Climate Resilience and Adaptation Webinar Series

Hosted by A2 and River Network

With over 450 member communities in every state and U.S. territory, A2 is the nation’s largest network of frontline communities fighting for environmental protection and health.

ABOUT RIVER NETWORK

River Network grows and strengthens a transformational national network of water, justice, and river advocates.

We envision a powerful and inclusive movement that ensures abundant clean water for all people and nature to thrive. We believe that joy and hope for our planet flows through our rivers.



Meet the network and search our Water Protectors Map on our website!

rivernetwork.org

About the Webinar Series

Resilience and Adaptation are:

- Steps taken today to respond to current climate impacts and prepare for future impacts
- Can range from simple interventions to total system change

Communities are already facing impacts from ***climate, irresponsible development, (and their interactions),*** *today.*

We back their visions for resilience and adaptation.

Series Goals

Build **capacity**

to strengthen existing work and realize future projects.

Focus on **applicable knowledge**

that communicates useful examples and case studies.

Encourage **relationship building**

when we are pushed toward competition over scarce resources.

Center **climate & environmental justice**

with care for this complex, sometimes traumatic work.

Meet the speakers



Amanda Richey

Coastal Resilience Planning & Grants Manager at A2



Dr. Brie Bernik

Senior Environmental Scientist at Research Planning Inc.

Monitoring your projects: ecological + grant compliance approaches

Agenda

1. **Concepts**: monitoring, outputs to outcomes, metrics + parameters
2. **In Practice**: Start with your Grant Agreement or Goal
3. **Basic Questions**: Ecological, Performance, Permitting
4. The **Data Lifecycle** + Sharing
5. **Adaptive Management** + Resilience
6. Wrap Up

Before we begin:

1. Where are you located or what ecosystem do you work in?
2. What is one thing you monitor?
   - (number of volunteers, air quality, tree health, shoreline erosion)
3. Why do you monitor it?
   - (grant performance, ecosystem condition, community engagement, project permitting)

Monitoring: two tracks for each project

Monitoring tracks how something changes (or doesn't) over time.

- ***Is it working?*** *Ecology*

- ***Did we do what we promised?*** *Compliance*

Benefits of formalizing a monitoring plan

Remember, you're already monitoring!

Prepares you for current + future projects

Establishing a monitoring plan early on prepares you for future grant phases and **signals to funders that you are ready** for subsequent phases.

Demonstrates compliance

For some funders and grant stages involving permitting, **monitoring is required**.

Helps you adapt your project + share with collaborators

Keeping good records shows what was accomplished.

It also reveals what worked & what didn't, so you can **adapt**.

Making your monitoring data accessible & shareable helps advance work in other places.

Outputs to outcomes

Project action (milestones)	**Output** (metrics)	**Benefit or outcome** (parameters)
• Host community planting days • Hold public meetings	• 250 trees planted • 120 residents at 4 meetings	• % of trees alive after 3 years • Change in canopy cover or heat

Outputs show you did the work. Outcomes show it made a difference.

Metrics and parameters

Metrics

High-level performance measures you report to your funder.

e.g., trees planted, acres restored, miles of shoreline protected

Parameters

Detailed measurements that support your metrics.

e.g., species, trunk diameter, canopy health, soil moisture, water level

Describe what data you're collecting, how you're managing it, and how it supports your metrics.

Start with your grant agreement

Scope and milestones

What you promised to do, and by when

Required metrics

Exact numbers and definitions required

Monitoring or QA plan

Methods, quality checks, any plan approvals

Data management and sharing

Format, repository, public access, ownership

Reporting schedule

Interim and final reports, formats, deadlines

Deliverables

Required documentation and work products

First federal award? Pass-through grants carry federal rules, so ask what applies.

