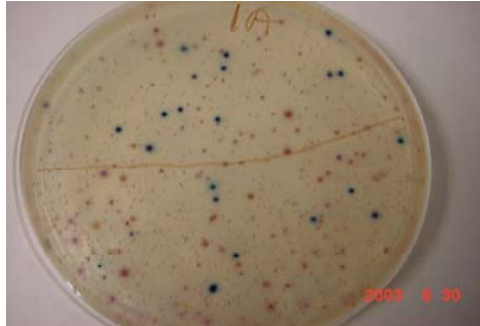


Slide 1

Low Cost Bacteria Monitoring: Coliscan Easygel



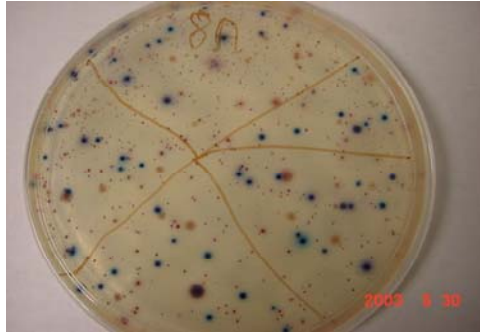
Slide 2

Basic Steps to Coliscan Method

- ❖ Collect Sample (Non-wadeable streams)
- ❖ Place known volume (0.5 – 5.0 ml) of water sample in Coliscan bottle
- ❖ Pour water + Coliscan on “special” Petri dish
- ❖ Incubate for 24 – 36 hours
- ❖ Score plates

Slide 3

Typical Coliscan Plate



Slide 4

Is Coliscan Accurate?

Comparison of DEQ/DCLS Results with
Coliscan Method – Study Overview

- ❑ 116 sampling events during 2001-2002
- ❑ 69 “diverse” stations
- ❑ Duplicate “DCLS split” samples and/or
“bucket split” samples

Slide 5

Sample Results from DEQ/DCLS Comparison Study

Station	DEQ/DCLS	Coliscan
North River	2,250	2,270
Willis River	460	400
Appomattox River	130	200
Spring Creek	70	30
Buffalo Creek	130	230
Saylers Creek	210	130
Big Guinea Creek	510	170

Slide 6

Summary from Comparison Study

1. Coliscan is a “conservative” method
 - **Very** few False Positives (1/63)
 - False Negatives are common near the standard of 235 (11/17)
2. Regression coefficient = 0.5--
3. Bottom line: DEQ has approved Coliscan for “screening” purposes

Slide 7

Data from “False Negatives”

DCLS	Coliscan		DCLS	Coliscan
513	170		299	100
243	130		460	100
2,400/380	70		520	180
790/260	100		243	190
490/330	80		243	30
353	20			

Slide 8

Scorecard for Coliscan as a Citizen Method

Criterion	Rating	Comments
Accuracy	+++	Approved by DEQ for screening purposes (Conservative)
Sensitivity	++++	Equivalent to standard DCLS method
Cost	+++1/2	Little to no capital investment \$1.50 - \$2.00 per test
User-friendly	++++	Less time/difficulty than SOS macroinvertebrates or DO tests
Citizen Training	++++	2 hour training to get started

Slide 9

Potential Uses of Coliscan by Citizens

1. Unmonitored/Under-monitored waters
2. Recreation Areas
3. Impaired waters/Fecal TMDLs
4. Other???

Slide 10

Coliscan can complement DEQ data collection for fecal TMDLs

- DEQ collects 12 months of BST (Bacterial Source Tracking) data for the “listing station”
- DEQ sometimes collects little or no spatial data in support of fecal TMDLs
- Coliscan is an ideal low-cost method to collect spatial data to localize the location of fecal inputs

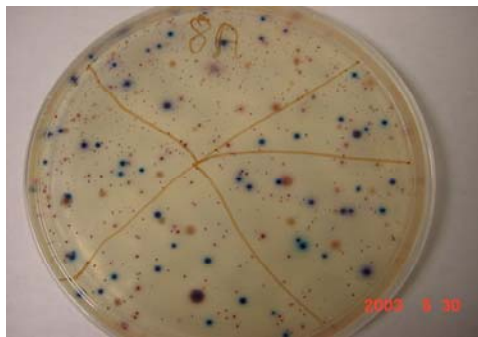
Slide 11

Data from the Reedy Creek Watershed

Station	06/28/03	07/19/03	08/16/03	11/15/03
8	1,350	1,510	1,780	425
6	730	1,230	920	40
5	5,000+	5,500	2,360	650
4 (Trib)	190	450	1,120	50
3	1,860	1,100	5,750	160
2	430	780	2,300	230
1	530	700	4,000	110

