average harvest rates are identified consistent with implementation of existing fisheries under abundance-based management frameworks.*
5. *Small increases in average harvest rates might be expected to occur for stocks managed based on abundance due to increases in wild/natural numbers consistent with CBP low range goals for natural production improvements.*

Mid-Range Goals

1. *Based on existing management frameworks for currently-healthy stocks.*
2. *Intermediate between low and high range goals for currently-weak or depleted stocks.*

High Range Goals

1. *Based on existing management frameworks for currently-healthy stocks*
2. *For currently weak or depleted stocks, based on reasonably-realistic harvest rates expected to be sustainable by healthy wild/natural stocks.*
3. *Prescribed rates were also consistent with needs to provide significant access to wild and hatchery fish in mixed stock fisheries across the range of harvest including ocean, Columbia River mainstem and tributary fisheries.*

Results

Figure 2 shows the incremental increases in average harvest rates likely to occur with increasing natural production in relation to current levels. Corresponding numbers are identified in Table 1. Increases occur only for stocks where the harvest is regulated according to an abundance-based framework. For stocks currently managed under a fixed harvest rate can, it is assumed for the purposes of this exercise that future harvest rates would be the same as current (although harvest numbers would be expected to increase due to a higher abundance of fish available to the fishery). These projections make no assumptions at this point regarding the ability to access allowable rates due to other stock limits in mixed stock fisheries.

Figure 3 shows abundance-based harvest/impact rates that reflect aspirational fishery objectives beyond incremental increases projected under existing management frameworks consistent with natural

