

US EPA ARCHIVE DOCUMENT

APPENDIX C:

MENU OF DEVELOPMENTAL MEASURES OF WATER QUALITY IMPROVEMENT

The Watershed Managers' Forum, a group of HQ and EPA Regional water program managers working to define ways to accelerate the implementation and improved measurement of watershed protection, has identified a "menu" of additional measures of progress toward cleaner water beyond those identified in the EPA *Strategic Plan* and this *National Program Guidance*.

EPA is identifying these measures now with the expectation that some Regions and States will agree to test one or more of the measures in FY 06 in order to gather information concerning the value and feasibility of the measures. This information will be used in the development of environmental measures for the next *Strategic Plan*, to be published in FY 07, that might supplement or replace the existing measures.

Regions may also consider developing other measures, in conjunction with their States, to track and demonstrate water quality progress. Reporting under supplemental measures is optional in FY 06, but reporting under the existing *Strategic Plan* measures (see section 4/A of this *Guidance*) is still required.

1) **EXTEND WATERSHED MEASURE REPORTING PERIOD TO 2012**

A key concern with the current outcome measures in the *Strategic Plan* is that full restoration of designated use impairments requires a long term commitment to planning, implementation, and monitoring that often does not reach its conclusion within the 5 year planning horizon of the *Strategic Plan*. A remedy to this problem is to track/report full restoration over a time period longer than the 5 year planning horizon (e.g. 2012) as well as the required 5 year horizon (i.e. 2008). Note that the existing waterbody restoration measure (Measure L) has a 2012 planning horizon.

OPTIONAL MEASURE: Report expected results by 2012 for the:

- watershed restoration measure (2.2.1a); and/or
- watershed improvement measure (2.2.1b).

2) **REPORT IMPROVEMENT/PARTIAL RESTORATION OF IMPAIRED SEGMENTS**

An alternative to reporting progress over a longer time horizon is to report partial accomplishment of a goal, such as partial, rather than full, restoration of an impaired segment. The existing measure of restoration of individual water segments (Measure L) only addresses full restoration of the impaired use or uses. Many segments may be improved as a result of clean water programs, but still fall short of full restoration of all uses (e.g. segment attains all criteria except mercury) and the current measure does not recognize these improvements. A remedy to this problem is to report partial restoration of the impaired waters tracked in existing Measure L.

OPTIONAL MEASURE: Percent of waterbodies identified by States in 2000 as not attaining standards that are partially restored (i.e. one or more unattained designated use/uses restored, but all unattained uses not yet restored).

2000 Baseline: 21,631 waterbodies

2006: Target: TBD; 2012: Target: TBD

Note that this measure can be reported using the EPA Assessment Database (ADB) as currently designed.

3) **IMPROVEMENT IN “TARGETED” WATERSHEDS**

Another approach to showing progress toward cleaner water is identify watersheds (at any scale) or areas that are now receiving or will receive focused management attention from EPA/States/others (rather than all watersheds) and then set a goal for some percentage of these targeted watersheds showing improvement by a given date.

OPTIONAL MEASURE: Percent of watersheds (at any scale) for which EPA/States/others are receiving focused management attention where States and EPA agree that water quality conditions have improved.

2004 Baseline: TBD # watersheds with management attention

2006: Target: TBD; 2008: Target: TBD; 2012: Target: TBD

For the purposes of developing the measure, it would be useful to have Regions/States develop and apply various criteria to establish “improvement” (e.g. improved water quality standards attainment status such as by causes of nonattainment being removed [as reported in 305(b)]; improving trends in water quality data; or through models such as the SPARROW discussed below).

4) **WATERSHED REDUCTION OF NUTRIENT/SEDIMENT EXPORTS**

the US Geological Survey has developed a national model that estimates the export of pounds of nitrogen and sediment from watersheds around the country (i.e. the “SPARROW” model). The measure below would track watersheds where the rate of export of nutrients and sediments is estimated to be reduced over time.

OPTIONAL MEASURE: The number of watersheds (i.e. USGS 8 digit watersheds) where USGS models show a net reduction in the export of nutrients and sediment.

2004 Baseline: 8 digit watersheds for which SPARROW model results now available

2006: Target: TBD; 2008: Target: TBD; 2012: Target: TBD

Note: Although this supplemental measure may be data-intense and costly for States/Regions to use, that this measure avoids concern that assessed segments are not randomly selected.