



Puget Sound Kelp Conservation and Recovery Plan

Data Gaps and Actions Workshop
February 28, 2019

Dana Oster, Northwest Straits Commission

Meeting Objective: Identify and coordinate actions to create a strategy in addressing critical data gaps for Puget Sound kelp conservation and recovery



Photo: Brittany Jones

10:00-10:40	Welcome and Introductions Meeting goals and agenda review Group introductions Goal of Kelp Conservation and Recovery Plan	Dana Oster, NW Straits Commission Dan Tonnes, NOAA
10:40-11:10	Review of Puget Sound Kelp Data Gaps What is known and what isn't known: reviewing high priority data gaps and needs	Max Calloway, Puget Sound Restoration Fund
11:10-11:20	Break	
11:20-12:05	Breakout Discussions – Data Gaps In groups discuss actions, needs, and strategy around data gaps	Data gaps to be discussed: <ol style="list-style-type: none"> 1. Kelp physical stressors 2. Kelp biological stressors 3. Human impacts
12:05-1:00	Lunch (provided)	
1:00-1:30	Group Reporting Review breakout group discussions	
1:30-2:15	Breakout Discussions – Data Gaps In groups discuss actions, needs, and strategy around data gaps	Data gaps to be discussed: <ol style="list-style-type: none"> 4. Kelp distributions and trends 5. Kelp priority areas- protection and restoration 6. Restoration
2:15-2:45	Group Reporting Review breakout group discussions	
2:45-3:10	Break Facilitators and core team organize actions	
3:10-4:15	Prioritize Actions Identify key actions essential for next steps and building a strategy	
4:15-4:30	Meeting wrap up/ Next steps	

Kelp Problem Statement

Kelp is an important marine foundation species - the 24 species found in Puget Sound form extensive biogenic structure that provide critical habitat for several fish species that are listed as Species of Concern by Washington State and Endangered or Threatened under the Endangered Species Act. Kelp provides habitat for forage fish along with numerous important ecosystem services. Kelp provides large amounts of food web support for not only nearshore, but also deep water benthic and terrestrial ecosystems.

Long-term declines in the canopy cover of bull kelp (*Nereocystis luetkeana*) have been observed in the Puget Sound region despite the lack of systematic surveys. Trends within the larger Salish Sea are not conclusive, nor are canopy abundances declining everywhere, but many historic areas of floating canopy presence in Puget Sound – especially the central and south basins – are thought to be either completely absent or reduced to vestiges of historic abundances. The consequences of declines of bull kelp in Puget Sound are not limited to the direct effects on kelp populations, but influence indirectly the many species that depend on the presence of these forests.

Identification of the factors driving bull kelp decline, and the relative magnitude of the decline, have thus far remained elusive while at the same time additional monitoring, conservation and restoration efforts are needed. In addition, there are another 23 species of understory and mid-story kelp in Puget Sound that also provide important habitat and ecosystem services, yet the precise functions, trends and distributions of these species are poorly understood.

The precautionary approach implements conservation measures even in the absence of scientific certainty. Though trend and distribution data is sparse for most kelp species in Puget Sound, a precautionary approach that improves monitoring, conservation, and restoration actions (particularly for bull kelp) is warranted. Restoration activities in other regions (e.g. Southern California) have shown adaptive management can lead to improved habitat function. Given the observed loss of this valuable nearshore habitat there are benefits from further research and management a precautionary approach is warranted.

Kelp problem statement, distilled:

- 1) the 24 species of kelp in the Puget Sound provide important habitat & ecosystem services.
- 2) bull kelp appears to be in decline, particularly in the central and south sound. But data is sparse.
- 3) the precise functions, trends and distributions of the other 23 species of understory and mid-story kelp are poorly understood.
- 4) we are taking the precautionary approach, with the goal of improving monitoring, conservation, and restoration actions (particularly for bull kelp).