Slide 12

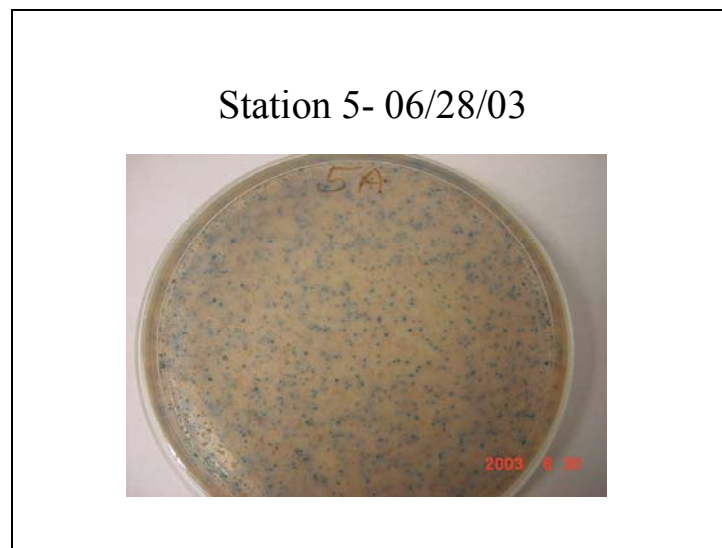
Station 8 - 6/28/03



Slide 13

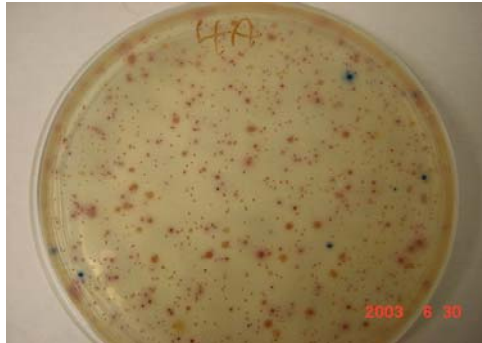


Slide 14



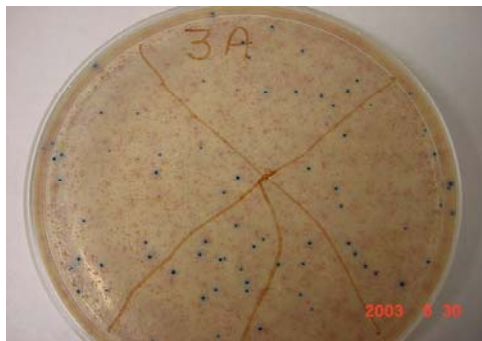
Slide 15

Station 4 - 06/28/03



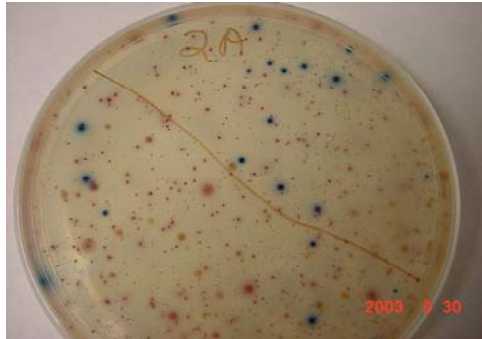
Slide 16

Station 3 - 06/28/03



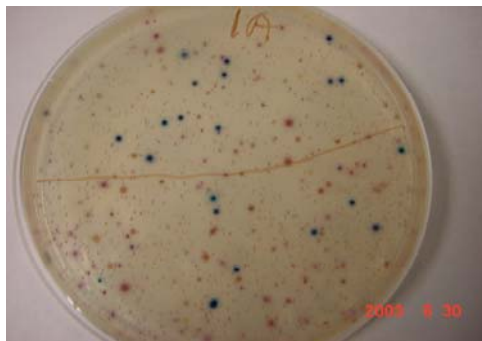
Slide 17

Station 2 - 06/28/03



Slide 18

Station 1- 06/28/03



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