Cowlitz Fish Technical Committee **2021-07**
Decision Document

Project Name	Satellite Rearing Plan
Date Proposal Submitted	09/07/2021
Date of Requested Decision	10/05/2021
Completed By	Phil Sandstrom

FTC Decision and Justification

The FTC supports planning with the intent of design and construction of one project from the following options: Option 2 - Overwinter Fry/Sub-yearling collection Upper Basin; or Option 5 – Lower Basin Finishing/net pens.

Members Present: FTC members present represented WDFW, Ecology, and Tacoma Power. This Decision document will be circulated to FTC members not present and become final on 10/13 if no objections are received.

Proposed Decision or Consideration

Tacoma Power requests support from the FTC to investigate Options 2 and 5, described in the draft satellite rearing facilities document created by R2 consultants with the intent of design and construction of one project from the options. Tacoma Power intends to move a project forward to the design and implementation phase in the near term, in accordance with FERC license agreements.

Background

Tacoma Power has been working with the FTC for the last year on the development of approaches to create satellite rearing facilities in the Cowlitz Basin. This resulted in initial conversations, workshops, review of the R2 draft report, and presentations that have occurred at the FTC level. After receiving comments from FTC members (WDFW and LCFRB), it was apparent that there was a desire to pursue other approaches (e.g., hatchery improvements and modeling efforts) beyond traditional satellite rearing facilities to boost upper Cowlitz Basin production. The feedback questioned the necessity of satellite rearing facilities in the upper basin and suggested that there might be other actions that could better serve populations in the upper Cowlitz Basin.

Concurrent to moving a project forward to design and construction, Tacoma Power will be working with the FTC to evaluate the remaining license required satellite facilities in the context of alternative options. It is anticipated that population assessment/life-cycle modeling efforts will be moving forward and initial results for multiple species will be reached by late 2022.

During the August and September FTC meetings, committee members reviewed these options and concurred they could move forward including further assessment of the draft content created by R2 outlining a series of satellite rearing facility options. Tacoma Power will bring back preliminary strategies/concepts/assessments to the committee for comment prior to soliciting public feedback. Tacoma Power's desire is to have initial materials ready for distribution to the FTC prior to the January 2022 meeting and make a presentation on findings.

Below illustrates the number of spring chinook smolts that a 4cfs facility could produce at different FPP's. Then also depicts the resulting adult's based on different SAR's

Table shows max **smolt production** based on parameters shown.					
FPP	**32**	**20**	**15**	**10**	**5**
Res. # of lbs/gpm	2.8	3.3	3.63	4.14	5.22
Resulting number of fish:	**161,726**	**118,536**	**97,792**	**74,354**	**46,876**
W = Pounds of fish	5,054	5,927	6,519	7,435	9,375
F = Flow Index	0.6	0.6	0.6	0.6	0.6
L = Length per fish (inches)	4.69	5.5	6.05	6.9	8.7
I = Flow(gpm) @ **4cfs**	1796	1796	1796	1796	1796

Table shows expected **adult returns** from max smolt produced for SAR's shown.					
FPP	**32**	**20**	**15**	**10**	**5**
# smolts	**161,726**	**118,536**	**97,792**	**74,354**	**46,876**
High SAR	243	356	489	409	281
Mid SAR	162	237	293	260	188
Low SAR	81	119	98	112	80

Assumed SAR ranges for anticipated release sizes.*			
	High	**Mid**	**Low**
FPP	**SAR**	**SAR**	**SAR**
5	0.60%	0.40%	0.17%
10	0.55%	0.35%	0.15%
15	0.50%	0.30%	0.10%
20	0.30%	0.20%	0.10%
32	0.15%	0.10%	0.05%

*Note: Changing an SAR value here will change the summary table above.

Table 1: Dates and elements to be developed as part of the Satellite Rearing Facility options.

Step	Work Element	Start Date	Responsible
Approval of Decision Document	Approved DD	10/5/2021	FTC
Assessment of satellite facilities possibilities	Assess appropriate sites	1/4/2022	Tacoma Power
	Determine land ownership	1/4/2022	Tacoma Power
	Determine infrastructure needs	1/4/2022	Tacoma Power
	Determine land use agreements	1/4/2022	Tacoma Power
	Other elements to determine feasibility	1/4/2022	Tacoma Power
	Assess proposed program size options	1/4/2022	Tacoma Power
	Assess expected benefits of options	1/4/2022	Tacoma Power
Strategy development	Feedback: Present strategies/benefits/risks/costs	2/1/2022	FTC
	Complete Design to 15-20%	2/21/2022	Tacoma Power
Strategy selection	Draft project feasibility and rankings	3/8/2022	FTC
	Solicit Public Feedback and Final Comments	3/15/2022	Public & FTC
	Announce strategy decision	4/22/2022	Tacoma Power
Hand off to design and construction team	Selected strategy with 15-20% design	4/30/2022	Tacoma Power

