

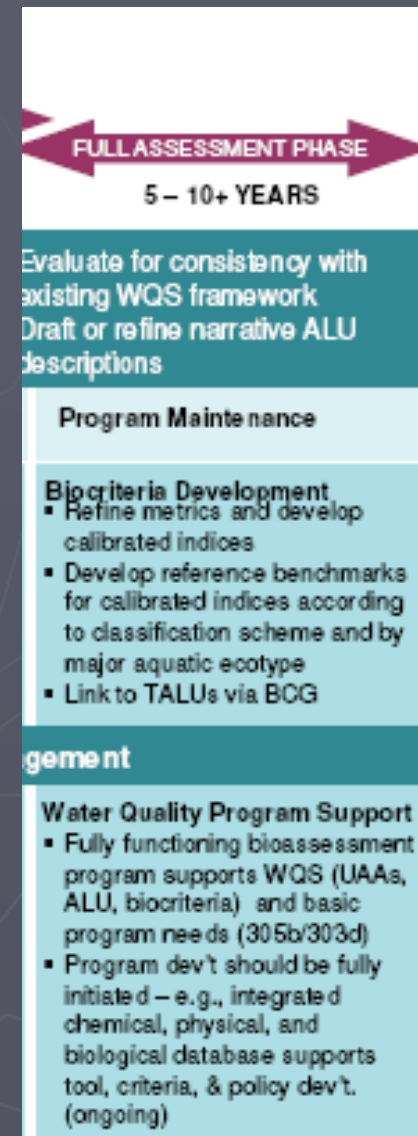
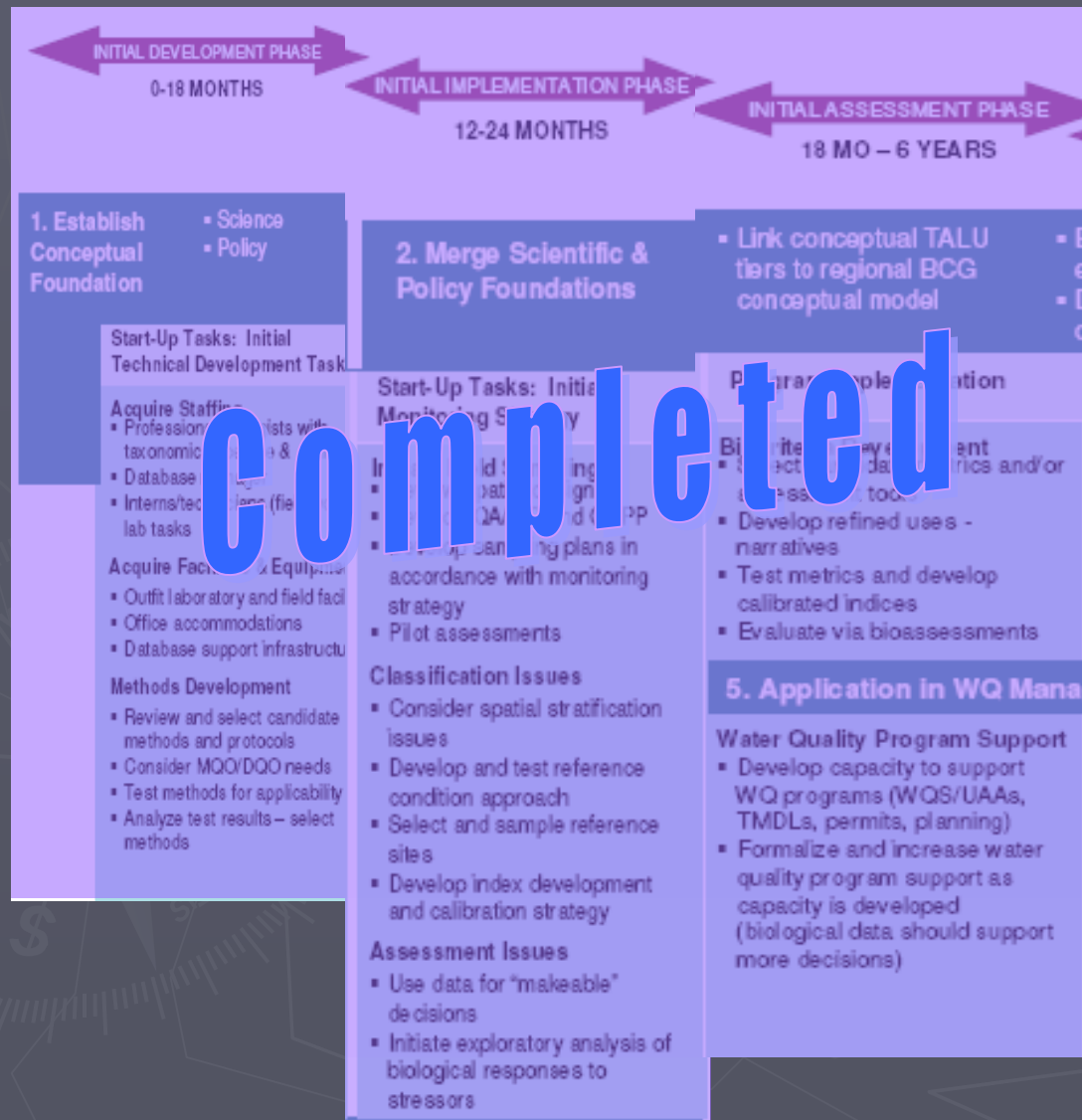
US EPA ARCHIVE DOCUMENT

