

Overview of the Bull Trout Recovery Plan with emphasis on bull trout in the Malheur River

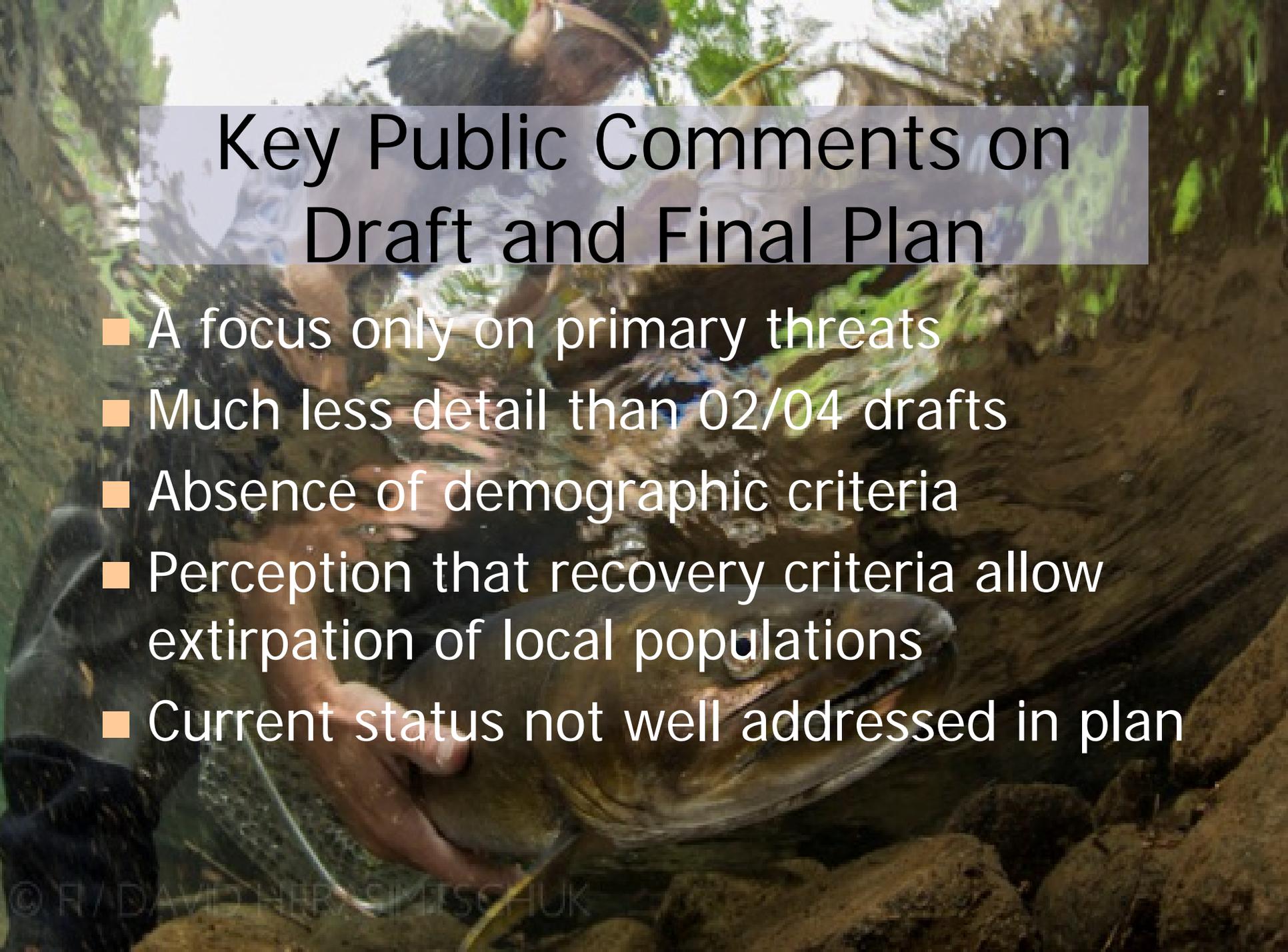
Chris Allen, USFWS Portland, Oct. 2016

Goal of Plan: Manage primary threats and ensure sufficient distribution and abundance to improve the status of bull across their extant range in the U.S. so that protection under the Act is no longer necessary.



