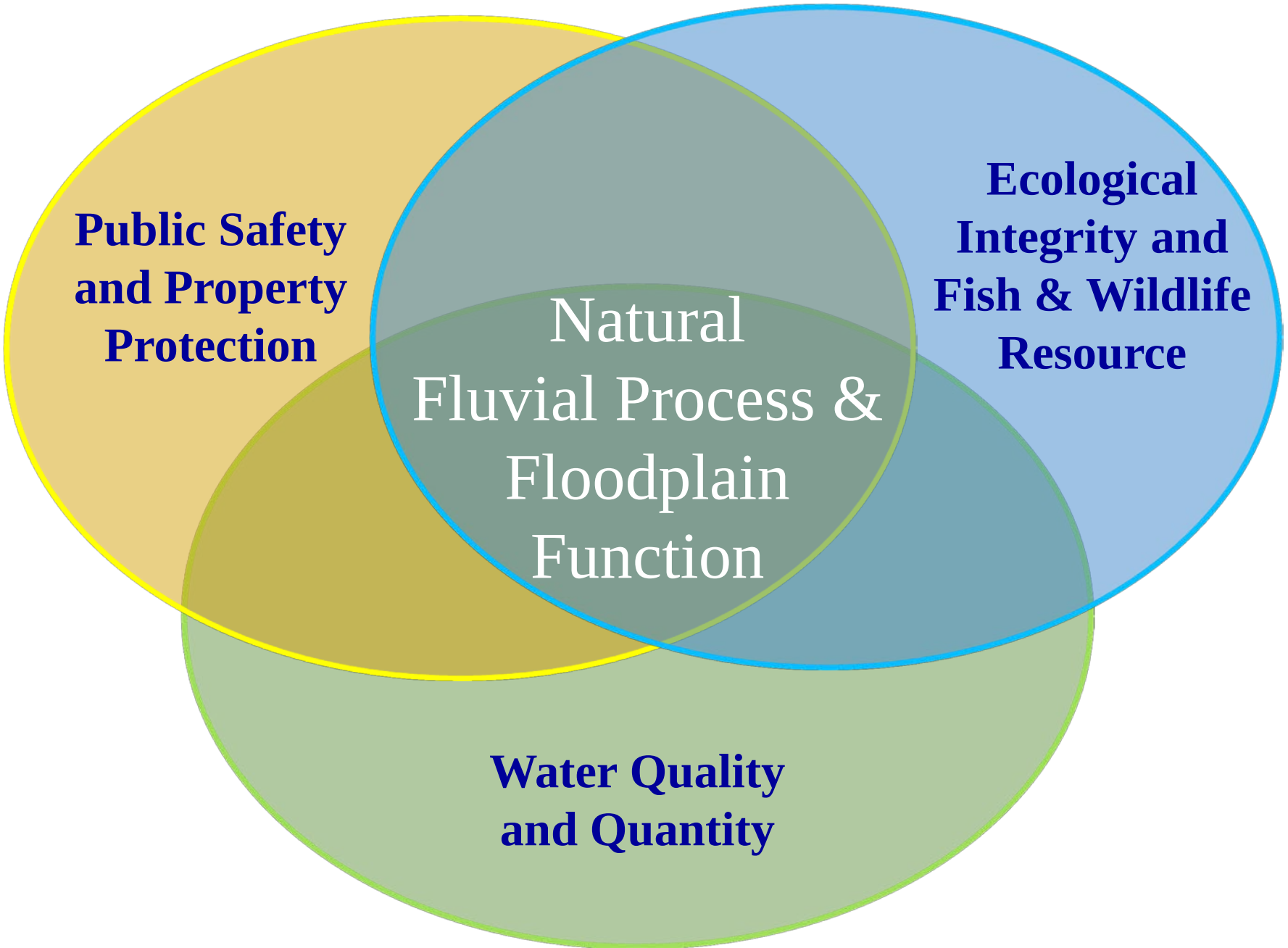
Manage Toward the Intersection of Public Values



