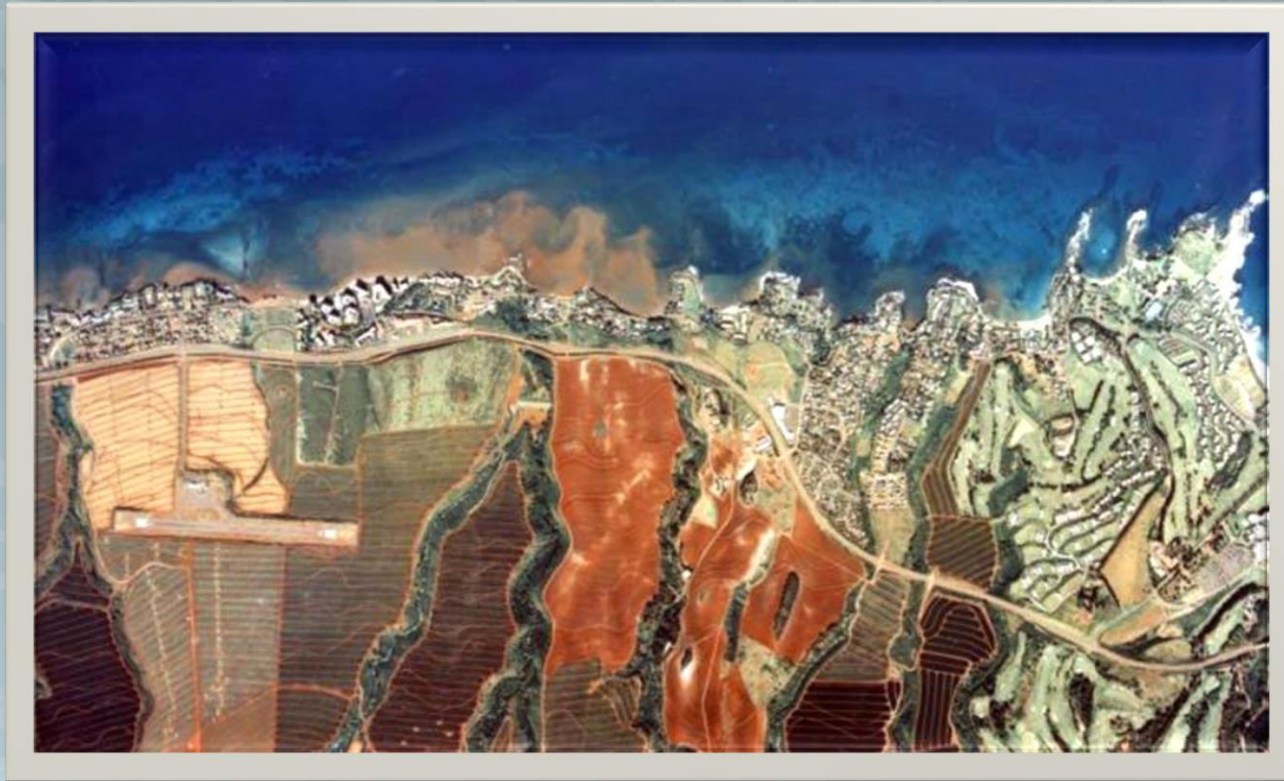


# Products for Managers to Implement the USCRTF Watershed Partnership Initiative



Watershed Working Group Metrics Subcommittee

# Objectives

1. Watershed Partnership Initiative and Resolution 28.1
2. Inception of and charge to the Metrics Subcommittee of the Watershed Working Group
3. Development of Products for Managers
  - Programmatic Checklist
  - Ecosystem Indicators
4. Use these tools to document success of the efforts in Watershed Partnership Initiative sites and beyond



# USCRTF Watershed Partnership Initiative (WPI)

WPI began in Guanica, PR (2009)

Expanded to West Maui, HI (2010); Faga'alu, AS (2012)

Officially codified by USCRTF in 2012 with Resolution 28.1



# USCRTF Watershed Partnership Initiative (WPI)

## **Purpose of WPI:**

Focus the capabilities and capacities of the USCRTF agencies and the U.S. coral reef jurisdictions to reduce Land-based Sources of Pollution (LBSP) from entering into coastal coral reef areas.