A monitoring plan in 5 steps

1	**Define goals and objectives**	What is the intended outcome?
2	**Select metrics and parameters**	Measurable, tied directly to your objectives
3	**Describe data collection methods**	Use established protocols where possible
4	**Set schedule and roles**	Who collects what, when, and how often
5	**Include data management plans**	Where data lives, who reviews it, when it is due

From goals to metrics

1. Problem What needs to change?	**2. Goal** What do you want to see?	**3. Objectives** What will you do?	**4. Metrics + parameters** How will you know?
Hot, low-canopy neighborhood	Cooler streets and healthier residents	Plant and establish 250 street trees in [3 years]	**Metrics:** trees planted; % alive at year 3 **Parameters:** species, trunk size, canopy health

How to choose: objectives are the pathway to your goal

- Start with your community's priorities, then check your grant's required metrics
- Write objectives you can measure: what, how much, by when
- Pick a few metrics per objective that you can keep up for the whole project

Baseline data

Why it matters

- No “before” picture = no proof of what changed
- Shows what is normal, so you can tell a disaster’s impact from seasonal swings
- Backs up damage records, recovery funding, and restoration plans

Example approaches

- Dated photos from fixed photo points
- A simple inventory of trees, shoreline, or habitat
- Regular water, air, or soil readings [as feasible]
- Written methods, and copies stored off-site



Six Questions for your plan

1. **Why** — What questions will your data answer?
2. **What** — What will you track, and what is your baseline?
3. **How** — Which tools, technology, or equipment do you need?
4. **When** — One-off events or repeated checks?
5. **Who** — Who are your partners, and who will use the data?
6. **Where** — Where will the data live long term?

Ecological Monitoring: Why + What

Why

- Document baseline conditions
- Track progress and outcomes of restoration intervention
- Make a record of pollution incidences for the community
- Track additional factors that could influence the project

What

Common metrics + parameters:

- tree diameter at breast height,
- individual survival over time,
- species abundance,
- water temperature,
- chemicals in air or water,
- linear feet of shoreline or riparian habitat restored

Ecological Monitoring: How + When

How

- Establish a location
- Make an equipment list
- Standardize data entry sheets or system
- For continuous monitoring consider low cost sensors
- Use open source tools for data management and visualization

When

- Continuous or discrete data?
  - Continuous: air quality monitoring
  - Discrete: species presence
- Are you intervening in the ecosystem?
  - “BACI” design: before-after-control-impact
- Capture variability appropriate to the ecosystem
  - Coastal sampling vs Forest plot

Ecological Monitoring: Who + Where

Who

Partners:

- Volunteer citizen scientists, local universities, watershed or floodplain managers

Data Users:

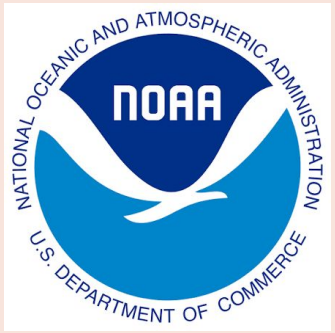
- Local “friends of” group, conservation organization, funders

Where

- Public data repositories
- Data you collect can also support other data collection efforts (bio-blitz)
- Share your methods - make instructions understandable

Grant Performance Monitoring













Grant Performance Monitoring

1	**Why**	Gauge effectiveness and progress during the grant
2	**What**	Volunteer hours, people reached, trees planted, reports produced
3	**How**	Sign-in sheets, social media analytics, a simple progress tracker
4	**When**	Once per event (a meeting) or repeatedly (volunteer hours)
5	**Who**	Partners and volunteers collect; funders and the public use it
6	**Where**	Performance reports

Permitting Basics

Three levels of rules

- Federal: National Environmental Policy Act, Clean Water Act
- State: may be stricter; check state code or call the office
- Local: municipal ordinances
- Tribal: Tribal nation or BIA

Partner early

- Ask the permitting agency what is required
- Bring in a consultant or local expert
- Budget for permit monitoring in the grant

Monitoring for Permitting

1	**Why**	Show you meet environmental regulations
2	**What**	Permit requirements (sediment loading, linear feet shoreline, plant survival)
3	**How**	Follow standardized methods outlined in the permit's monitoring plan
4	**When**	Full term of permit requirement
5	**Who**	You or a qualified partner or contractor collect data; the agency holding the permit reviews for compliance
6	**Where**	Performance reports to the permitting agency

The Data Lifecycle



Monitoring plans help you **PLAN** and **COLLECT** data.

