Project Name	2026 TWG Evaluation Recommendations
Date Proposal Submitted	January 6, 2026
Date of Requested Decision	March 6, 2026
Completed By	Jenise Bauman
Date of Decision[1]	March 6, 2026

[1] Decision will become final if committee members who were not present at this meeting do not oppose this proposed decision within 7 days.

FTC Decision and Justification

The TWG subcommittee seeks approval from the FTC in implementing the five actions proposed by Tacoma Power, supported by the Technical Working Group (TWG), and described herein as part of the 2026 evaluation year at the Cowlitz Falls North Shore Collector and Mayfield Juvenile Collection Facility.

The FTC approved implementing these actions. FTC members present included: WDFW (Bryce Glaser), Ecology (Andrew Luymes), Trout Unlimited (Jonathan Stumpf), and Tacoma Power (Melora Shelton).

Proposed Decision or Consideration

As part of the 2026 evaluation year at the Cowlitz Falls North Shore Collector (CFNSC) and Mayfield Juvenile Collection Facility, Tacoma proposes implementing three actions intended to inform management decisions and/or test hypotheses regarding salmon and steelhead collection efficiency and survival:

1. **Alternate Tagging Strategy:** This alternative tagging strategy is designed to improve estimates of fish collection efficiency (FCE) of steelhead, coho, and Chinook. The alternative tagging strategy covers more of the collection season for each species. It also provides more information on relationships between FCE and environmental and operational covariates. Estimates of FCE can also be improved by using models that account for outmigration rates when estimating FCE. The benefits of augmenting current FCE estimation methods with these models will be explored.

2. **Cowlitz Falls North Shore Collector Acoustic Telemetry Study:** This study will enter its second year (2026) and is designed to evaluate three entrance flow regimes to better understand juvenile Chinook Salmon behavior within the zone of influence. Data collected will inform adaptive management actions designed to increase FCE during downstream migration. Weekly tagging and releases are scheduled for nine weeks starting June 2026.

3. **Coho Parr Downstream Passage:** Continue Coho Parr passage (DD 2025-02) in 2026 and develop a detailed study plan in a 2026 decision document.

4. **Downstream Adaptive Management Plan (DAMP) Refresh:** DAMP will be reviewed and updated. The proposed revisions will be clearly identified and constitute a refresh of background information and adaptive management actions that have been completed to contemporize the document and reflect 11 years of implementation. Now that the DAMP has been linked to the Satellite Rearing Facility action of increased CFFF operation, it will be updated accordingly. The updated draft will be presented to the FTC for review and approval via a Decision Document as per the intended approval process established when the draft DAMP was prepared in 2014. This will memorialize FTC support for the downstream adaptive management process and updates.

5. **Juvenile coho aging validation at Mayfield Dam:** In the spring and summer of 2025, Tacoma Power conducted an evaluation of existing fish passage collection methods and found a key discrepancy, the aging of juvenile coho. To standardize these methods, Tacoma and WDFW will develop and recommend implementation of a standard aging protocol for both facilities.

Background

As part of the Cowlitz Hydroelectric Project Federal Energy Regulatory Commission operating license requirements, Tacoma Power is engaged in restoration efforts of anadromous salmonid populations in the Upper Cowlitz River basin. These efforts include ensuring the effective passage of juvenile salmonids during their migration downstream from the Upper Cowlitz and Cispus rivers, through collection in the Cowlitz Falls Fish Facility (CFFF) or bypassed at Mayfield Dam, where they are returned to the Cowlitz River.