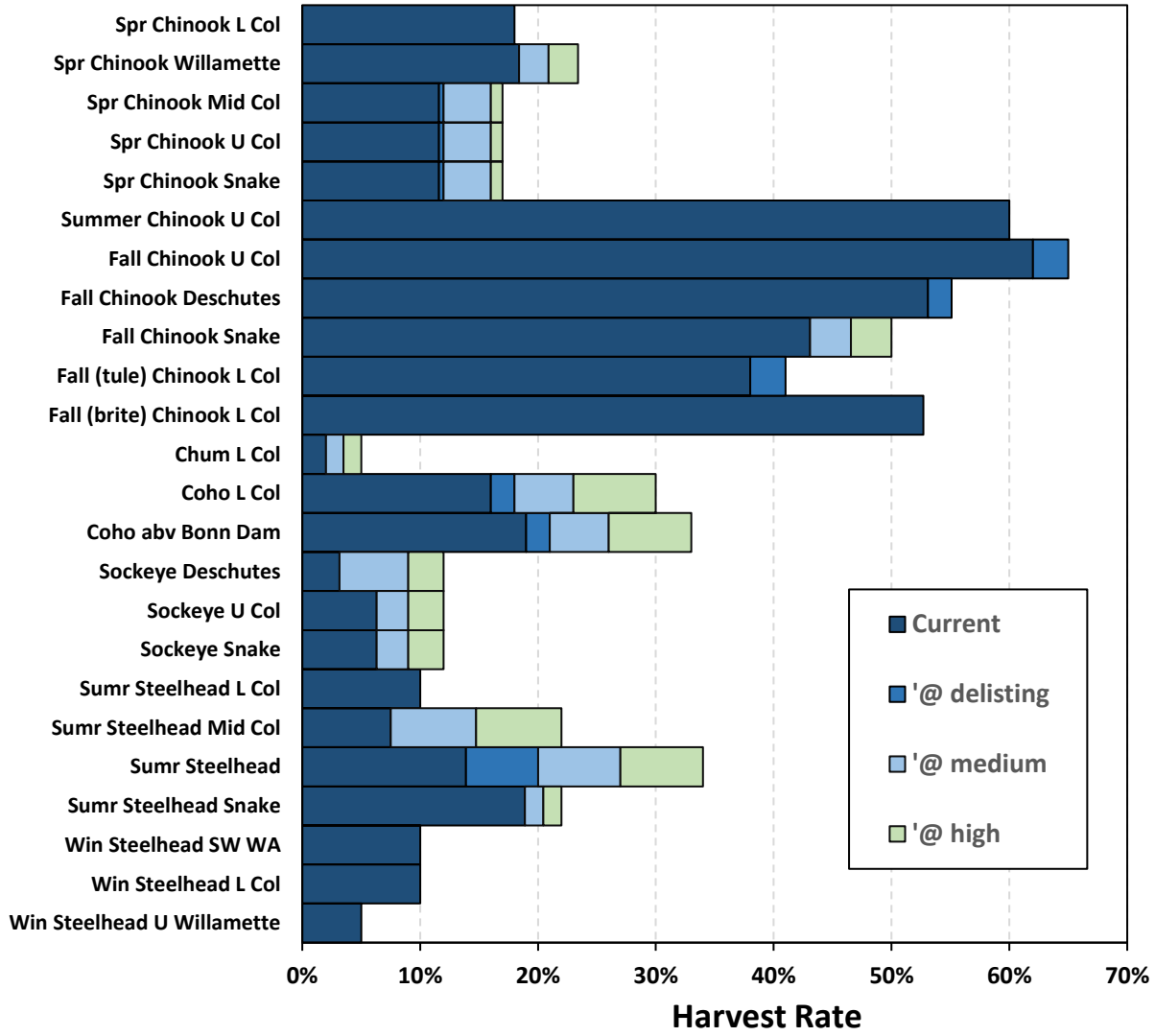


Figure 2. Current average fishery harvest/impact rates of natural-origin fish and range of increases consistent with CBP natural production goals under current management frameworks in combined marine and freshwater fisheries for Columbia Basin salmon and steelhead stocks.