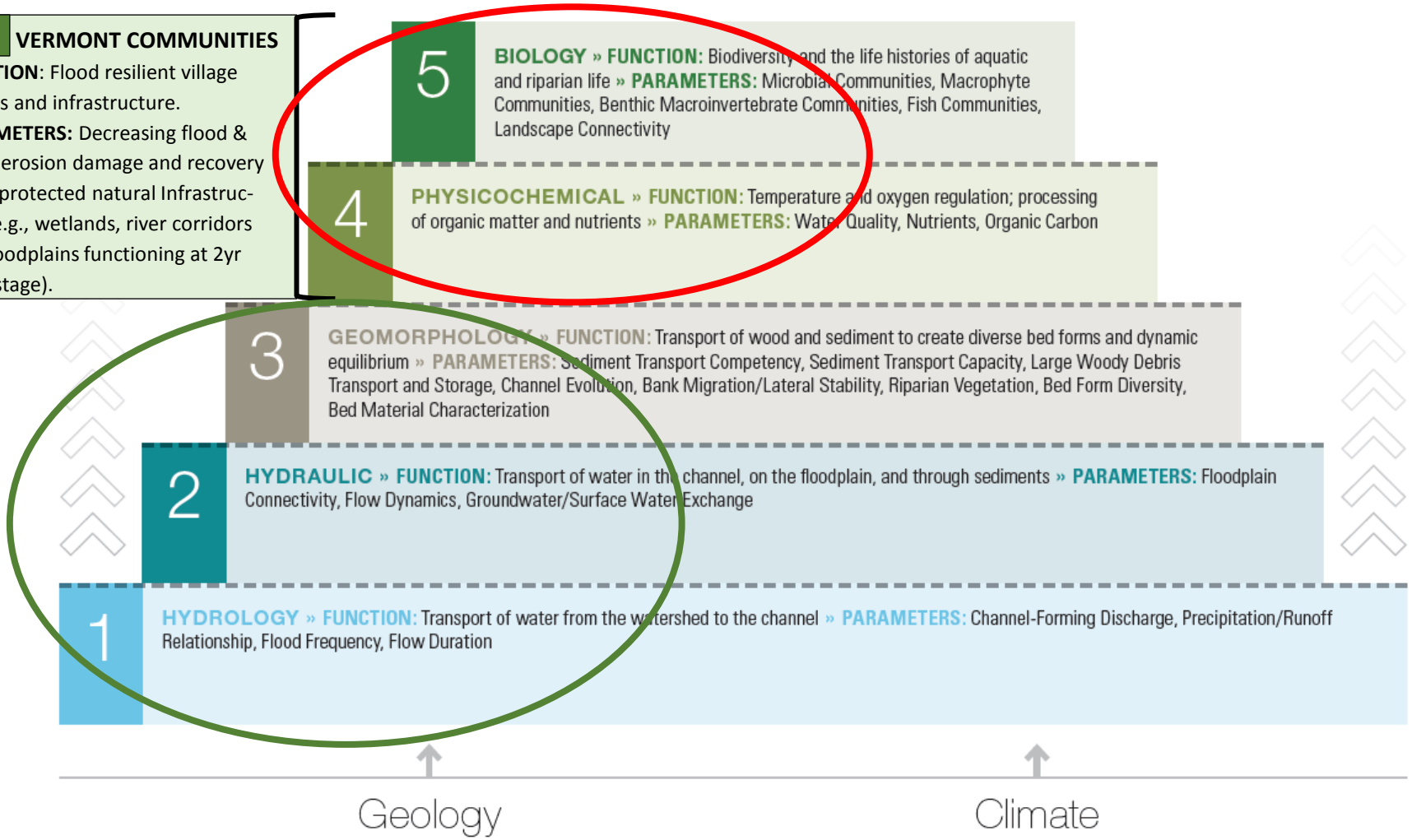
Stream Functions Pyramid

A Guide for Assessing & Restoring Stream Functions » FUNCTIONS & PARAMETERS

4/5b VERMONT COMMUNITIES

FUNCTION: Flood resilient village centers and infrastructure.

PARAMETERS: Decreasing flood & fluvial erosion damage and recovery costs; protected natural Infrastructure (e.g., wetlands, river corridors and floodplains functioning at 2yr flood stage).



Citation - Harman, W., R. Starr, M. Carter, K. Tweedy, M. Clemmons, K. Suggs, C. Miller. 2012. A Function-Based Framework for Stream Assessment and Restoration Projects. US Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds, Washington, DC EPA 843-K-12-006 (Addition made with authors permission by Mike Kline, Vermont Rivers Program Manager)

StreamMechanics

Regulation based on:

Hydrology, hydraulics, *and* fluvial geomorphology

Regulatory reference to:

Natural forms and fluvial processes achievable at larger spatial and temporal scales

VS

Altered, localized, and/or static conditions

Rivers/Floodplains: Protection is Restoration

Strike a balance -- where to pull out and where to stay put, make it easier to back away (buyouts, easements, voluntary conservation)

Recognize streams serve as green infrastructure

- Eligible for public works funding
- Assets used to bond for other community needs

Increase incentives (e.g., CRS, increase recovery cost share)

Review/reset mapping requirements that are an impediment to restoration, create a national screening tool:

Do changes in the BFE affected anything/anyone?
Are there any implications for flood insurance?
What is the age of the flood study – cost of modelling

Share as-builts w/o embarking on full-blown LOMR

Data modernization is key

Align programs better – define/remember purpose of restoration

Make PCN less difficult than an Individual Permit

Application from COE

Is there a way to certify qualified agency practitioners

Align information requirements from different agencies

Clarify information needed by the COE – how is information evaluated?

Weigh/allow Short-term impacts to achieve Long-term benefits

e.g. sediment release and continuity

Release Sedimentation Protocols – (get clarity) provide training

Determine acceptable sediment releases

Recognize conflicts like wetland loss with dam removal

Higher quality replacing lower quality wetlands (404/401)

Federal Agencies

USACE

Enhance guidance on ecosystem services – encourage offset of functions in compensatory mitigation at watershed scale

How will project function overtime in a changing landscape

Create publicly understandable nationwides to enable natural solutions, then increase internal training and communication

Restoration Programs: Environmental operating procedures; smart planning concepts (watershed and systems approach); vertical team integration

NOAA/FEMA

FFRMS - Seek nature-based solutions/natural infrastructure; don't just mitigate – reduce flood risk associated with project

NOAA/FEMA

HMA – post disaster: climate resilient mitigation actions include stream and floodplain function restoration – educate local HM officers so that they seek FEMA HMA funds NFF restoration

Simplify Application Process – pre-award considerations – project must result in flood risk reduction 75% with addl. 25% coming from ecosystem services – use pre-calcs to make it a simpler review

Create guidance for making compatible use determinations for buyout properties

FEMA Mapping

KEEP MAPS CURRENT

Create criteria for review of different dam removals – get appreciation for what is changing – evaluate future conditions