2016-18 BIENNAL SCIENCE WORK PLAN

WHAT IS THE BIENNIAL SCIENCE WORK PLAN?

Developed by the Puget Sound Partnership Science Panel, the Biennial Science Work Plan (BSWP) for Puget Sound identifies science-related actions to be accomplished in 2 years. It also recommends improvements to the ongoing science that supports Puget Sound recovery and long-term protection.

WHAT IS NEW TO THE 2016–18 VERSION OF THE BSWP?

The 2016–18 BSWP identifies top-priority science work actions and includes the Science Panel's review of the science-related Near Term Actions in the 2016 Action Agenda for Puget Sound.

WHAT ARE THE HIGHEST PRIORITY SCIENCE WORK ACTIONS FOR 2016–18?

The Science Panel identified 49 science work actions as being critical to Puget Sound protection and recovery. The Panel named 14 of these actions as top priority for implementation and categorized them as they relate to three established goals:

MONITOR ECOSYSTEM RECOVERY AND LONG-TERM PROTECTION

- Fully implement comprehensive, collaborative Sound-wide zooplankton monitoring
- Monitor implementation and effectiveness of Chinook recovery efforts
- Monitor effectiveness of actions intended to restore shellfish beds to harvestable condition

DEVELOP THE SCIENTIFIC TOOLBOX TO SUPPORT ECOSYSTEM-SCALE DECISION MAKING

Develop and apply models and other tools to support decision making

- Develop and apply an integrated ecosystem model that includes biogeochemical cycling
- Develop and apply decision support tools that integrate natural and social science information

Develop and share information about vulnerabilities to climate change, including

- Conduct scenario-based analysis of ecosystem vulnerability to projected climate, land development, and population conditions
- Conduct a Sound-wide climate vulnerability assessment
- Develop probabilistic projections of sea level, surge, and waves within Puget Sound (using existing methods and data)

REDUCE CRITICAL UNCERTAINTIES THAT LIMIT RECOVERY

Focus on key uncertainties on salmon viability and recovery

- Implement the Salish Sea Marine Survival Project
- Assess the impacts of toxic stormwater runoff on salmonids in Puget Sound and investigate strategies to reduce impacts and promote ecological resiliency

Focus on key uncertainties for climate change and ocean acidification

- Investigate the relative efficacy of salmon habitat restoration approaches given projected climate and ocean impacts
- Compare downscaling approaches for climate impacts assessment to advise which to apply for different applications
- Implement integrated study of ocean acidification: monitoring of ocean acidification and biological responses, biological response experiments, forecast modeling, and research collaboration
- Investigate the impact of alternative incentives on human behaviors and continue the Sound Behavior Index survey

WHAT MAJOR RECENT ACCOMPLISHMENTS ARE HIGHLIGHTED IN THE 2016–18 BSWP?

- Completion of the Puget Sound Pressures Assessment and use of the results to inform the 2016 Action Agenda for Puget Sound
- Legislative appropriation of $1 million for the 2015–17 biennium to address gaps in monitoring
- Continuing development of the transboundary Salish Sea Marine Survival study

WHAT ARE THE KEY RECOMMENDATIONS OF THE SCIENCE PANEL FOR 2016–18?

- Develop a strategy to acquire sustained funding to support the science actions required to recover and protect Puget Sound
- Share and communicate the information resulting from the science actions undertaken to recover and protect Puget Sound
- Develop a strategic work plan for science-related actions to be accomplished over 4 to 6 years and that addresses the sciences foundations needed to support ecosystem recover and long-term protection

WHAT ARE THE CONSEQUENCES IF THE ACTIONS AND RECOMMENDATIONS INCLUDED IN THE 2016–18 BSWP ARE NOT UNDERTAKEN?

- Insufficient science basis to identify quantifiable outcome goals for recovery and protection actions
- Mis-prioritization of recovery actions
- Misunderstanding of ecosystem vulnerabilities, stressors and sources of stress, and factors affecting recovery
- Increase in unintended and negative consequences of recovery actions
- Insufficient information about progress toward recovery and the effects of management decisions on ecosystem conditions
- Poor support of recovery and protection of Puget Sound due to diminished credibility in science-based decision-making
- Decreased likelihood that recover and long-term protection will be achieved

PUGETSOUND PARTNERSHIP

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