It’s good practice to consider how the data will be used later.

Share the love, share your data

Make it usable

- Consistent templates with consistent defined units
- Metadata: data about your data
- Simple quality checks before you submit
- Backups, a named steward, and a long-term home (public repositories)

Funder-side perspective

- Same metric, different measurements (“lbs avoided per year” vs. “lbs removed once”)
- Planned metrics never reported
- Same term, different definitions (what counts as a “plan” or a “tool”)

Relationship Building for Grants

Connect with your Program Officer early

Your program officer or point of contact is there to support you as you develop your project.

Be honest about lessons learned

If things go differently from what was planned, communicate clearly and explain what you learned from it.

Seek training

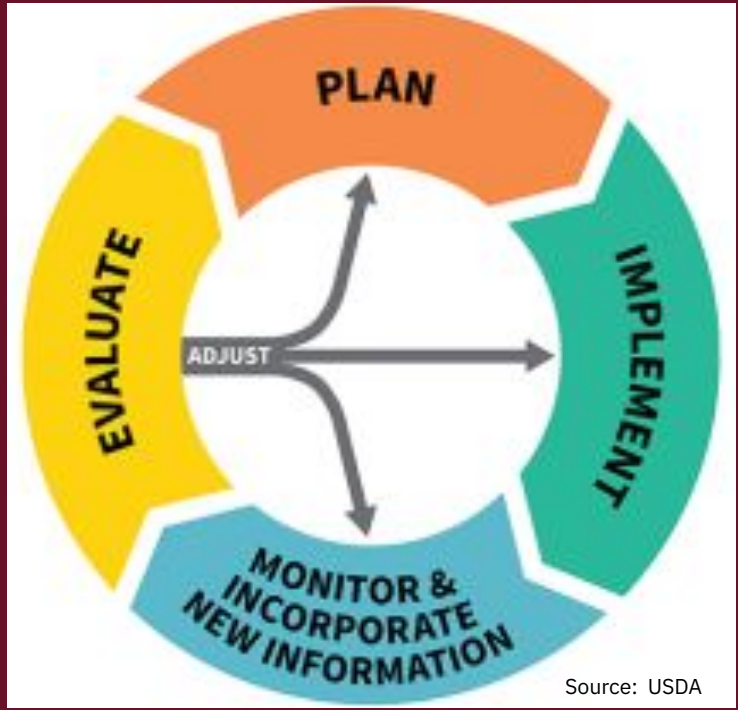
If your funder offers training for data requirements or monitoring, sign up! This ensures you are following standards, but also communicates a willingness to learn from them.

Additional Questions a grant reviewer might ask

- Did the project accomplish what it set out to do (outputs)?
- Did the project achieve the intended outcomes?
- How did the results compare to similar efforts?
- What factors influenced project success?

Adaptive Management + Resilience

"Adaptive management [is a decision process that] promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood." - DOI 2009 Technical Guide



Source: USDA

Any Questions?

- **Q: Please explain the ecological monitoring again.**

- A: There are different purposes or reasons why you start a project (your why or your goal to solve a problem). The purpose should guide *what* you measure, and how you measure it.

- Slide 16 is a good first framework to clearly define your problem, goal, and objective and the Questions framework we go into is a good second framework to fill out more details, after you've clearly defined your purpose for monitoring.

Any Questions?

- **Q: Is there a percentage or rule of thumb amount of time that people should devote to monitoring in their grants?**

- A: It varies by the grantmaking or regulatory agency. For example, at the RESTORE Council there was a previous requirement to allocate a percentage of funding to monitoring.
- Some funders will require monitoring for a minimum period of time.

Any Questions?

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- A:

Next week's session:

Tree Planting + Disaster Planning: planning climate resilience projects

Calendar invitations forthcoming
Contact ayize@a2coalition.org or amanda@a2coalition.org with questions

Post-session:

You will be redirected to a short feedback survey

Materials for offline learning forthcoming