Vermont's TALU Timeline Status

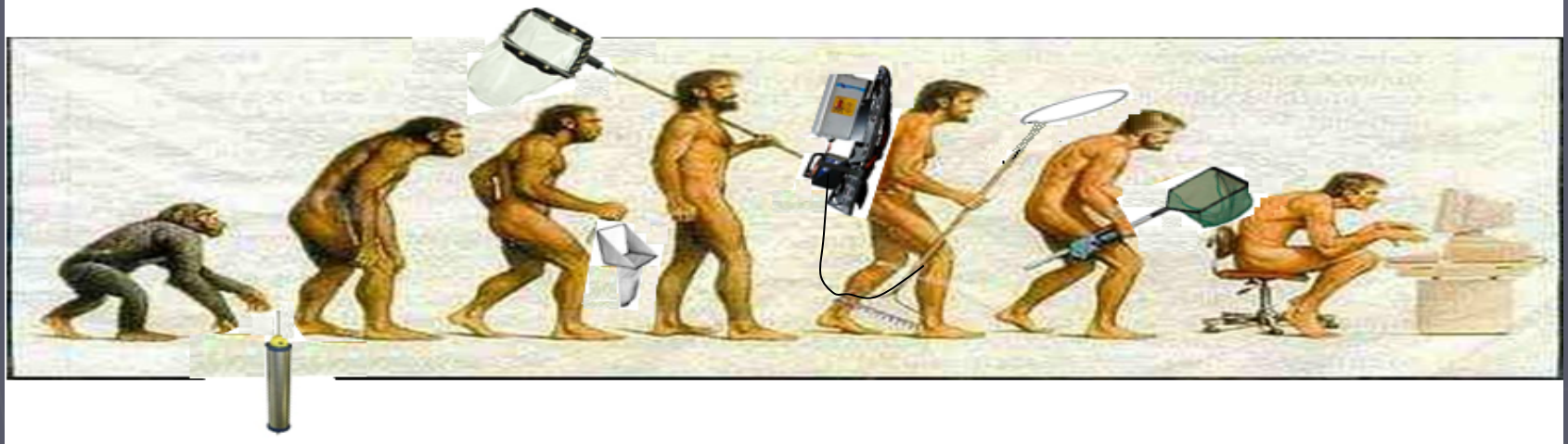
1986

2000

2009



Evolution of Vermont's Biomonitoring Program



Late
1970's

1982
-1984

1985

Early 1990s

2000

2009

Crit. Elem. Rev
actually finds
minor flaws
in program !!!

Bug Sampling
for lakes and
streams. No
biocriteria used-
just BPJ, Richness,
SDI etc.