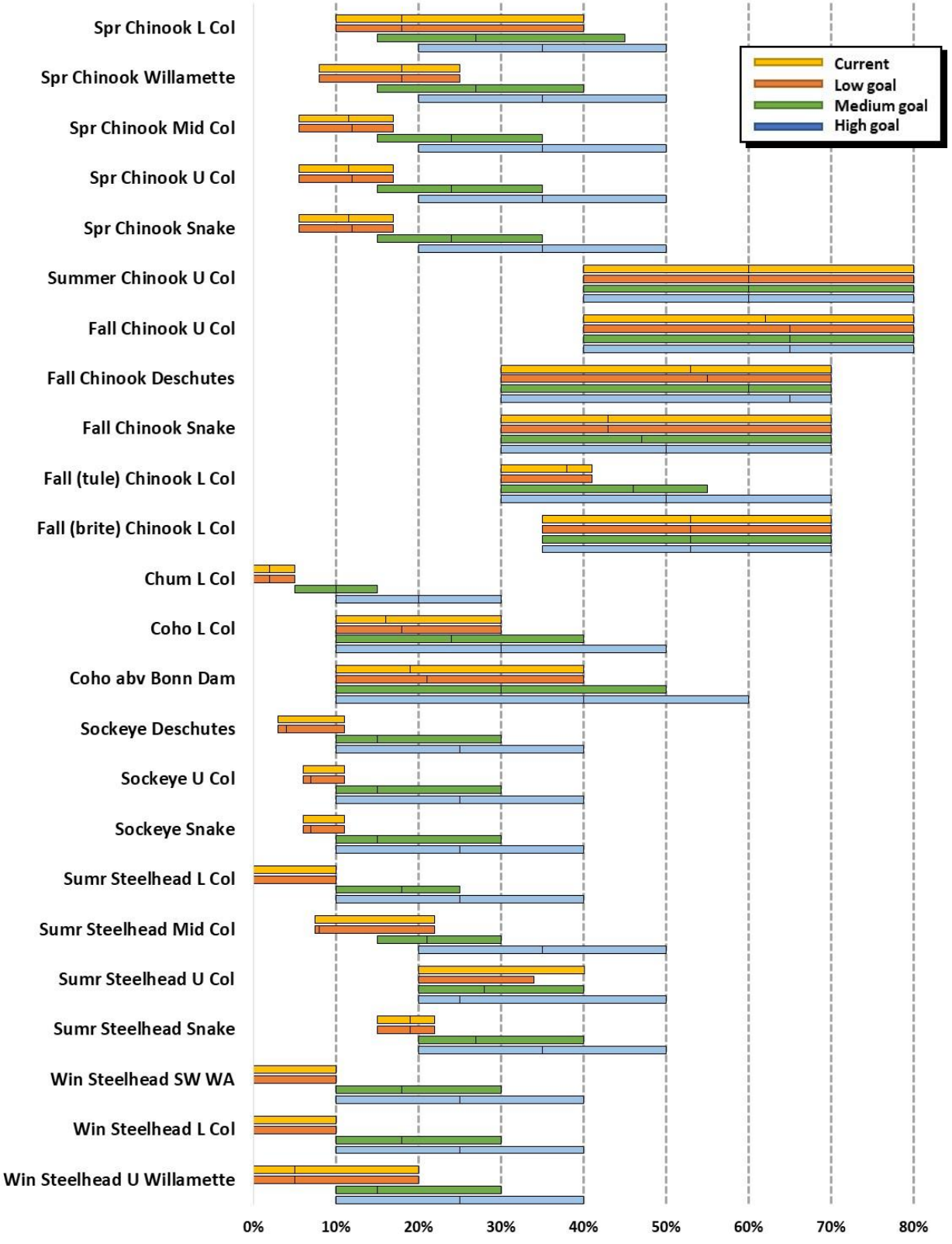


Figure 3. Abundance-based harvest/impact rates identified as aspirational fishery goals relative to current rates for natural-origin fish. Average values are depicted by vertical lines within colored bars.

Table 2. Current fishery harvest/impact rates, range of increases under current management frameworks, and low, medium, and high goals for wild/natural fish in combined marine and freshwater fisheries for Columbia Basin salmon and steelhead stocks.

Stock	Current Exploitation Rates (wild/natural)						Increments (existing plans)			Low goal		Medium goal		High goal	
	Ocean	Fresh water	Total (avg)	Range	Related guidance	Guidance includes	@ low	@ med	@ high	Avg.	Range	Avg.	Range	Avg.	Range
Spr Chinook L Col	10%	8%	18%	10-40%			18%	18%	18%	18%	10-40%	27%	15-45%	35%	20-50%
Spr Chinook Willamette	8%	10%	18%	8-25%	<15%	Freshwater	18%	21%	23%	18%	8-25%	27%	15-40%	35%	20-50%
Spr Chinook Mid Col	--	11.6%	11.6%	5.5-17%	5.5-17%	Freshwater	12%	16%	17%	12%	5.5-17%	24%	25-35%	35%	20-50%
Spr Chinook U Col	--	11.6%	11.6%	5.5-17%	5.5-17%	Freshwater	12%	16%	17%	12%	5.5-17%	24%	25-35%	35%	20-50%
Spr Chinook Snake	--	11.6%	11.6%	5.5-17%	5.5-17%	Freshwater	12%	16%	17%	12%	5.5-17%	24%	25-35%	35%	20-50%
Summer Chinook U Col	36%	24%	60%	40-80%	5.2-50%	Freshwater	60%	60%	60%	60%	40-80%	60%	40-80%	60%	40-80%
Fall Chinook U Col	36%	26%	62%	40-80%	21.5-45%	Freshwater	65%	65.0%	65%	65%	40-80%	65%	40-80%	65%	40-80%
Fall Chinook Deschutes	36%	17%	53%	30-70%	21.5-45%	Freshwater	55%	55%	55%	55%	30-70%	60%	30-70%	65%	30-70%
Fall Chinook Snake	33%	10%	43%	30-70%	21.5-45%	Freshwater	43%	46.6%	50%	43%	30-70%	47%	30-70%	50%	30-70%
Fall (tule) Chinook L Col	29%	9%	38%	30-41%	30-41%	All	41%	41%	41%	41%	30-41%	46%	30-55%	50%	30-70%
Fall (brite) Chinook L Col	38%	15%	53%	35-70%			53%	53%	53%	53%	35-70%	53%	35-70%	53%	35-70%
Chum L Col	--	2%	2%	<5%	<5%	Freshwater	2%	3.5%	5%	2%	<5%	10%	5-15%	20%	10-30%
Coho L Col	10%	6%	16%	<10-30%	<10-30%	All	18%	23%	30%	18%	<10-30%	24%	10-40%	30%	10-50%
Coho abv Bonn Dam	10%	9%	19%	<10-35%	<10-30%	All < BON	21%	26%	33%	21%	<10-40%	30%	10-50%	40%	20-60%
Sockeye Deschutes	--	3.2%	3.2%	3-11%	6-8+%	Freshwater	3%	9%	12%	4%	3-11%	15%	10-30%	25%	10-40%
Sockeye U Col	--	6.3%	6.3%	6-11%	6-8+%	Freshwater	6%	9%	12%	7%	6-11%	15%	10-30%	25%	10-40%
Sockeye Snake	--	6.3%	6.3%	6-11%	6-8+%	Freshwater	6%	9%	12%	7%	6-11%	15%	10-30%	25%	10-40%
Sumr Steelhead L Col	--	<10%	10%	<10%	<10%	Freshwater	10%	10%	10%	10%	<10%	18%	10-25%	25%	10-40%
Sumr Steelhead Mid Col	--	7.5%	7.5%	15-22%	15-22%	Freshwater	8%	14.8%	22%	8%	15-22%	21%	15-30%	35%	20-50%
Sumr Steelhead U Col	--	13.9%	13.9%	20-34%	20-34%	Freshwater	20%	27%	34%	20%	20-34%	28%	20-40%	35%	20-50%
Sumr Steelhead Snake	--	18.9%	18.9%	15-22%	15-22%	Freshwater	19%	20.5%	22%	19%	15-22%	27%	20-40%	35%	20-50%
Win Steelhead SW WA	--	<10%	10%	<10%	<10%	Freshwater	10%	10%	10%	10%	<10%	18%	10-30%	25%	10-40%
Win Steelhead L Col	--	<10%	10%	<10%	<10%	Freshwater	10%	10%	10%	10%	<10%	18%	10-30%	25%	10-40%
Win Steelhead U Willamette	--	5%	5%	<20%	<20%	Freshwater	5%	5%	5%	5%	<20%	15%	10-30%	25%	10-40%