The CFNSC was added to the existing fish collection system at Cowlitz Falls Dam in 2017 and has been subject to annual performance evaluations since commissioning. Annual evaluations of the fish collection system include estimates of fish collection efficiency (FCE), defined as the percentage of marked fish released at the head of Lake Scanewa that are subsequently collected alive at the Cowlitz Falls Fish Facility. Fish passage survival (FPS) is the percentage of smolts entering the upstream end of Scanewa reservoir, and adjusted for natural mortality, that are collected at Cowlitz Falls Dam and Riffe Lake and Mossyrock Dam, that are transported downstream to the stress relief ponds, and subsequently leave the stress relief ponds at the Barrier Dam as healthy migrants. Mayfield Dam is a concrete arch and gravity dam approximately 250 ft tall, with a gravity fed powerhouse that draws water from the reservoir through two intake channels oriented upstream of the power tunnel entrance. Juvenile migrants that bypass the dam downstream through the secondary separatory via the guidance and collection system, are collected and counted, and re-released into the transport pipe into the Cowlitz River. FPS has a performance requirement of 95%, with a minimum of 75% after the best available technology has been deployed. Since the completion of Cowlitz Falls Dam in the late 1990's, FPS performance goals have yet to be met for Coho Salmon, steelhead, or Chinook Salmon, although estimates have improved significantly with the commissioning of the CFNSC.

1. Alternative tagging strategy: A key component of FPS is the FCE estimate. The Technical Work Group (TWG) has discussed additional methods to estimate FCE, including considerations for weighting recapture estimates by the total number of outmigrants at the CFFF and the effects of any changes as they relate to recovery efforts at a population level. Washington Department of Fish and Wildlife (WDFW) has developed an alternative study design for Steelhead, Coho and Chinook Salmon FCE performance monitoring that considers increasing the frequency of mark-release events and extending the performance monitoring periodicity. In 2024, a new tagging strategy recommend by WDFW was employed by releasing 50 tagged fish two times per week (outside of the peak Coho Salmon migration), in addition to the historical methodology (1 weekly release of n≈100 per species during peak Coho Salmon migration). Preliminary analysis indicates that this strategy may better inform early and later season FCE, as well as produce more data to better model the effects of operational covariates. This work will be done, at least in part, using an estimation model that accounts for outmigration rates in order to reduce bias in estimates of FCE. An analysis of the 2024 study design was completed, and the recommendation was to continue this strategy into the 2025 season. The study design was applied to the entire 2025 season; the historical study design was not used during the peak of the Coho Salmon outmigration. Additional analysis will be evaluated by the TWG and repeated as part of the study design proposed for the 2026 collection year.

2. Cowlitz Falls North Shore Collector Acoustic Tagging Study: To best assess the performance of the CFNSC, another iteration of a three-dimensional fish movement and behavior study using a network of PIT tag arrays and acoustic telemetry receivers commenced in 2025. In 2026, the 2025 data will be summarized and discussed within the TWG group. Also in 2026, a second year of a block study design will reassess the following treatments: 1) the control that employs 500 cfs base inflow, 2) an occlusion plate installed to increase entrance velocities and hydraulic detection, and 3) tailrace discharge that increases inflow to 750 cfs. The occlusion plate treatment will increase entrance velocities and presumably increase the hydraulic detection zone within the ZOI. The tailrace discharge treatment will mimic a proposed future modification to the pumpback diffusor structure (PDS) whereby an additional 250 cfs CFNSC inflow and pumpback capacity would be added. The 2025 and 2026 data will be summarized to contribute to the overarching study goals: 1) determine how operational adjustments are influencing outmigrating Chinook during the discovery, entry, and retention phases of the passage process, 2) model how environmental and operational covariates impact this performance, and 3) synthesize data into an adaptive management strategy to improve FCE and FPS. Results will assess how CFNSC entrance velocity configuration impacts Chinook salmon behavioral responses to localized hydraulics within the hydraulic zone of influence (ZOI), time-to-event metrics, FCE, and FPS through time. This study will also continue into the 2027 year.

3. Coho Parr Downstream Passage: Continue Coho Parr passage in 2026 (DD 2025-02) and develop study plans with details in a future decision document. This will be outlined in the April 2026 TWG meeting and discussed with the FTC in summer of 2026.

