

Executive Committee Meeting

July 17, 2014

Meeting Materials:

Meeting Agenda

Meeting Minutes

New Mexico Interstate Stream Commission Update

Population Monitoring Workshop [presentation]

Forest Fires and Water Quality [presentation]



**Middle Rio Grande Endangered Species
Collaborative Program
EXECUTIVE COMMITTEE
MEETING AGENDA
Thursday, July 17, 2014
9:00am – 12:00pm**

**Location: BIA, 1011 Indian School Rd., Albuquerque, NM
Building II (next to Holiday Inn Express), Room 271**

- | | |
|--|------------|
| 1. INTRODUCTIONS AND REVIEW OF PROPOSED AGENDA* | 10 minutes |
| 2. DECISION – APPROVAL OF JUNE 5, 2014 EC MEETING SUMMARY* | 10 minutes |
| 3. AGENCY FISCAL AND POLICY PLANNING UPDATES | 60 minutes |
| <ul style="list-style-type: none"> A. US Army Corps of Engineers (<i>K. Schafer</i>) B. Bureau of Reclamation (<i>M. Hamman</i>) C. US Fish and Wildlife Service (<i>M. Shaughnessy</i>) D. Non-Federal update (<i>TBD</i>) E. Collaborative Program Projects (<i>CC Co-chairs</i>) <ul style="list-style-type: none"> i. Decision - approval of 2012 Program Annual Report* ii. Presentation – Forest fire effects on water quality (<i>Dave Van Horn & Cliff Dahm</i>) | |
| 4. DECISION - POPULATION MONITORING (CPUE) WORKSHOP
OBJECTIVES, STRUCTURE, AND LOGISTICS (<i>R. Billings</i>) | 15 minutes |
| 5. 2014 MAT Recommended Actions* | 15 minutes |
| BREAK | 15 minutes |
| 6. OTHER ACTIVITIES | 30 minutes |
| <ul style="list-style-type: none"> A. Hydrology Forecast (<i>M. Hamman / K. Schafer</i>) B. Species Update (<i>USFWS</i>) | |
| 7. OTHER ACTIVITIES | |
| 8. MEETING SUMMARY | |
| 9. PUBLIC COMMENT | |
| 10. ANNOUNCEMENTS | |
| 11. DECISION - NEXT SCHEDULED EC MEETING: Consider cancelling August 21 st meeting and reconvening September 18, 2014, location TBD. | |

**denotes read ahead*

Members

ABCWUA
ISC
NMDA
Sandia Pueblo
UNM

APA
Isleta Pueblo
NMGF
Santa Ana Pueblo
USACE

CABQ
NMAGO
MRGCD
Santo Domingo Tribe
USFWS
Reclamation

**Middle Rio Grande Endangered Species Collaborative Program
Executive Committee Meeting
July 17th, 2014 – 9:00am to 11:50am**

**Bureau of Indian Affairs
1011 Indian School Rd.,
Albuquerque, NM**

Decisions

- The June 5th, 2014 EC meeting summary was approved for finalization with the following correction:
 - On page 2, under the Corps' agency update, the first square bullet was corrected to "The Corps is nearing completion of *a recommendation on their consultation.*" The remainder of that sentence will be omitted.
- With no objections voiced, the 2012 Program Annual Report was approved for finalization with no changes.

Actions

- Non-federal partners were reminded to submit their 2013 Non-Federal Cost Share to Ali Saenz as soon as possible. Please use the Cost Share Reporting Template (Document ID 4187) on the database.
- Ali Saenz will post the Population Monitoring (CPUE) Workshop presentation from the July 17th EC meeting to the Program's database for attendees to access.
- Ali Saenz will post the Forest fires and water quality UNM presentation from the July 17th EC meeting to the Program's database for attendees to access.

Requests/Recommendations

- It has been suggested that the August 21st EC meeting be cancelled due to a lack of decision items on the agenda, and the EC reconvene in September. In response, some attendees expressed scheduling conflicts with early September. As a result, the August 21st EC meeting will remain on the calendar to be reevaluated closer to the meeting date.
- It was requested that through their budgeting process, the CC oversee inclusion of activities/associated costs and funds/contributions by all parties (federal, non-federal, etc.) into the annual reports.
- It was suggested the CC could put together a monthly EC report that "tracks" all the different and on-going "endeavors" – RIP implementation, Population Monitoring (CPUE) Workshop and sufficient progress measures, draft BO, hiring of the Executive Director, hiring of the Science Coordinator, setting up the Science Advisory Panel, etc.
- It was requested that the Population Monitoring (CPUE) Workshop survey be resent to the EC signatories after the workshop as well.

