May 2nd, 10:30 AM - 12:00 PM

How Are the Fish Doing? Development and implementation of sixteen watershed monitoring and adaptive management programs for recovery of Puget Sound Chinook

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See next page for additional authors

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Speaker
Stacy Vynne, Jeanette Dorner, Leska S. Fore, Kari A. (Kari Ann) Stiles, Jacques White, Abby Hook, and Laura Blackmore
How are the Fish Doing?
Development and Implementation of 16 Monitoring and Adaptive Management Programs for Recovery of Puget Sound Chinook

Jacques White, Jeanette Dorner, Stacy Vynne and Laura Blackmore
Salish Sea Ecosystem Conference
Seattle, WA
May 2, 2014
Presentation Outline

• Review the big picture
• Explain what we’ve learned
• So What? – why what we’ve learned matters
Monitoring & Adaptive Management (M&AM) Project Goal

Overall Purpose:
Create and maintain an adaptive management system for Chinook recovery by organizing local, watershed-scale monitoring and adaptive management plans to be consistent and integrated across the Puget Sound region.
Overall M&AM Program Goals

Phase 1: April 2013 – June 2014
Translate high priority aspects of existing watershed recovery chapters, not make new policy

Phase 2: July 2014 and Beyond
Fill gaps, refine priorities, and use new framework to adaptively manage Chinook salmon recovery
Approach

• Watershed Core Teams
  – >60 people trained and leading
  – 100 additional people creating products

• Supporting Efforts
  – Recovery Implementation Technical Team (RITT)
  – PSP Staff – ERCs, Scientists, Managers
  – Long Live the Kings Coaching Team

• EPA Funded
Regional Monitoring & Adaptive Management Approach

Consistent with "Open Standards for the Practice of Conservation"

- Identify ecosystem components
- Identify key ecological attributes and indicators
- Identify pressures
- Document strategies, actions, & current AM processes
- Set targets for desired future conditions (Phase 2)
- Monitor progress and adapt management (Phase 2)

RITT “Common Framework”
Puget Sound Pressures Assessment
Phase 1 Products: Viability

• Viability Assessment (all watersheds):
  – Habitats & stocks present in watershed
  – Important characteristics of habitats & stocks (KEAs)
  – Prioritized status & trends indicators
  – Baseline & current data for indicators
  – Identify goals & desired future status

• Viability Assessment (desired):
  – Condition bins: poor, fair, good, very good
Examples

• Channels >50m Bankfull Width
  – KEA: Sediment delivery
  – Indicator: Substrate composition

• Chinook
  – KEA: Abundance
  – Indicator: Natural origin adult spawner abundance
Phase 1 Product: Pressures

• Pressures identification (=threats)
  – Using Puget Sound Pressures Assessment taxonomy
  – Pressures adversely affecting habitats and species
# Regional Product: Pressure ID

<table>
<thead>
<tr>
<th>PRESSURE</th>
<th>% Watersheds*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural &amp; Forestry Effluents</td>
<td>80%</td>
</tr>
<tr>
<td>Marine shoreline infrastructure</td>
<td>80%</td>
</tr>
<tr>
<td>Marine Levees &amp; Floodgates</td>
<td>70%</td>
</tr>
<tr>
<td>Commercial &amp; Industrial</td>
<td>70%</td>
</tr>
<tr>
<td>Freshwater shoreline infrastructure</td>
<td>60%</td>
</tr>
</tbody>
</table>
Phase 1 Product: Results Chains

• Document strategies and objectives
• Prioritize implementation and effectiveness indicators
• Identify gaps in logic and strategies
Results Chains Articulate Theory of Change

Determine **Intermediate Outcomes** (to connect strategy to goals)

Develop Measureable **Objectives and Indicators**

- **Goal**: Prevent new and remove shoreline armoring
- **Objective**: By 2015, remove 13,500 feet of marine shoreline armoring in WRIA 9
- **Indicator**: linear feet of armoring removed
- **Goal**: Funding is secured
- **Objective**: Armoring is removed
- **Goal**: Marine shoreline infrastructure has reduced impact
- **Bluff Beaches**
- **Pocket Estuaries**

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Results Chains: Identify Gaps

- Prevent new and remove shoreline armoring
- Funding is secured
- Model code language developed
- Better SMP adopted in all 17 jurisdictions
- Armoring is removed
- Marine shoreline infrastructure has reduced impact

Miracle Occurs

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Monitoring & Adaptive Management Project

WHAT WE’VE LEARNED

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What We Have Learned: Ecosystem Components

• Most plans comprehensively cover the ecosystem

• Menu – Common Framework – helps with self-examination
  – Lake Washington/Cedar/Sammamish – no nearshore components
What We Have Learned:

Goals

• All watersheds have fish goals
• Some have habitat goals & desired future status
  – Nisqually & Green/Duwamish
• Many have few/no quantitative habitat goals or desired future status
  – Lake Washington/Cedar/Sammamish
What We Have Learned: Viability

• Core Teams understand their systems
• Technical folks in most watersheds can articulate status & trend indicators
• Needs:
  – Subset of indicators monitored consistently across the region
  – Guidance on defining desired future conditions and goals
  – Funding
What We Have Learned: Pressures/Stressors

• Most plans comprehensively identify pressures and stressors
  – Limiting factors, etc.

• PSPA provides opportunity to ID gaps. Green/Duwamish examples:
  – Climate change and sea level rise
  – Recreational land use

• Few plans, if any, prioritize pressures
What We’ve Learned: Results Chains

• Gaps in logic
• Gaps in strategies

“I think you should be more explicit here in step two.”
What We’ve Learned: Results Chains

• Gaps in logic
• Gaps in strategies
• Implementation tracking already in place
• Creating system to track effectiveness
  – Green/Duwamish example

Prevent new and remove shoreline armoring

Model code language developed

Better SMP adopted in all 17 jurisdictions

Codes are enforced

Marine shoreline infrastructure has reduced impact

Indicator: linear feet of shoreline lost
Monitoring & Adaptive Management Project

SO WHAT?
Framework Builds Monitoring Plans

Implementation | Effectiveness | Status and Trends

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Summary: Phase 1 Results

• Framework in each watershed creates a system that:
  – Ties monitoring results clearly to actions and goals
  – Highlights gaps in current plans and structures
  – Allows for consistent reporting and evaluation of progress

• Description of existing adaptive management system
Phase 2 Desired Results

• Complete translation, especially viability work and pressures assessment
• Develop and implement new adaptive management systems in each watershed
• Develop and implement monitoring plans
THANKS TO OUR COACHING TEAM!

Laura Blackmore, Cascadia Consulting Group
Abby Hook, Hook-Knauer
Kara Nelson, Kara Nelson Consulting
Susan O’Neil, Long Live the Kings
Robert Warren, Bonneville Environmental Foundation