Core Team

Max Calloway, Puget Sound Restoration Fund- Lead author

Tom Mumford, Marine Agronomics- Contributing author

Helen Berry, DNR

Dan Tonnes, NOAA

Steve Cops, NOAA

James Selleck, NOAA/NRC

Brian Allen, Puget Sound Restoration Fund

Betsy Peabody, Puget Sound Restoration Fund



Timeline

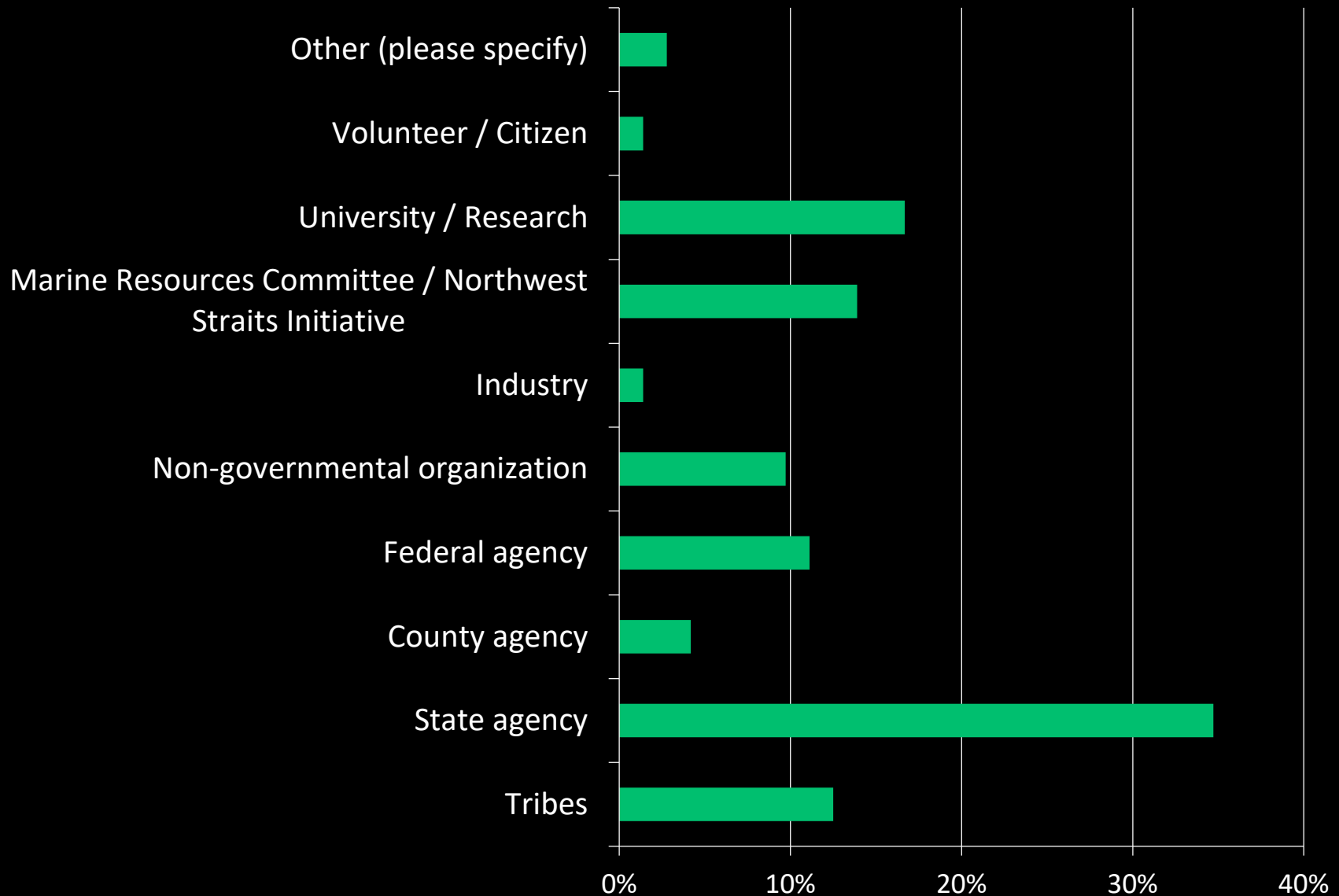
Year 1: Understand the science

- October 2017
 - Formed “core team”
 - Start project
- March 2018 – Workshop 1
- June 2018 – Workshop 2
- September 2018 – Literature review and plan outline complete

