

Pragmatism Trumps Natural Processes: Creating Juvenile Chinook Rearing Habitat in the Skagit Nearshore

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Introduction

The fundamental goal of Washington State's salmon recovery program is to recover local listed stocks of salmonids within the regulatory context of the Endangered Species Act. The technical ideology that underlies the "habitat" portion of the 4 H focus is to protect and restore natural, habitat-forming landscape processes. While the "natural process" approach is a worthy ideal, it is not always practicable, or even wholly necessary, for many projects that contribute significantly to achieving the numeric fish population recovery goals in local recovery plans. Particularly in the densely populated and developed nearshore area of the Salish Sea, quite often a more practicable salmon recovery approach is to create new habitat by taking advantage of whatever habitat attributes that can be restored in a given location in a pragmatic and cost effective manner.

This presentation will highlight some insights from two on-going initiatives in Skagit County's nearshore for creating additional estuary rearing habitat for out-migrating Skagit River juvenile Chinook salmon. Skagit Conservation District and Skagit River System Cooperative's work to date at Dry Slough and nearby Fornsby Slough illustrate a technical approach for working within the constraints of existing infrastructure and competing land uses to create productive habitat with the potential to contribute significantly to meeting Skagit's Chinook recovery goals.

Both Dry Slough and Fornsby Slough are historic salt marsh distributory channels that were diked off long ago so that the surrounding marsh could be converted to agricultural use. Ongoing farming in the vicinity depends on extensive dike and tidegate systems to prevent tidal inundation and to ensure freshwater drainage. Even though it is impracticable under the current land ownership situation to attempt a process-based ecological restoration at these sites, it is practical to create significant productive Chinook rearing habitat there.

Our "guiding principles" that underlay the planning of the Dry Slough and Fornsby Slough projects are different from those that are articulated in the paper *Process-based Principles for Restoring River Ecosystem* (Beechie et al., 2009). These principles are loosely stated as follows:

1. Identify the habitat attributes that are needed at a given project location for supporting the target life history stage of the particular targeted specie (in this case, juvenile Chinook rearing);
2. Identify how to provide or produce these attributes within the context of the site's distinct hydrology, topography, soils and other relevant physical characteristics;
3. Identify what changes can be made in the various infrastructure and land use constraints to produce the desired habitat attributes in a more or less ecologically sustainable way at a reasonable cost; and
4. Ideally, identify opportunities for designing the habitat improvements to support the other existing land uses, such as agricultural drainage.

5. As for addressing the root causes of the disruption of big-picture habitat forming landscape processes, if it is impracticable or prohibitively expensive to try, do what you can do and don't worry about it.

The presentation applies our “guiding principles” to the planning and design of the two projects and concludes with some insights on the relative cost-effectiveness of this approach, compared to other local nearshore projects that have utilized a “full restoration” process-based approach.