Next Meeting: August 21st, 2014 from 9:00am to 1:00pm at Reclamation – TO BE CONFIRMED

- The August meeting could potentially be cancelled due to lack of decision items on the agenda and the EC reconvened in September. The August 21st EC meeting will be reevaluated for need closer to the meeting date.
- Tentative agenda items include: (1) Update on pending WildEarth lawsuit; (2) Decision – 2013 Program Annual Report; (3) CC list of potential presentations for EC;
- Potential Future Agenda Items: (1) Discussion on chartering (if/when) of MAT;

Upcoming Dates and Deadlines:

- ~~July 22nd —MAT meeting~~; cancelled
- August 6th – CC meeting, 9:00am to 11:00am at Reclamation
- August 12th – MAT meeting, 9:00am to 11:00am TDB
- August 19th – HRW meeting, 12:30pm to 3:30pm at Reclamation
- August 21st – Regularly scheduled EC meeting; potential for cancellation

Meeting Summary

Introductions and agenda approval: Rick Billings brought the meeting to order and introductions were made. A quorum was confirmed and the agenda was approved with no changes.

Approval of the June 5th, 2014 EC Meeting Summary:

- The June 5th, 2014 EC meeting summary was approved for finalization with the following correction:
 - On page 2, under the Corps' agency update, the first square bullet was corrected to "The Corps is nearing completion of a *recommendation on their consultation*." The remainder of that sentence will be omitted.

Agency Fiscal and Policy Planning Updates:

- *U.S. Army Corps of Engineers (USACE or the Corps):*
 - As reported, the Corps is completing a thorough reassessment of proposed actions for the Middle Rio Grande (MRG). At this time, the reassessment has indicated that none of the actions require consultation – this assessment has been vetted through the Corps' "chain of command" and has been endorsed by Headquarters. On June 13th, a notice letter stating this position was delivered to the Service.
 - In response to a question on the role of the Corps in context of the Recovery Implementation Program (RIP), it was reiterated that the Corps intends to continue involvement and to be an active participant in the RIP. The Corps intends to use their authorities to help accomplish the activities of the RIP.
 - The Corps has authorization to participate in the Program and that authority will translate to the RIP once that transition has occurred. Continuing activities and future work falls under more traditional, existing authorities.
- *Bureau of Reclamation (Reclamation):*
 - Reclamation's budget is slowly progressing through congress and the hope is to have an approved budget before the end of the fiscal year. However, there is a possibility that the new fiscal year will begin under some form of Continuing Resolution.
 - An agreement with the Service, has been reached that waived the policy of prohibiting the use of refuge lands for irrigation credits for wetlands and habitat. This agreement allows for a close, working relationship with the Valle de Oro, Bosque del Apache, and the Sevilleta to explore wetland and habitat improvements and to achieve "credits." It supports the collective goal of improving the river corridor and helps the refuges to achieve parts of their missions.
 - A federal lawsuit is expected to be filed on Tuesday (07/22/14). The understanding is that the lawsuit will be filed against Reclamation. There has been no mention of whether or not the Corps will be included. Collectively with MRGCD and the State, there is a strong defense that demonstrates all the positive management that has been and continues

- to be done. Unfortunately, a lawsuit will only take away time, energy, and resources that could have been used engaging in on-the-ground activities.
- Reclamation continues to work closely with the Service and non-federal partners on ways to fully analyze the effects of the proposed actions and secure enough commitments to address those effects.
- *Fish and Wildlife Service (Service):*
 - The Service continues to work closely on the Section 7 consultation and issuing a new Biological Opinion (BO). The local offices are working closely with Reclamation and the non-federal entities on (1) the hydrologic objectives and how “the realities” factor into future plans and (2) further refining of the MRSI (Matrices of River System Impacts - an affects analysis).
 - The Service has received the Corps’ consultation status letter and will be responding in the near future. The Service shares the concerns about the timeline to issuing a new BO.
 - *Non-Federal Update:*
 - *NM Interstate Stream Commission (ISC):*
 - The fiscal year for the State starts July 1st. ISC has a summary description of the work completed for the last year.
 - ISC has made a number of requests to the Governor’s office seeking support of the RIP. ISC has since received several million for capital funding for Program work over the next several years.
 - ISC continues to participate in the reevaluation of the effects analysis of the proposed actions in the BA supplement including determining what other actions might need to be put forward and covered.
 - *Collaborative Program Projects:*
 - *Coordination Committee (CC):*
 - The CC has been addressing work group status and work plan efforts. At the September meeting, the group intends to start on the FY2015 funding work plans. The CC is in final review of the 2013 Program Annual Report which will be elevated for EC approval in September.
 - CC also looking at other presentation ideas for the EC to consider.
 - *Approval of 2012 Program Annual Report:*
 - EC attendees briefly discussed the 2012 Program Annual Report that was provided as a read ahead for today’s meeting.
 - It was commented that the report appears to be focused on Reclamation funding as opposed to “the big picture” of the Program with all the contributions (ex. State and the Corps).
 - The Corps has issued their own funding report.
 - Concern was shared it is difficult to have accurate information on other contributions when the Cost Share reporting is behind.
 - It was requested that through their budgeting process, the CC oversee inclusion of activities/associated costs and funds/contributions by all parties (federal, non-federal, etc.) into the annual reports.
 - With no objections voiced, the 2012 Program Annual Report was approved for finalization with no changes.