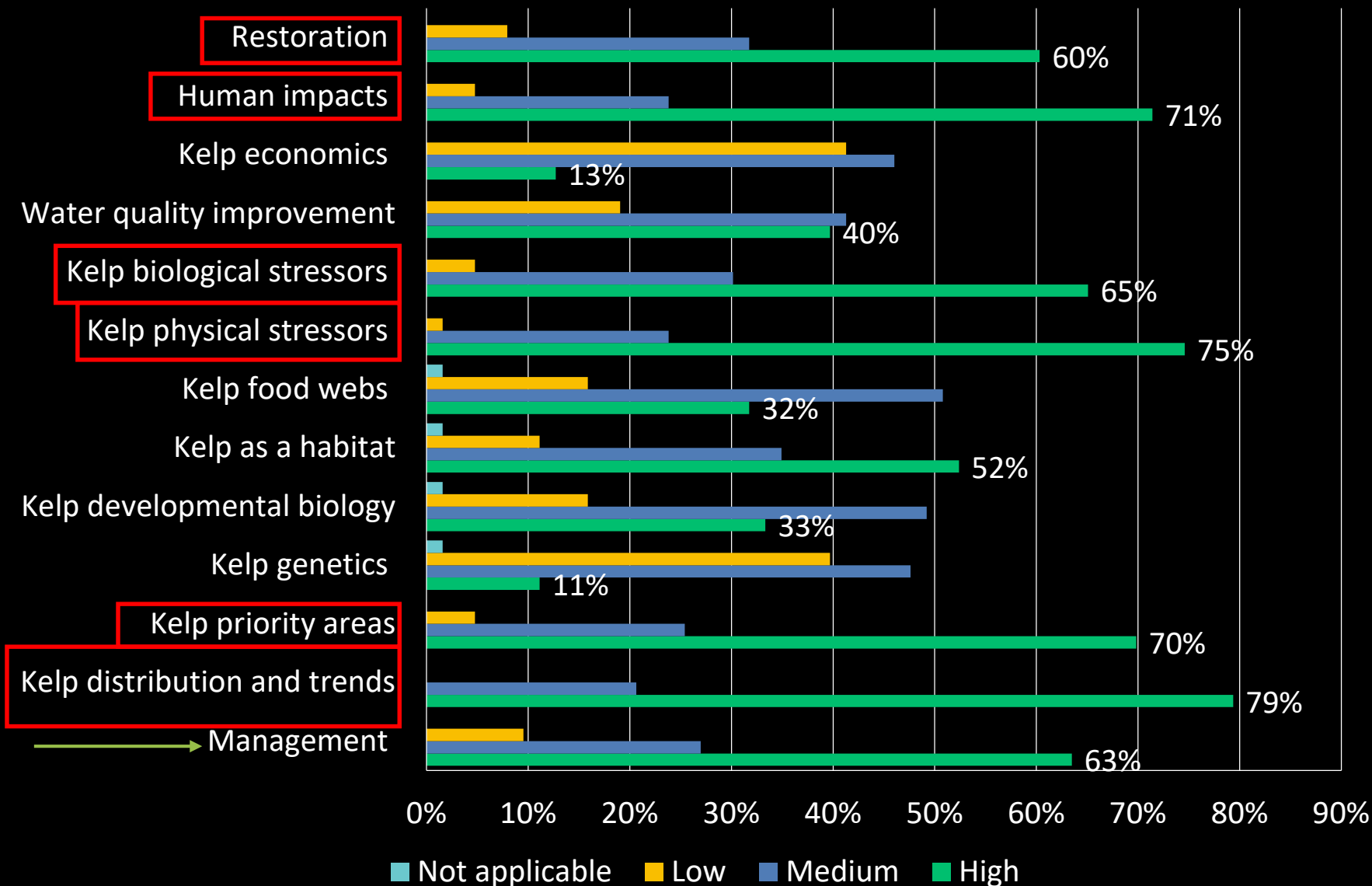
Year 2: Outline Actions

- December 2018 - Data gap survey
- February 2019 – Workshop 3
- Spring 2019 – Workshop 4
- Late Spring 2019 – Draft Plan review
- July 2019 – Public review and plan rollout
- September 2019- Plan is complete