Notes:

- *CBP Stocks defined based on the combination of conservation (ESU or DPS) and fishery management units.*
- *Goal ranges reflect abundance-based annual harvest strategies as well as normal annual variation in fisheries.*
- *Related guidance is for reference purposes – typically these are abundance-based ranges identified in US v OR or other NOAA consultations for Columbia Basin fisheries. In a few cases, may also include marine harvest in OR/WA Ocean (e.g., Lower River Hatchery Fall Chinook, Columbia River Coho).*
- *Harvest rate goals not specifically identified for hatchery fish at this time. Sustainable rates will typically be substantially higher than for wild/natural fish.*

PART 4 - QUANTITATIVE GOALS FOR HATCHERIES

Qualitative goals contemplated by the Columbia Basin Partnership (CBP) call for producing hatchery salmon and steelhead to support conservation, mitigate for lost natural production, and support fisheries.

Hatchery goals are defined in different fashions for conservation and mitigation programs throughout the basin. Some programs define goals based on adult returns. However, goals for many programs are identified solely in terms of juvenile production.

For CBP purposes, current hatchery production levels were documented for each stock by hatchery program and corresponding numbers of adults were estimated by stock. Adult return goals were identified where available. In a few instances, plans and needs for additional production were also identified by Task Force members (e.g., John Day Mitigation, new programs for blocked areas).

Rule Set

Box 2. Rule set for quantifying low, medium and high range abundance goals by the Columbia Basin Partnership Task Force.

Current

1. *Juvenile production levels of existing programs. (Juveniles provide a common currency for all programs including those where adult return goals are not specifically identified.)*
2. *Adult returns from current programs to the Columbia River and regional production areas (Lower Columbia, Willamette, Middle Columbia, Upper Columbia, Snake) are identified by stock based on recent average numbers.*

Planned

1. *Identify additional juvenile production in development where defined in existing processes and plans (e.g., John Day Mitigation).*
2. *Corresponding adult returns as defined or inferred from current program return rates.*

Additional Needs

1. *Identify any additional or reduced juvenile production needs to address specific purposes identified by CBP Task Force Partners (e.g., currently blocked historical anadromous production areas).*
2. *Corresponding to adult returns as defined or inferred from current program return rates.*

RESULTS

Figure 1 shows current hatchery production by stock. Table 1 summaries releases and corresponding adult returns – adult returns are rough approximations at this time.