# USCRTF Watershed Partnership Initiative (WPI)

## Intent of WPI:

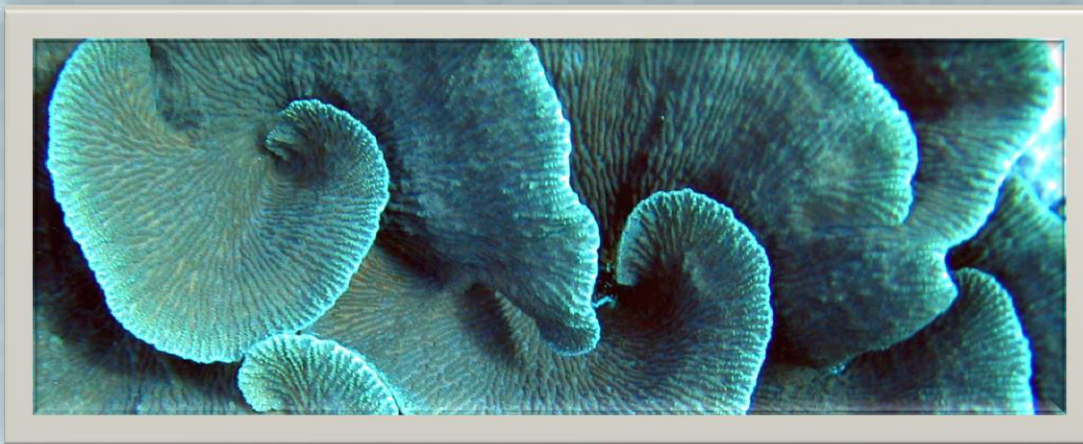
1. Facilitate and enhance coordination, partnerships, and contributions of agency resources and expertise to implement geographically specific and integrated activities to reduce pollutant loads to coral reef ecosystems.
2. Promote consistent and strengthened application and enforcement of laws and authorities intended to address LBSP.



# Resolution 28.1 (August 2012)

*“In support of the USCRTF Watershed Partnership Initiative, the USCRTF commits to:*

*...Evaluate the success of this partnership to ensure that the resources contributed are being applied effectively and are having the intended impact on watershed management, water quality issues impacting coral reef ecosystems, and building an informed and engaged community.”*



# Metrics Subcommittee of the Watershed WG

At the next TF Meeting in February 2013 the Metrics Subcommittee was formed by the Watershed WG and was charged to **develop an evaluative approach for the WPI.**

- NOAA
- EPA (Regions 2, 9 & ORD)
- USFWS
- USGS
- USACE
- NFWF
- Ridge to Reefs
- **WPI Watershed Coordinators**
- **AIC Members**



# Metrics Subcommittee of the Watershed WG

*“Evaluation will be conducted for the overarching partnership and specific to each watershed site in the following 3 categories: **programmatic, ecological,** and social/community engagement.” (excerpted from Resolution 28.1)*

- Using Resolution 28.1 as a guide, the subcommittee has been working collaboratively to develop tools and products to help improve the likelihood for documenting success at the priority watersheds of the WPI.
- These products and tools are developed with the intention that they can be applied to other coral reef watersheds.



# Metrics Subcommittee Products

## PROGRAMMATIC CHECKLIST

### Goal Statement:

**Programmatic evaluation** will assess the status of the institutional and stakeholder support for the watershed partnership sites, and determine whether agency resources and support are adequate for the successful implementation of a ridge to reef watershed management plan.

**Watershed Partnership Initiative – PROGRAMMATIC CHECKLIST**

USCRTE  
UNITED STATES CORAL REEF TASK FORCE

**CHECKLIST EVALUATION QUESTIONS**

1) Does the watershed have the commitment of at least two partner Federal agencies (at HQ and local levels) and a lead local jurisdiction agency? Who? YES NO  
Please specify  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2) Does the watershed have a full time coordinator? YES NO  
If yes, provide name and how long current funds will cover their salary  
\_\_\_\_\_  
\_\_\_\_\_

3) Does the watershed have a finalized watershed management plan (WMP)? Does the WMP fully address EPA's Nine Minimum Elements of a Watershed Management Plan\* for Restoring Impaired Waters using Section 319 funds? YES NO  
\*<http://www.epa.gov/region9/water/nonpoint/9elements-WtrshdPlan-EpaHndbk.pdf>  
If yes, please provide copy of plan and describe whether it addresses the EPA elements.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4) Do/Did stakeholders have the opportunity to provide input to development of the WMP? If so, what are the mechanisms for collecting this input? Was a structured decision-making process used, were public meetings held, and were prioritized objectives developed? YES NO  
Please specify  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Version 2 – 7.16.15

# Metrics Subcommittee Products

## PROGRAMMATIC CHECKLIST

### *Who is this checklist for?*

- Watershed Coordinators
- Coastal Managers & Natural Resource Managers

### *What is it intended to do?*

- Assess the status of institutional and stakeholder support for the watershed partnership sites
- Determine whether agency resources and support are adequate for the successful implementation of a ridge to reef watershed management plan
- Identify any “sticking points” for implementing their watershed plans – garner support from USCRTF agencies to assist via annual watershed updates at the TF meetings