○ *Presentation: The Effects of Forest Fires on Water Quality:*

- Clifford Dahm and Dave Van Horn (UNM) presented on forest fires and the impacts on water quality for the MRG. This work is a joint EPSCoR, Corps, and UNM effort.
- There are multiple stressors on any given system, and for the MRG, fire is just one of them. Dozens of problems interact on multiple fronts.
 - “People often ask, what is the single most important environmental problem facing the world today? ...The most important environmental problem facing the world today is the misguided focus on identifying the single most important problem.”
- As part of this work, there has been a continuous water quality monitoring network for the MRG since 2005 (through to the present) to assess temporal and spatial water quality changes.
 - NM EPSCoR has developed and deployed water quality sensors for the monitoring of stream water in high altitude environments to investigate controls on water chemistry in a changing climate.
- In this water quality monitoring network, measurement of water quality parameters are taken anywhere from every 15 minutes to every hour.
- There are 8 continuously measuring locations - with some co-located with USGS gages - both upstream and downstream of fire impacts.
- The Las Conchas fire started in June of 2011 and burned through most of July. At the time, it was the largest wildfire in NM history burning 150,000 acres.
- The monsoon came late that year (late July) and began to precipitate upon the burn scars resulting of massive mobilization of ash, sediment, burned material, black carbon (ex. charcoal/ash/burned organics) into the Cochiti Reservoir and the river itself.
- For the purposes of this presentation, 2 of the 5 parameters will be highlighted: dissolved oxygen (DO) and turbidity which are of high importance due to impacts on species and indications of cleanliness.
 - Prior to the fire, during a typical summer, DO and turbidity never really “spike” above 50 to maybe 100 NTUs. There are occasional slight “sags” but mostly they remain stable.
 - The fire resulted in dramatic changes:
 - Turbidity, following the fire, increase dramatically: up to 1000+ NTUs.
 - The DO, for the same sites, plummeted and remained low for about 1 month. Other sites saw repeated DO sags (4 incidents). Specifically, the DO dove to “0” five times after the fire.
 - Nutrient data increased with each DO sag - NO₃ increased by about 6 fold. Phosphates increased by 100 fold.
 - The DO sags were associated with discharge events. Interestingly, a lot of the DO sags are not associated with the large flow events but much smaller discharges that were carrying heavy loads of material.
 - The DO sags are “stronger” in the upper locations of the river and begin to attenuate downstream. But they can be tracked 50 miles downstream.
 - Sags are associated with the black carbon events coming off the burn scars. The pH data supports

this – heterotrophic respiration is producing CO₂ forming a weak acid and lowering the pH.

- Since 2011, the river has slowly been (and still is) recovering. There are some sags still occurring – just not as frequent, as long, or as pronounced.
- *Questions*
 - In response to a question regarding other sources that could be contributing to the water quality, it was shared that in all situations there are multiple stressors and multiple sources (ex. urban runoff, arsenic and organics, etc.). However, at the particular point(s) in time, the only option that explains these sags is related to the burn scar scouring.
 - In response to a question regarding the challenges related to algal growth and related issues, it was shared that there are fertilization affects that can impact the nutrient supplies and resulting plant growth.
 - Regarding the duration of the sags, it was clarified that they are on the order of hours - 0 oxygen for up to 3 hours.
 - There are definitely impacts of these events on wildlife in the river, but there are only anecdotal reports of dead organisms and fish for this project work.
 - In response to a question on the ½ unit change in pH, it was shared that the heterotrophic respiration can drive down the pH by producing CO₂. However, without knowing the alkalinity data it would difficult to try to “tease out” the subtleties. The amount of change depends on how well buffered the river is. The Rio Grande has a high alkalinity and the correlated parameters would have to be known.
 - There is water quality monitoring data for the high September flows in 2012, but the effects observed are small and not nearly as dramatic as what occurs with burn scars.
 - In response to a question on any positive affects a fire might have the system, it was responded that there are no observed “positives” in the first year following a fire. In subsequent years there may be an increase in primary production/food production.