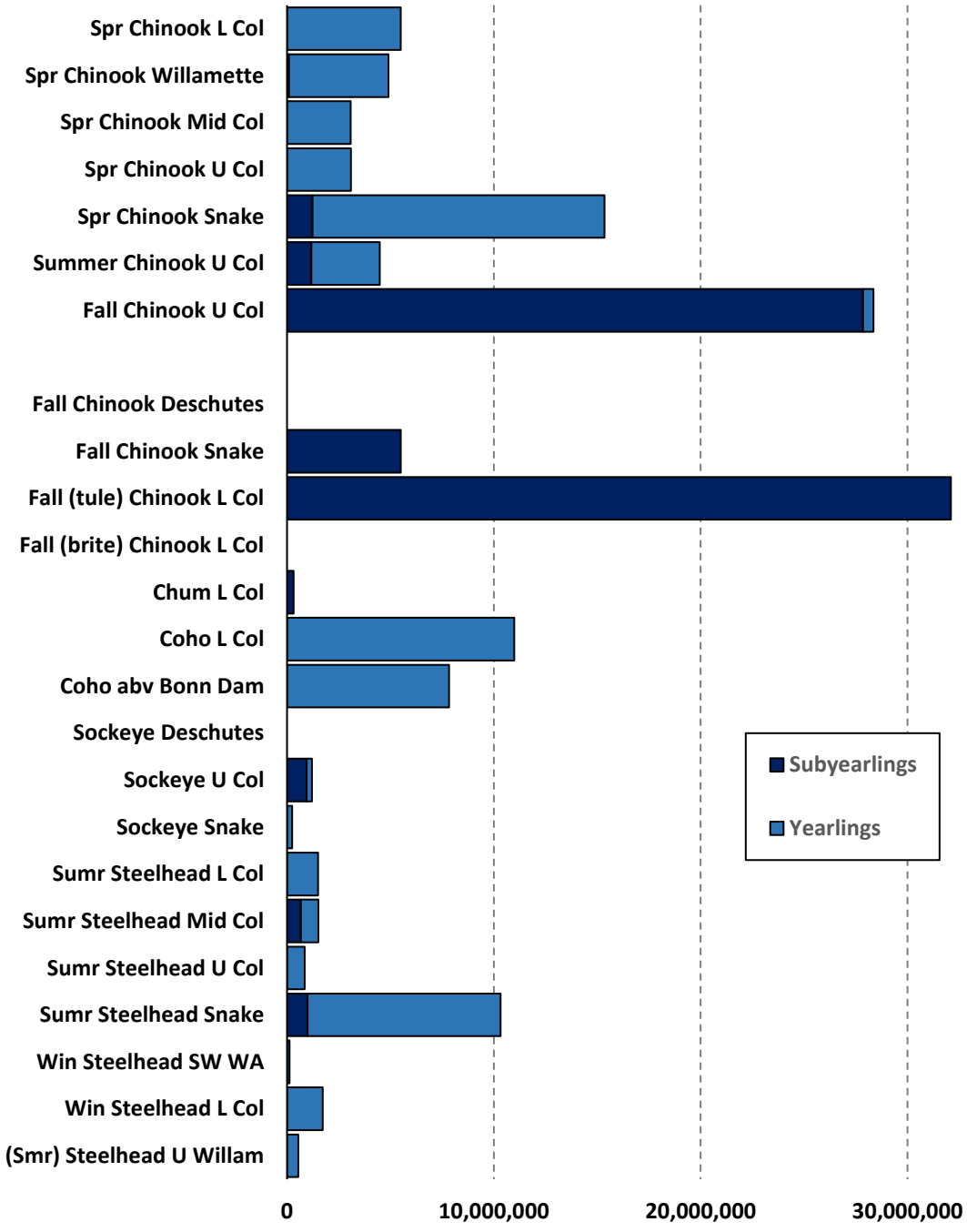


Figure 4. Current hatchery production for Columbia Basin salmon and steelhead stocks.

