Synthesis of Monitoring Programs

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Most Important Points

• Monitoring must be relevant to management
  – Communicated in a timely fashion
  – Requires investment in data management & reporting

• Monitoring must have strong objectives
  – Realistic, specific, measurable, relevant
  – Could be suggested by local communities

• Need consistent & considerable funding
  – Need dedicated constituency
  – Producing relevant information is necessary
  – Consider couching program in terms of ecosystem services
Important Elements

• Dedicated staff
• Linkage with research
• Core elements that don’t change
• Probabilistic design
• Community-based surveys
• Inventory phase
Important Characteristics

- Cooperation & collaboration
  - Sharing resources, protocols, data
- Program crosses spatial scales
  - Put local trends in larger context
  - A nested or hierarchical design could be useful
- Program ignores ownership boundaries
- Program is flexible
  - A systematic grid provides flexibility to changing drivers
  - Be flexible to respond to rare and/or extreme events
  - AK is changing quickly & monitoring will have to adapt
Planning

• Time spent planning is extremely worthwhile
• Conceptual models are very useful
  – Communication tools
  – Illustrate & identify linkages
  – Suggest how to build statistical models
  – They play different roles and have different structures at different times during and after the planning process
• It’s all about trade-offs
Local Control Over Indicator Selection

- NPS – least interested in scaling up
- CBMP – trying to scale up
- EMAN – trying to scale
- Parks Canada – trying to have national structure around indicators
FIA – forest focused
Norway 3Q – agriculturally focused
Kenai LTEMP – broadening focus of FIA
NARS – broadly focused within aquatic
UK Countrywide Survey – broadly focused
EMAP – broadly focused
## Tradeoffs

<table>
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<tr>
<th>Dimension</th>
<th>Tradeoff</th>
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<tbody>
<tr>
<td>Local control vs. national standards</td>
<td>context &amp; scope</td>
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<td>Local vs. regional to international questions</td>
<td>scale of relevance</td>
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<td>Statistical rigor vs. wt. of evidence</td>
<td>timeliness</td>
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<td>Narrow focus vs. broad focus</td>
<td>completeness of understanding</td>
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