

# Cowichan Chinook Re-Building Plan



Progress Update to CSRT November 20,  
2014

# Vision = Watershed Health

- *A healthy and biologically rich Cowichan Watershed reflecting the wisdom, stewardship and vision of its informed citizens, organizations and community institutions working closely together. (CSRT, ToR 2014)*
- *Watershed health reflected by sustainable salmon and steelhead stocks (CWB, Salmon Target)*
- *Secure long-term viability of naturally spawning (wild) populations of salmonids and shellfish in the Cowichan Recovery Plan Area (Cowichan Recovery Plan, LGL, 2005)*
- *The Cowichan Basin community conserves and manages water to ensure reliable supplies for human use, thriving ecosystems and a healthy economy (CBWMP, 2007)*
- A healthy population of naturally spawning chinook salmon that are big and robust enough to survive challenging ocean conditions (DRAFT Chinook Re-Building Plan, 2015)

# Cowichan Chinook as a Keystone Indicator Species for Watershed Health

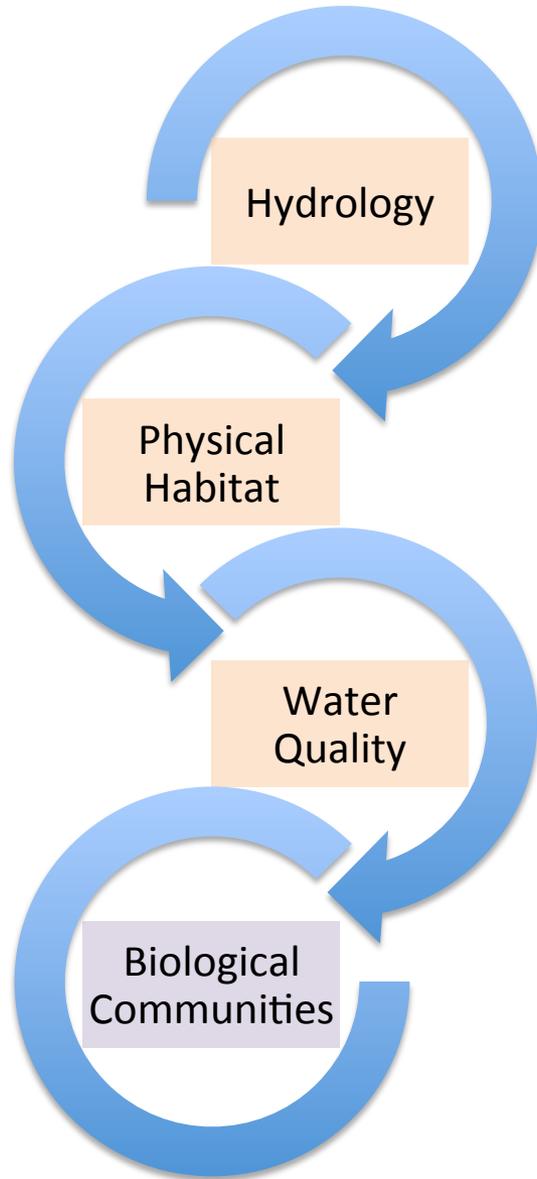
Cowichan chinook use the river almost the whole year. Utilize the entire river and are in the Lake and upper Tributaries. Are sensitive to changes in their critical habitat (water, gravel, cover, food).

We have good knowledge of fall run. Need more info on early run.



# Re-Building Plan Focuses on Watershed Health Attributes as Key Goals

## WATERSHED GOALS



**Hydrology:** Move toward normative\* flow conditions to protect and improve watershed and stream health, channel functions, and public health and safety.