Table 3. Current hatchery production and approximate adult returns to the Columbia River mouth for Columbia Basin salmon and steelhead stocks.

Evolutionarily Significant Unit or Distinct Population Segment		Run Type	Fishery Management Unit	Current production (avg.)			Col R	New production	
				Yearlings	Subyearlings	Total	Adults	Total	Col R Adults
Chinook	L Columbia	Spring	Lower River Spring	5,500,000	0	5,500,000	13,800	--	--
Chinook	U Willamette	Spring	Willamette Spring	4,800,000	100,000	4,900,000	48,506	--	--
Chinook	M Columbia Spr	Spring	Upriver Spring	3,080,000	0	3,080,000	54,674	--	--
Chinook	U Columbia Spr	Spring	Upriver Spring	3,090,000	0	3,090,000	19,422	0.7-13.5 mil	4,400-85,000
Chinook	Snake Spr/Sum	Spring/Summer	Upriver Spring	14,120,000	1,230,000	15,350,000	85,555	--	--
Chinook	U Columbia Sum/Fall	Summer	Upper Columbia Summer	3,310,000	1,180,000	4,490,000	45,151	0.9-18 mil	53,000-220,000
Chinook	U Columbia Sum/Fall	Fall	Upriver Bright (URB)	500,000	27,850,000	28,350,000	223,553	~11 mil	~45,000
								0.3-5.4 mil	2,000-40,000
Chinook	Deschutes Sum/Fall	Summer/Fall	Upriver Bright (URB)	0	0	0	0	--	--
Chinook	Snake Fall	Fall (brights)	Snake River Bright (SRB)	0	5,500,000	5,500,000	42,893	--	--
Chinook	L Columbia	Fall (tules)	Lower River Hatchery (LRH)	0	32,100,000	32,100,000	82,568	--	--
Chinook	L Columbia	Fall (late brights)	Lower River Wild (LRW)	0	0	0	0	--	--
Chum	Columbia	Late Fall	Chum	0	320,000	320,000	289	--	--
Coho	L Columbia	Fall (early & late)	Lower Columbia Coho	10,990,000	0	10,990,000	246,829	--	--
Coho	(Columbia upriver)	Fall	Upriver Coho	7,830,000	0	7,830,000	137,731	--	--
Sockeye	(Mid Columbia)	Summer	Mid Columbia Sockeye				95	--	--
Sockeye	(U Columbia)	Summer	U Columbia Sockeye	250,000	950,000	1,200,000	32,701	--	--
Sockeye	Snake	Summer	Snake Sockeye	250,000	0	250,000	1,096	--	--
Steelhead	L Columbia	Summer	L Col summer run	1,505,000	0	1,505,000	50,400	--	--
Steelhead	Mid Columbia	Summer	Summer A run	840,000	670,000	1,510,000	58,000	--	--
Steelhead	U Columbia	Summer	Summer A run	860,000	0	860,000	24,000	0.9-3.9 mil	25,000-110,000
Steelhead	Snake	Summer	Summer A & B runs	9,330,000	1,000,000	10,330,000	160,000	--	--
Steelhead	SW Washington	Winter	Winter run	120,000	0	120,000	1,500	--	--
Steelhead	L Columbia	Winter	Winter run	1,720,000	0	1,720,000	4,000	--	--
Steelhead	U Willamette	Winter	(Summer run only)	550,000	0	550,000	16,000	--	--
				68,645,000	**70,900,000**	**139,545,000**	**1,348,764**	**13.8-51.8**	**86,000-274,000**

Note: Values in red are working approximations.

PART 5 - COLUMBIA RIVER SALMON & STEELHEAD ABUNDANCE

Table 4. Approximate Columbia River mouth return of salmon and steelhead.

