CSIN Learning Event
July 21, 2006

"Setting Indicator Targets"
Fraser Basin Council and Environment Canada

Sustainability indicators are increasingly used to measure performance, particularly of policies. Measuring performance requires that there is a baseline, reference point or target against which performance is measured. Setting a target for an indicator can be both scientifically challenging and politically charged. During this learning event, participants discussed challenges and best practices associated with setting targets, using as a basis a presentation from the Fraser Basin Council on target setting and an overview of Smart Regulations by Environment Canada.

Introduction:
Targets are used to identify critical issues and responses to sustainability, to raise awareness, and to inform and influence decision makers. There are a number of definitions for benchmarks, thresholds and targets and these are sometimes used interchangeably. Benchmarks are useful for putting trends into context, and making them meaningful and relevant. Benchmarks help the media tell a "story". On the other hand, if the benchmark is not appropriate, the story can be confusing, exaggerated or misleading. There are a number of different types of targets as outlined in the following table.

Scientific/technical	commonly associated with environmental and resource indicators
Policy based	commonly reflect goals and objectives of a jurisdiction; can be non technical and may not be linked to sustainability
Comparative	enable comparisons to be made between jurisdictions
Qualitative/subjective/intuitive	often have a visual or graphical representation, such as happy faces, lights, and arrows, to convey meaning to a non-technical audience
Combinations of above	a combined approach may begin with a technical benchmark that is adjusted according to political and public perspectives this approach may be most realistic for short term results and public resonance

Goals and targets will be different depending on the type of sustainability that it sought. Absolute sustainability requires targets such as zero employment rates or zero emissions. These targets are unrealistic and it may be difficult to achieve consensus on them, particularly at the international level. Relative sustainability targets are signposts towards sustainability, such as a targeted

reduction in emissions. It is easier to achieve consensus on these targets and community and policy level targets are often linked to relative sustainability rather than absolute sustainability.

Interim targets are a reasonable approach because they enable movement towards sustainability with the intention of fine tuning the targets over time. Some scientists may be resistant, however, to interim targets because of a risk that the targets may not accurately reflect system conditions. Setting interim targets can be a time consuming process, given the consultation that is needed. Notwithstanding, interim targets can be an important mechanism to kickstart movement towards sustainability.

Achieving public and scientific consensus on targets might be easier by first setting targets based on science, then consulting with the public on related issues, rather than asking the public to identify specific targets. This can be a challenge if scientists are reluctant to be associated with quantitative targets. The Fraser Basin Council used a similar approach – experts were first surveyed, then a wider technical and public consultation was conducted to define targets.

Another approach is to begin with the desired outcome and then to ask scientists for targets that would produce that outcome. For example, if the public says they want to be able to eat the fish, targets could be developed to meet that goal.

The acid rain story highlights the importance of setting appropriate targets. It was well known that acid rain was a problem that needed to be addressed; however the science was not available for a solid target. In order for international emission reduction agreements to the signed, a target was "guesstimated". Now, all the reduction targets have been met and, through better science, we know that the targets need to be much lower. On the positive, reductions have been accomplished and we have started down the right road. http://www.eman-rese.ca/eman/reports/publications/2004/acid_rain/acid_rain.html)

Both qualitative and quantitative targets are useful. Quantitative targets often provide fragmented information about a system that can be more fully enhanced using qualitative targets. For example, although there may be quantitatively more wetlands, the wetlands may not be located in the best places. Because qualitative targets allow for more contextual information, they may even be more useful at the landscape level than quantitative targets. Qualitative targets are also useful when seeking to avoid "harsh accountability".

Reference sites are often used as targets in biological systems, such as comparing upstream and downstream conditions. In general, few reference points are available; and if they do exist, one needs to ask if they are relevant to the audience. Reference sites work for best for secluded and small systems and less so for large ecosystems with long standing impacts.

Target setting is a multivariate problem – a target for one aspect can have consequences for other aspects; the incorporation of modeling can give a sense of trade-offs. Models are an important tool for consultation with the public as various future scenarios are proposed. An example of this approach is the Agricultural Policy Framework work on developing agri-environmental standards for farms to create movement towards agricultural certification. IJC (International Joint

Commission) is using a sophisticated tool to reconsider the criteria for managing the Great Lakes water levels.