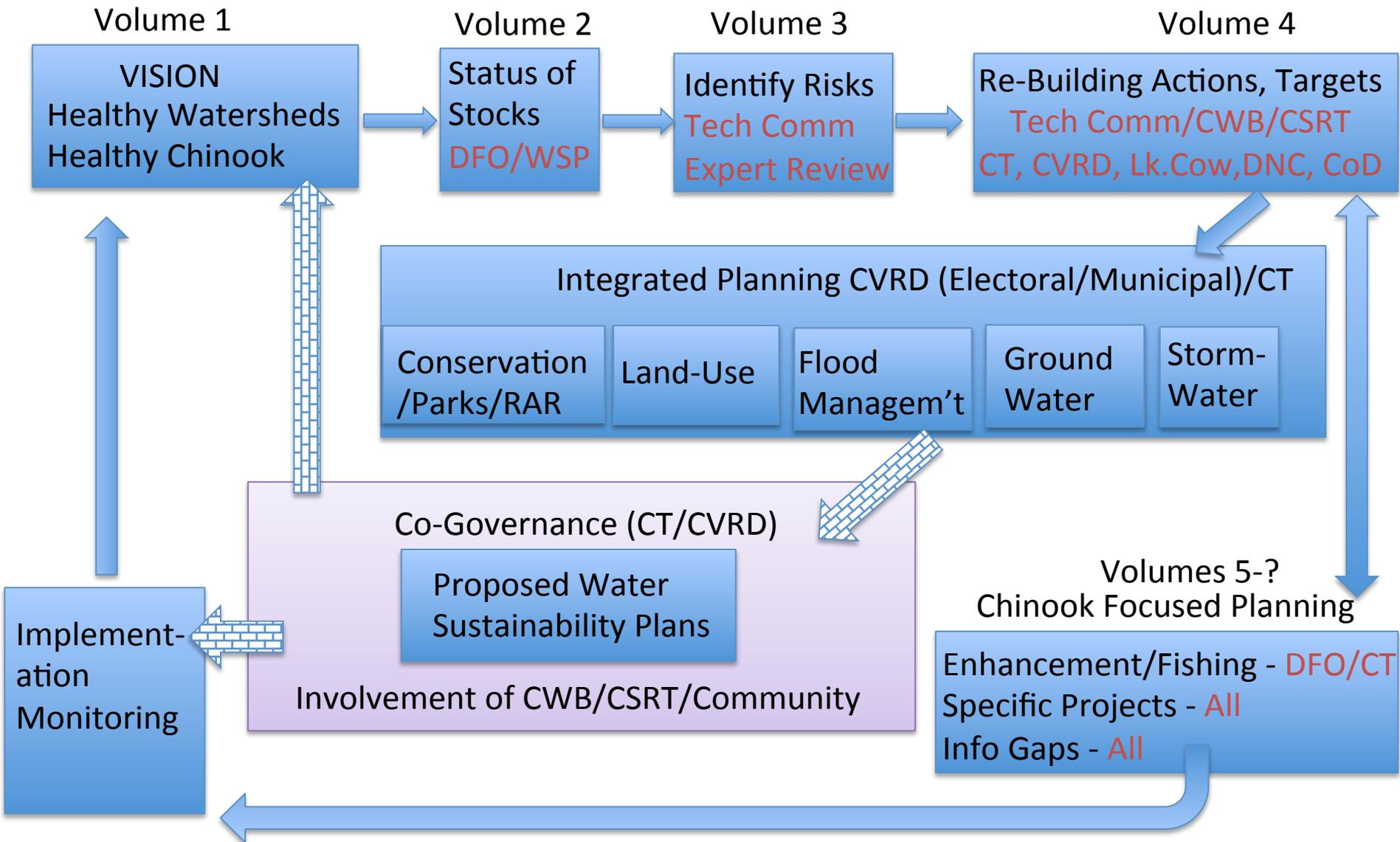
- **Physical Habitat:** Protect, enhance and restore aquatic and terrestrial habitat conditions to support key ecological functions and improved productivity, diversity, capacity and distribution of native fish and wildlife populations and biological communities.

- **Water Quality:** Protect and improve surface water and groundwater quality to protect public health and support native fish and wildlife populations and biological communities.

- **Biological Communities:** Protect, enhance, manage and restore native aquatic and terrestrial species and biological communities to improve and maintain biodiversity in Cowichan watersheds.

\*Normative flow has the magnitude, frequency, duration and timing essential to support salmonids and/or other native species and resources and the formation and maintenance of aquatic habitat.

# Re-Building Framework



# Re-Building Plan Framework

- **Volume 1 – Overview** – Purpose and scope (how this fits into WSP and local context); Methodology; components of the report; critical factors for success
- **Volume 2 – Background Information** – overview of Cowichan Chinook stock, stock status, life history model, critical habitat for Chinook, characterization of the watershed
- **Volume 3 – Limiting Factors Identification and Risk Assessment**- summary of methodology; identify habitat based limiting factors; summary of Cowichan Chinook Risk Assessment

# Re-Building Plan Framework

- **Volume 4 – Cowichan Chinook Re-Building Guide:**
  - outline process for developing – locally driven, objectives that link to ecosystem health metrics, actions that can be taken locally, explore options for governance etc.
  - habitat based recovery goals, objectives and strategies, linked to watershed health
  - Provide input to integrated planning processes (all other planning processes that can effect watershed health goals) at Sr. government, local government and Cowichan Tribes
  - Implementation plan and barriers– lack of concise tools for local government, limited coordination
  - Monitoring and assessment
  - Coordination/integration with enhancement and fisheries management plans
- **Volumes 5-6 – Integrate with Enhancement and Fisheries Management plans – feed back to Volume 4**



# Progress to Date

- March 2013 – Critical Limiting Factors Workshop – used Risk Assessment Procedure methodology
- Identified critical limiting factors
- Use Chinook as an indicator of Watershed Health
- Need a locally driven plan with actions at the local level to be effective – integrate with an enhancement and harvest plan
- Need on the ground governance for it to work



# Role of CSRT

- How does the CSRT see itself participating in this process?
  - Advisory
  - Part of the Technical Committee
  - Information sharing
  - Implementation

# Developing the Re-Building Plan

- Technical Committee – previously established, will review Volumes 1-3 drafts of report (end of November)
- Practitioner meetings – identify barriers (end of Nov)
- Straw-dog Volume 4 in progress (1<sup>st</sup> draft mid-Dec)
- Political Support – meeting with various political representatives to gather their advice and support
- Community Support – 2 workshops (Feb?) – CSRT and others
- Finalize (Mar-May 2015)

# Cowichan Parent-Based Tagging Project

- PBT uses genetic markers to identify progeny back to hatchery of origin and brood year. It requires complete genotyping of a hatcheries brood stock to allow progeny produced by the hatchery to be identified back to the brood cross.
- PBT has been completed for Cowichan River hatchery brood for the last 2 years
- This year we also collected samples from the natural spawners. This will hopefully allow comparison of success of spawning pairs between naturally and hatchery fish

# Early Timed (Spring) Chinook

- Juvenile project in the upper Cowichan Tribs (CLSES, Sidney Anglers, CT, Lk. Cow FN, DFO) in spring to identify and DNA chinook from upper watershed
- DNA samples from early run – late March-July
- Micro-radio tagging of early run to track migration
- Funding secured from Habitat Stewardship Program (and others including CT, DFO, Sidney Anglers) to collect information on early timed chinook in Cowichan and Koksilah. Further applications for funding to HSP and to PSF in February



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