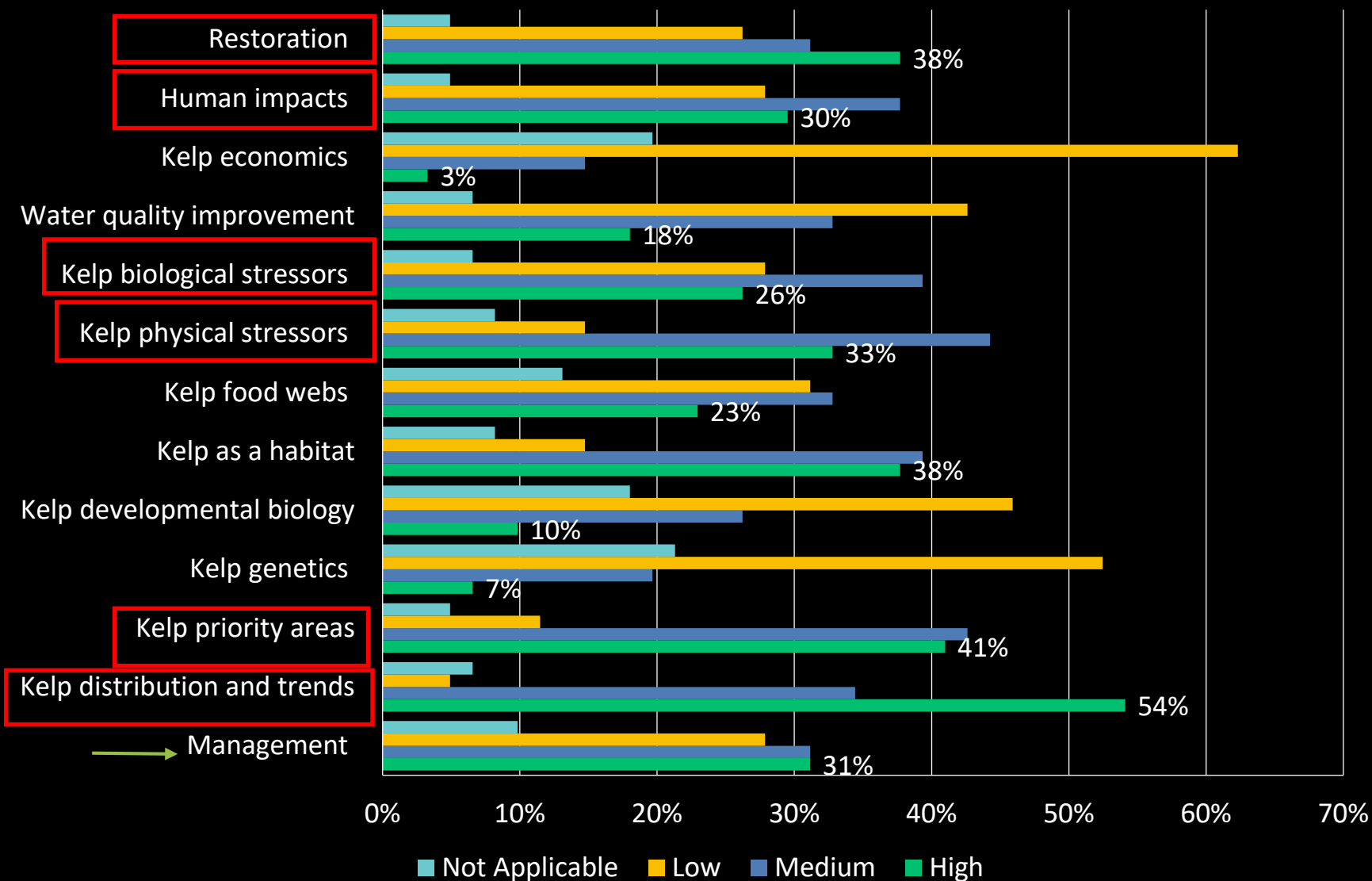
What role or entity best describes your job or perspective on kelp conservation and recovery?



On a scale of High to Low what is the potential value of addressing each data for kelp conservation and recovery strategies



On a scale of High to Low, please rate the ability / interest of your agency, organization or working group in helping address data gaps for kelp conservation, restoration and recovery



Morning breakout session topics:

- Kelp physical stressors
- Kelp biological stressors
- Human impacts

Afternoon breakout sessions topics:

- Kelp distributions and trends
- Kelp priority areas
- Restoration

Workshop # 4 – to be scheduled soon:

- Workshop goals to review current understanding of kelp management framework
- Discuss connectivity of high priority data gaps and actions to management
- Management data gaps