# Metrics Subcommittee Products

## PROGRAMMATIC CHECKLIST

Using Resolution 28.1 as a guide, the Checklist includes 15 questions, covering:

1. Commitments (2 Fed, 1 local)
2. Watershed Coordinator
3. Watershed Management Plan (WMP)
4. Stakeholder Input
5. Institutionalized WMP
6. Implementation Agreement
7. EPA NPDES general permit
8. EPA NPDES MS-4 stormwater permit
9. Enforcement
10. Centralized wastewater system
11. Agricultural BMPs implemented
12. WMP recommendations implemented
13. Partners and contributing funds
14. Ecological monitoring program
15. Adaptive WMP evaluation process



# Metrics Subcommittee Products

## PROGRAMMATIC CHECKLIST

### Development Timeline

**Aug 2013:**  
Drafted Initial  
Checklist

**Dec 2013 –  
Feb 2014:**  
Developed  
Evaluation  
Questions

**July-Sept  
2014: (1)**  
Develop and  
Finalize  
Programmatic  
Goal  
Statement;  
**(2) Revise  
Checklist**

**Nov 2014:**  
Programmatic  
Checklist  
Finalized

**Sept-Dec  
2013:** Pulled  
in WPI  
Watershed  
Coordinators  
after St Croix  
meeting

**Feb 2014:**  
**Steering  
Committee  
reviewed  
Evaluation  
Questions**

**Oct 2014:**  
**Steering  
Committee  
reviewed  
Checklist  
after Maui  
meeting**

# Metrics Subcommittee Products

## PROGRAMMATIC CHECKLIST

### *Annual Updates and Tracking Progress*

- By annually completing this checklist coordinators can monitor progress, and will be able to better identify the needs and areas of focus for continued implementation of their WMP.

### Testimonial from West Maui:

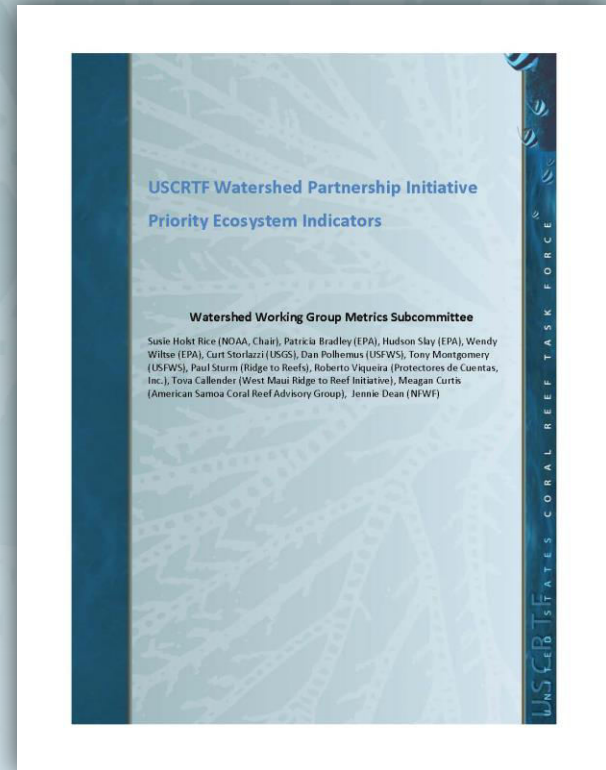
*"The programmatic checklist was helpful in West Maui in furthering our goals in a couple of ways. The need to have the checklist completed by the Task Force meeting helped fuel a request for an undated statement of participation summarizing what each agency could bring to our efforts. While not a formal "implementation agreement" it was useful to have a reflection and articulation of future contributions. Similarly, the question about institutionalization of the WMP as official policy prompted the suggestion by our Working Group to seek a resolution for adoption by the County Council. I have since been pursuing this approach based on a statement of support by the sponsoring councilwoman, and am waiting for next steps from the County."*

# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

### Goal Statement:

**Ecological evaluation** will track the status and trends of key indicators from ridge to reef in order to determine changes in water quality and coral reef ecosystem condition before and after management actions are implemented.



# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

### *Who is this document for?*

- Watershed Coordinators
- Coastal Managers & Coral Reef Managers

### *What is it intended to do?*

The purpose of this document is to provide coastal managers, coral reef managers, and watershed coordinators faced with modest budgets and technical expertise with a suite of recommended ecological indicators and measurements to include in their watershed-specific monitoring plans that will help determine the efficacy and evaluate the success of management efforts to reduce land-based sources of pollution.

# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

The recommended indicators were identified by the USCRTF Watershed Working Group Metrics Subcommittee to assess important ecological aspects of a coral reef community, water quality, and sediment quality.

### **Coral Reef Community Indicators**

1. Benthic cover
2. Coral recruitment
3. Coral colony size structure
4. Coral taxonomic richness
5. Herbivorous fish biomass

### **Sediment and Water Quality Indicators**

1. Sediment constituent accumulation
2. Sediment toxicity
3. Total Nitrogen
4. Total Phosphorous
5. Chlorophyll a
6. Dissolved Oxygen
7. Turbidity



# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

### Consistency of indicators from local to jurisdictional scales

- Methods are the same as national scale monitoring conducted through National Oceanic and Atmospheric Administration's (NOAA) National Coral Reef Monitoring Program (NCRMP) or the U.S. Environmental Protection Agency's (EPA) National Coastal Condition Assessment (NCCA).
- NCCA indicators allows for potential use of the Clean Water Act
- Chlorophyll a: consistent with National Climate Assessment priority indicators for climate change

**Benefit:** Document local change against jurisdictional backdrop

# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

- Benthic Cover \*
- Coral Recruitment\*
- Coral Colony Size Structure
- Coral Taxa Richness
- Herbivorous Fish Biomass \*
- Sediment constituent accumulation
- Sediment toxicity
- Total N\*
- Total P\*
- Chlorophyll a
- Dissolved Oxygen
- Turbidity\*

## GBRMPA Report Card

- Coral Cover
- Macroalgae cover
- Coral Juvenile Density
- Coral Change (3 yrs, hard coral only)
- Particulate N (WQ Index)
- Particulate P (WQ Index)
- Chlorophyll a (WQ Index)
- Turbidity (WQ Index)

\* aligns with McClanahan et al. (2012) resilience indicators

# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

### Development Timeline

**Summer 2013:**  
Performed metrics inventory at WPI sites

**Dec 2013:**  
Adopted EPA's Multiple Lines of Evidence Approach as a framework for evaluation

**Aug/Sept 2014:**  
Developed Ecological Goal Statement

**Jan 2015:**  
Began drafting Ecosystem Indicators document

**Sept 2013:**  
Pulled in Watershed Coordinators

**July 2014:**  
Developed criteria for selecting indicators

**Dec 2014:**  
Prioritized coral community, sediment and water quality indicators

# Metrics Subcommittee Products

## ECOSYSTEM INDICATORS

### Review Process

**Feb 2015:**  
First NOAA  
review

**Oct 2015:**  
USCRTF  
Steering  
Committee  
Review

**Jan 2016:**  
Final  
Review

**Sept 2015:**  
Watershed  
Working  
Group  
Review

**Nov 2015:**  
Subject  
Matter  
Expert  
Review

**Feb 2016:**  
Adoption  
by  
USCRTF

# Metrics Subcommittee Products

## **ECOSYSTEM INDICATORS** – Evaluating Progress

### EPA's Multiple Lines of Evidence Evaluation framework

- Multiple lines of evidence approach used by EPA for documenting results of watershed efforts intended to improve water quality and aquatic resources.
- Outlines different types of environmental data/measures which can be used to determine and document if our watershed work is 'successful'.
- Provides guidance about the types as well as the quality/rigor of data which could be used to assess the progress of multiple implementation efforts.
- Lines of evidence include: improving trend in water quality; improving trend in biological resource (coral ecosystems); documented use of watershed approach and widespread implementation; no deteriorating trends.

# Next Steps for Implementing Products

1. Identification of interventions (management actions, BMPs, etc) consistent with WMPs that will be happening in the next 2-3 years
2. Incorporate priority ecosystem indicators as appropriate and collect baseline data ahead of intervention
3. Monitor for the next 3-5 years to document changes resulting from intervention – document short term intermediate results

This is a living document – new/emerging techniques coming, expect Version 2.0 as more research becomes mainstream

Thresholds for corals needed for LBSP stressors – work underway

# Additional Considerations

- Need for cooperation and collaboration between local entities and the national monitoring programs (NCRMP and NCCA) on sampling schemes and incorporating local and jurisdictional data
- Implementation of both Programmatic and Ecological products will be led by the Watershed Working Group – consistent leadership for this WG is crucial
- Watershed Coordinators need to be at the USCRTF meetings to voice their needs for implementing WMPs
- Social/ Community Engagement evaluation aspects are next and final step for the Metrics Subcommittee