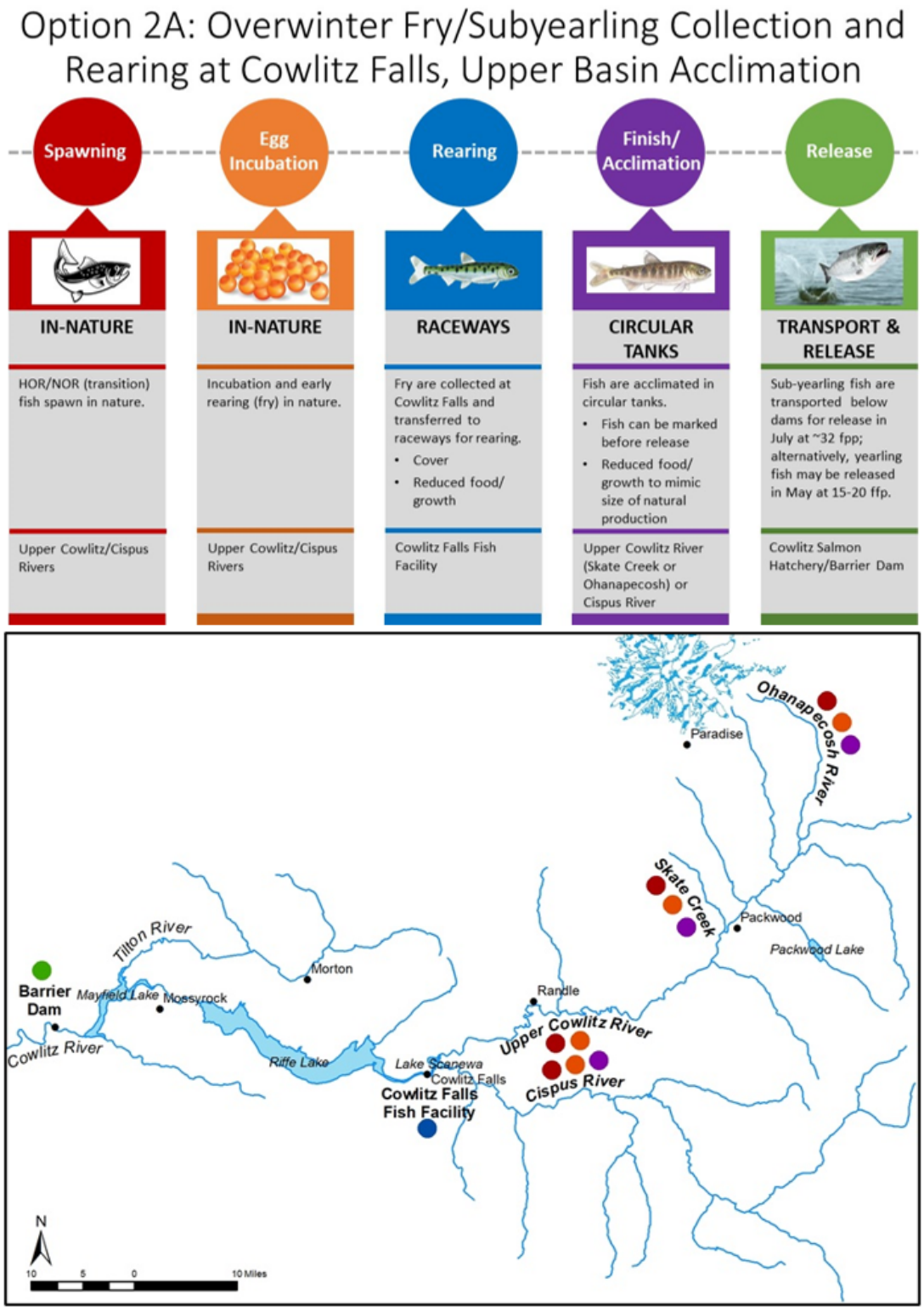

Figure 2. **Graphic and map depiction of Option 2A, key locations in bold text and potential rearing stages shown with colored dots.**