Species		Current Abundance (2008-2017 averages)[a]				Historical Abundance	
		Wild/Natl	Hatchery	Total	% Hat	ISAB 2015	NPPC 1986
Chinook	Spring	58,400	233,600	292,000	80%	0.5 mil	1.4-2.3 mil
	Summer	30,100	45,200	75,300	60%	2.0 mil	2.7-4.6 mil
	Fall	376,500	376,500	753,000	50%	1.25 mil	1.3-2.3 mil
	Subtotal	*465,000*	*655,300*	*1,120,300*	*58%*	*3.75 mil*	*5.4-9.2 mil*
Sockeye		295,700	32,900	328,500	10%	2.25 mil	1.5-2.6 mil
Coho		40,900	368,100	409,000	90%	0.56 mil	1.0-1.8 mil
Chum		13,600	700	14,300	5%	0.45 mil	0.8-1.0 mil
Steelhead	Winter	8,200	8,200	16,500	50%	--	--
	Summer	79,200	317,000	396,200	80%	--	--
	Subtotal	*87,500*	*325,200*	*412,700*	*79%*	*0.45 mil*	*0.8-1.4 mil*
Total		**902,600**	**1,382,100**	**2,284,700**	**60%**	**7.46 mil**	**9.6-16.3 mil**

Note: Values in red are working approximations.

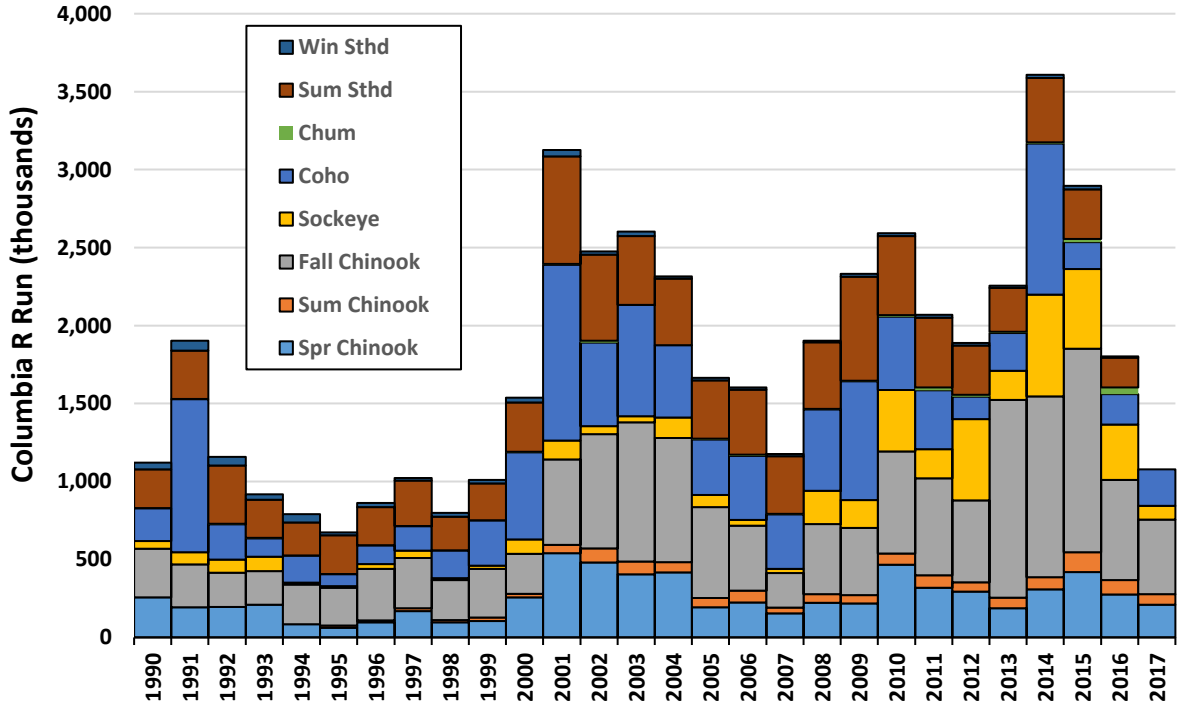


Figure 5. Annual salmon and steelhead run size to the Columbia River by stock. 1990-2017.

[a] *Source: Generally, Us v OR Technical Advisory Committee*