Final Bull Trout Recovery Plan





Key Public Comments on Draft and Final Plan

- A focus only on primary threats
- Much less detail than 02/04 drafts
- Absence of demographic criteria
- Perception that recovery criteria allow extirpation of local populations
- Current status not well addressed in plan

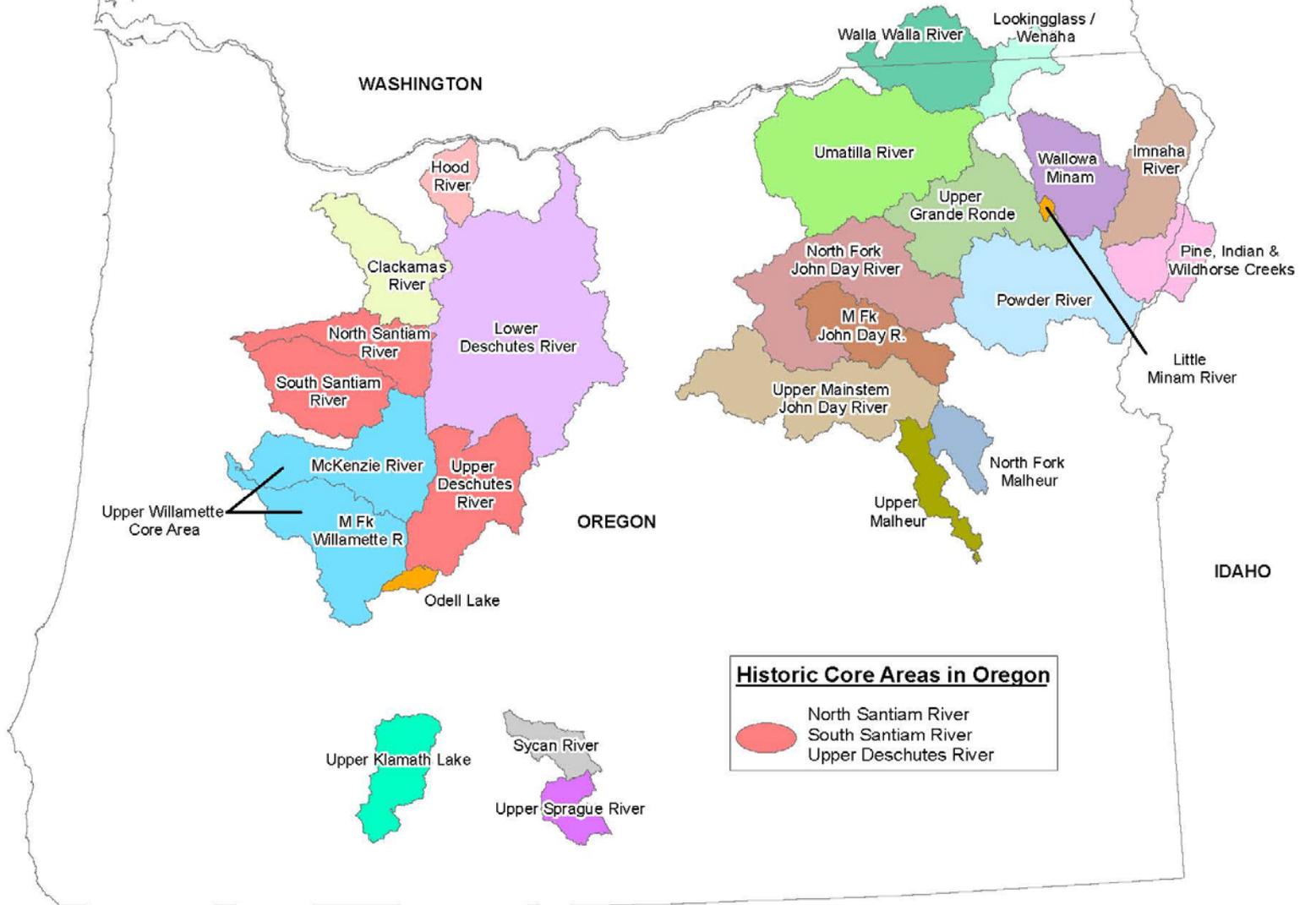
Primary Threat

Threat factors known or likely (i.e. non-speculative) to negatively impact bull trout populations at the core area level, and accordingly require management actions to assure bull trout persistence to a degree necessary that bull trout will not be at risk of extirpation within that core area in the foreseeable future (~ 50 years)