4. Draft Downstream Adaptive Management Plan Refresh: The draft Downstream Adaptive Management Plan (DAMP) for downstream fish collection at Cowlitz Falls Dam

was completed in 2014 however it was not approved by the FTC per the intended approval process established when the draft DAMP was prepared. It contains outdated background information and language pertaining to fish collection infrastructure updates that have since been made. Following completion of the draft DAMP, construction began on the current Cowlitz Falls North Shore Collector (CFNSC), which was completed in 2017. Proposed revisions to the draft DAMP would occur under the following categories: (1) removal of hypothetical and prescriptive language for future infrastructure upgrades written prior to completion of the CFNSC; (2) descriptions of the CFNSC in its current form, reflecting completion of construction and highlighting key features that pertain to TWG decision making; (3) summaries and results of directed studies conducted since 2017 that have investigated key decision points within the framework developed for the draft DAMP; and (4) description of the current acoustic telemetry study, well as next steps and future TWG investigations based on progress made since 2017. It's important to note that the original decision-making framework that was developed for the DAMP will likely largely remain intact but will be reviewed by TWG and FTC to ensure it aligns with extended operations of the CFFF as part of the recently approved Satellite Rearing Facility actions. The proposed revisions constitute a refresh of background information and management actions that have been taken to contemporize the document and reflect 11 years of implementation. Now that the DAMP has been linked to the Satellite Rearing Facility action of increased CFFF operation, it will be updated accordingly. The updated draft will be presented to the FTC for review and approval via a Decision Document.

5. **Juvenile coho aging validation at Mayfield Dam:** In the spring and summer of 2025, Tacoma Power conducted an evaluation of existing fish passage data collection methods currently in use at both the Cowlitz Falls Fish Facility (CFFF) and the Mayfield juvenile bypass facility (Mayfield). A key discrepancy was found in methods that are used to age juvenile coho, resulting in mismatched data sets coming from each facility. In an effort to standardize these methods, TWG will be working with staff from both facilities to develop and recommend implementation of a standard aging protocol. To help refine this new protocol, juvenile coho age classifications will be validated by aging a subset of scales to be collected during the 2026 coho outmigration season. Scales will be collected from both 20 subyearling and 20 yearling individuals each week throughout four one week-long sampling periods beginning in late May and ending in early July. This amounts to a total of 160 fish, with several scales aged per individual (exact number TBD pending final contract and SOW with the WDFW scale aging lab in Olympia, WA). From the scale age data, accuracy of field calls (based on visual cues in the Mayfield counting house) will be analyzed along with several factors that may potentially influence visual aging accuracy. A multivariate mixed logistic regression model will be developed for accuracy of field call (correct vs. incorrect) with the following independent covariates: scale-determined age, sample week, body length, body weight, and Fulton's condition factor (K). This analysis will identify which of these factors tend to influence visual-based aging accuracy and will allow us to further refine aging protocols and improve training and coordination for facilities staff.

Coordination Need
Continued information sharing of pending coho parr study designs with TWG and resulting recommendations to the FTC, which would be finalized as a DD for implementation. Coordinated review of updated DAMP with FTC and development of DD to facilitate FTC approval.

Summary of Potential Impacts
1. Spring Chinook Salmon, Coho Salmon, and steelhead smolt abundance is expected to be sufficient for FCE evaluation. Annual performance evaluations involving tagging and releasing of smolts upstream of Cowlitz Falls Dam are not expected to be impacted by failure to reach minimum sample sizes for statistically valid results. 2. The CFNSC acoustic tagging study will determine how operational adjustments are influencing outmigrating Chinook Salmon during the discovery, entry, and retention phases of the passage process. FCE may vary based on treatment and could be impacted. 3. Coho Parr Downstream Passage: Continue Coho Parr passage in 2026 (DD 2025-02) and develop study plans with details in a future decision document. 4. Draft Downstream Adaptive Management Plan refresh will revise the background information and ensure the adaptive management framework is reviewed and approved by the FTC. 5. Juvenile coho aging validation at Mayfield Dam hopes to standardize these methods and will develop and recommend implementation of a standard aging protocol for both facilities.