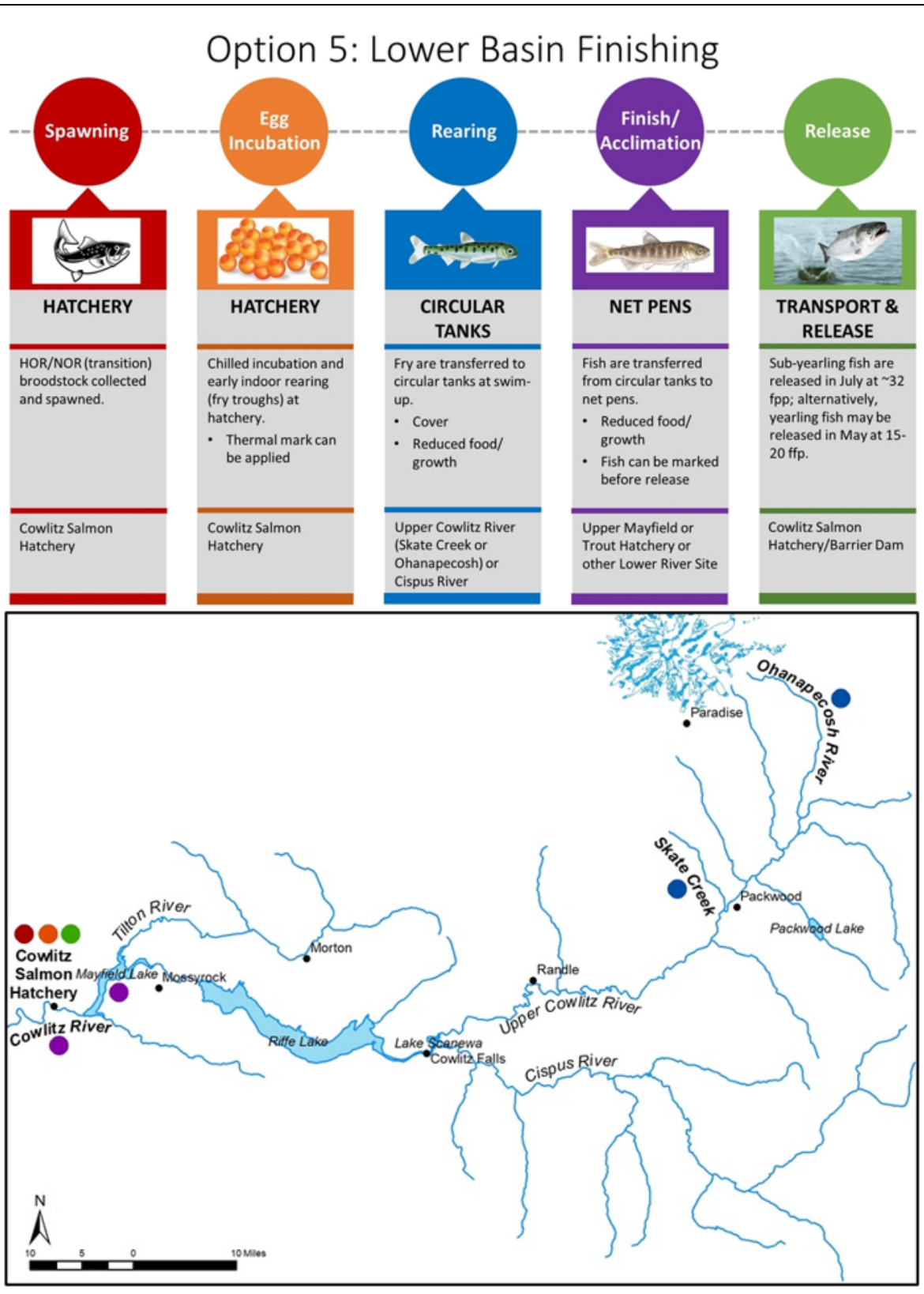

Figure 5. **Graphic and map depiction of Option 5, key locations in bold text and potential rearing stages shown with colored dots.**

Coordination Need
There will be considerable coordination throughout the satellite rearing facility concept development. Tacoma Power will give a monthly update on the progress to date at FTC meetings and will electronically share any materials related to satellite rearing facility development, as they are completed. Once Tacoma Power has developed strategies around both options, a presentation will be made to the FTC and committee members will have the ability to help determine which strategy should be moved forward. The findings of this planning strategy will also be shared with the public. FTC members will have the opportunity to comment on proposed strategies prior to any options being shared with the public. Tacoma Power is also open to holding separate workshops on any concepts presented to give FTC members and their support staff an additional venue for feedback, if necessary. Once an option is selected Tacoma will coordinate with WDFW any required modification of Tacoma's WDFW transport permit.

Summary of Potential Impacts
Supporting this proposal to move Options 2 and 5 forward for further development should serve to help streamline the development of any future satellite rearing facilities and approaches. Designing and constructing a satellite rearing facility will move Tacoma Power closer to meeting our license obligations. A potential drawback of this approach is that funds will be expended without knowing what the whole portfolio of satellite rearing facilities will look like. If we are unable to move any options forward, it will put Tacoma Power at risk of further delay of not meeting our license obligations.