Final Recovery Plan

- “Threats” based strategy (i.e. recovery relies on effectively managing primary threats)
- No explicit demographic recovery criteria
- Reduction in recovery units from 27 to 6
- Ability to potentially delist at RU scale
- Not reliant on recovering BT everywhere

Bull Trout Core Areas in Oregon



Recovery Actions

- Habitat – protect, restore, maintain
- Demographics – promote life history diversity, connectivity, reintroductions, genetic diversity
- Non-Natives – minimize impacts, suppress, eradicate, educate
- RM&E – distribution, pop status, life history, genetics, etc..

So what are the recovery criteria?

- The 4 large RUs: *primary threats are effectively managed in at least 75% of all core areas, representing 75% or more of local populations*
- Klamath and Saint Mary RUs: *100% of primary threats managed in all core areas representing all local populations, AND for the Klamath RU, establishment of 7 additional local pops*

see core areas

Why 75%?

- Acknowledgement recovery may not be possible in all areas (e.g. due to climate change, non-natives, habitat loss)
- Assumption that biodiversity principles of Resilience, Redundancy, & Representation would likely be met by this criterion

How will recovery be measured?

Monitor dimension you have specified: 17.3" 1024x768 [Reset](#)
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THREATS ASSESSMENT DECISION MATRIX APPLIED AT THE CORE AREA LEVEL

MANAGEMENT EFFECTIVENESS	THREAT SEVERITY				
		MINOR	MODERATE	HIGH	SEVERE
	NONE OR INEFFECTIVE				
	PARTIALLY EFFECTIVE				
	MOSTLY EFFECTIVE				
	EFFECTIVE				

<u>Geographic Region</u> Core Area – Complex Core Area – Simple	Number of Local Populations	PRIMARY THREATS ¹		
		<i>Habitat</i>	<i>Demographic</i>	<i>Nonnatives</i>
<u>Malheur River Geographic Region</u>				
North Fork Malheur River	5	Upland/Riparian Land Management (1.1) Forest Management Practices, Livestock Grazing Instream Impacts (1.2) Water Management <u>Water Quality:</u> Forest Management Practices, Livestock Grazing	Connectivity Impairment (2.1) Entrainment, Dewatering, Temperature Barriers	Nonnative fishes (3.1) Potential for Invasion
Upper Malheur River	3	Upland/Riparian Land Management (1.1) Forest Management Practices (legacy and current), Livestock Grazing <u>Water Quality:</u> Forest Management Practices (legacy and current), Livestock Grazing	Connectivity Impairment (2.1) Entrainment, Fish Passage Issues, Dewatering, Temperature Barriers Small Population Size (2.3) Genetic, Demographic Stochasticity	Nonnative fishes (3.1) Competition, Hybridization



The five listing factors, as outlined in section 4 of the ESA

A. The present or threatened destruction, modification, or curtailment of its habitat or range

B. Overutilization for commercial, recreational, scientific or educational purposes

C. Disease or predation

D. The inadequacy of existing regulatory mechanisms

E. Other natural or manmade factors affecting its continued existence

Recovery criteria should address the biodiversity principles of representation, resiliency and redundancy (Schaffer and Stein 2000). **Representation** involves conserving the breadth of the genetic makeup of the species to conserve its adaptive capabilities. **Resiliency** involves ensuring that each population is sufficiently large to withstand stochastic events. **Redundancy** involves ensuring a sufficient number of populations to provide a margin of safety for the species to withstand catastrophic events.