Acid Rain
Sampling
lakes and
streams first
time fish
assessed

Began sampling
streams statewide
for both fish
and bugs. Began
to slowly develop
criteria. No long range
formal plan as in TALU
time line.

Began to utilize
draft indexes and
metrics to inform ALS
assessments.

Finalized biocriteria
for bugs and fish
by publishing Wadeable
Streams Biocriteria
Document as official
procedure required
by WQS

Slowly developed, validated and
modified metrics over a period of
about 10 years



Vermont's Critical Elements Review-

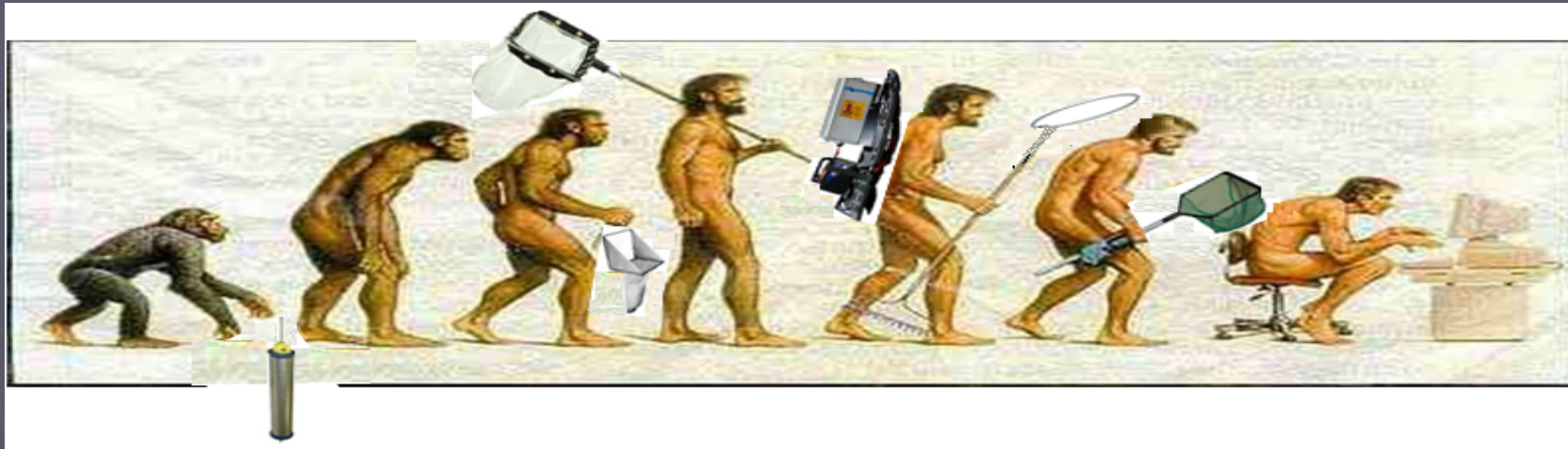
Future Direction of Program

Orange- Descored

Blue – not Descored

Critical Elements	Corrective Actions
Index Period	No changes
Spatial Coverage	No changes
Natural Classification	No changes
Criteria for Reference Sites	<u>GIS not used in initial selection process.</u> Validation reference and impact sites used in generation of biocriteria. Will determine proportion of land use with GIS-based tools. – Initiated March 2009
Reference Conditions	
Taxonomic Resolution	<u>No certification of taxonomists</u> Will continue to encourage taxonomists to apply for certification. Increase level of intra and inter lab QC, Support NEAT. Eagle Hill fish course
Sample Collection	No changes
Sample Processing	No changes
Data Management	<u>No real-time connection to spatial data</u> Will encourage Department IT to develop capability.
Ecological Attributes	No Changes
Biological. Endpoints and Thresholds	Slow winder and non wadeable criteria lacking-both groups. - Develop as schedule permits
Diagnostic Capability	<u>Have not developed response signatures for stress classes other than generalized productivity and toxin based responses for both groups.</u> - Will initiate such a study as time allows.
Professional Review and Documentation	<u>No formal Process for professional Review</u> (other than two journal articles for fish) ?

The Painless Evolution of Vermont's Biomonitoring Program



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lots of hair)

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*Biologists
Retirements
begin*

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