Population Monitoring (CPUE) Workshop Objectives, Structure and Logistics

- The needs for and objectives of the workshop remain the same as reported last month.
- Reclamation has offered to fund the workshop as a Program workshop. Reclamation will have to use a TPEC to procure external experts. Going through the contracting process will delay the workshop until June of next year (2015). Program members in the workshop planning group will be as involved as possible.
 - Concern was voiced that continued delays might affect/impact the development of the sufficient progress measures and even the implementation of the RIP. It was responded that the original need for “haste” was based on the pending issuance of the BO; however, we are no longer in that same place. A new BO is not on the immediate horizon and the implementation of the RIP is delayed.
 - Attendees were reminded that when the RIP was introduced, the EC allotted 2 years from the initiation of the RIP to define the appropriate metrics for sufficient progress.
 - It was suggested that the EC 3rd Party Management Subcommittee renew focus on the priorities of the Program within the first 2 year: sufficient progress metrics, hiring of the Executive Director, hiring of the Science Coordinator, setting up the Science Advisory Panel, etc.

- Workshop surveys had been distributed to the signatories and 13 (out of 16) responded. The surveys will guide the agenda for the workshop with the goal of shaping the monitoring program to best meet EC needs.
 - In a brief summary of survey results, most responders thought population monitoring was of high importance. Some agencies don't think we are currently addressing it well - while others thought we have been doing a decent job. Most agencies agree that the majority of the population monitoring components are important if not critical. However, there was varying degrees of agreement on whether or not we are currently doing a decent job versus the need to improve.
 - Overall, most signatories think the current monitoring program is not meeting our expectations and our expectations are inconsistent with the goals and intent of the current population monitoring program.
 - Current monitoring may not be covering all the needs of the Program, but it was not necessarily intended to do so by the original design. Some of the survey responses might be reflecting changes needed to the monitoring program compared to when it was originally developed.
 - It was requested that the EC survey be resent to signatories after the workshop.

2014 MAT Recommended Actions

- Provided as a read ahead, the Minnow Action Team (MAT) provided their 2014 recommendations. These actions are not that different from what previously provided with the exceptions of some updates on what has already occurred.
- It was cautioned that there is still limited supplemental water available. Depending on the monsoons and once MRGCD begins to taper off use or runs out of water – then we may still have to make decisions on how to proceed during the summer.
 - The MAT recommends attempting to keep continuous river flow in Angostura - without focus on meeting specific flow targets - while maintaining some refugia in the downstream reaches.
 - It was pointed out that the MAT recommendations are things that are already being done and none of them are “extreme.”
 - The EC acknowledges and recognizes the significant effort of the MAT and the individuals who are participating and supporting this collaborative effort.

Other Activities:

- *Hydrology Update:*
 - On July 1st, there was an 85% allocation (of 96,200 ac-ft) to Heron. The runoff dropped off quickly in late June. There has been some rain into the system since then that has “boosted” flows back up to 150-200 cfs for a short time. It is hoped that we be close to 100% allocation but it will be the monsoonal events that will have the deciding impacts. If the allocation is short, it will be the first year of shortage ever.
 - The runoff into El Vado has been better than expected. 9,500 ac-ft has been stored for Reclamation's emergency drought water for the minnow, and 18,000 ac-ft reserved for Prior and Paramount (P&P) under a limited arrangement with the pueblos. For this year only – no precedence set – the pueblos have agreed to cap the P&P storage at 18,000 ac-ft which allowed for more storage for the District and Reclamation. The District expects to maintain current operations through mid-August and maybe later if monsoons hold.
 - Transfers out of Heron to Abiquiu will happen soon. The reality is that Heron can go to 0 if necessary, based on the hydrologic realities. It is not ideal nor desired, but it could happen.
 - To date, 13,000 ac-ft of supplemental water has been used. There is about 15,000 ac-ft available in Abiquiu and if a full allocation is met then we can expect an additional 12,000 ac-ft for a total of nearly 30,000 ac-ft of water available.

- There was some initial drying after the June 15th. Rescue and salvage operations initiated but the river rewetted with the recent rains.
- Temperature predications have moderated back to “normal” instead of “higher than normal.” The monsoonal predications are “normal” to even “above normal.” Hopefully, we will be able to manage the system well with the remaining amount of supplemental water. But a lot depends on Mother Nature.
- *Species Update:*
 - *Rio Grande Silvery Minnow:* No new information is available on the minnow population monitoring since the last report. Since June 16th, rescue and salvage activities have occurred on 23 miles of the Rio Grande. 542 larger minnow (>30 mm standard length) were rescued - 95% of which were hatchery fish. 58 minnow were found dead and counted toward take (22%). 78% (201 fish) of incidental take remain. During monitoring and salvage, 19 young-of-year minnow were discovered in the San Acacia Reach.
 - *Southwestern Willow Flycatcher and Yellow-Billed Cuckoo:* Reclamation, Bosque del Apache, and other staff continue conducting the flycatcher and cuckoo surveys. The status and critical habitat designation for the cuckoo is on track for determination this winter.
 - *New Mexico Meadow Jumping Mouse:* The jumping mouse was listed as endangered on June 10th. Bosque del Apache staff conducted surveys for the jumping mouse. A total of 19 mice were discovered and 3 of those were pregnant. The determination on critical habitat has been delayed until this winter.

Other Activities

- No additional activities were reported on.

Meeting Summary: Brent Rhees provided a brief meeting summary:

- The EC approved today's meeting agenda with no changes. A quorum was present.
- The June 5th, 2014 meeting summary was approved for finalization with 1 correction.
- Agency updates were provided.
- The CC will be finishing their review of the 2013 Program Annual Report and begin work on 2015 work plan.
- UNM presented on the effects of fires on water quality in the MRG.
- The approval of the 2013 Program Report was delayed until the September meeting to allow for more time to include contributions from other agencies.
- The Population Monitoring (CPUE) Workshop will be funded through Reclamation but this means that it has to proceed through the contracting process resulting in delay until June 2015.
- The EC acknowledges and recognizes the significant effort of the MAT and the individuals who are participating and supporting this collaborative effort. The 2014 MAT recommendations include attempting to maintain a continuous river flow through Angostura without focusing on specific flow targets and maintaining refugia in the downstream reaches.

Public Comment

- There was no public comment.

Next Meeting: **August 21st, 2014 from 9:00am to 1:00pm at Reclamation – TO BE CONFIRMED**

- The August meeting could potentially be cancelled due to lack of decision items on the agenda and the EC reconvened in September. The August 21st EC meeting will be reevaluated for need closer to the meeting date.

- Tentative agenda items include: (1) Update on pending WildEarth lawsuit; (2) Decision – 2013 Program Annual Report; (3) CC list of potential presentations for EC;
- Potential Future Agenda Items: (1) Discussion on chartering (if/when) of MAT;

Executive Committee Meeting Attendees
July 17th, 2014

Attendees:

<i>Representative</i>	<i>Organization</i>	<i>Seat</i>
Rick Billings (A)	Albuquerque/Bernalillo County Water Utility Authority	Non-federal co-chair
Brent Rhees	Bureau of Reclamation	Federal co-chair
Rolf Schmidt-Petersen (A)	NM Interstate Stream Commission	NMISC
Kris Schafer (A)	U.S. Army Corps of Engineers	Corps
Mike Hamman (P)	Bureau of Reclamation	Reclamation
Kathy Lang (A)	City of Albuquerque	COA
Subhas Shah (P)	Middle Rio Grande Conservancy District	MRGCD
Janet Bair (A)	U.S. Fish and Wildlife Service	Service
Janet Jarratt (P)	Assessment Payers Association of the MRGCD	APA
Matthew Wunder (P)	NM Department of Game and Fish	NMDGF
Alan Hatch (P)	Pueblo of Santa Ana	Santa Ana
Frank Chaves (P)	Pueblo of Sandia	Sandia

Others

Jim Wilber	Bureau of Reclamation
Jennifer Faler	Bureau of Reclamation
Ali Saenz	Bureau of Reclamation
Stacey Stanford	Bureau of Reclamation
Susan Bittick	U.S. Army Corps of Engineers
Ryan Gronewold	U.S. Army Corps of Engineers
Beth Pitrolo	U.S. Army Corps of Engineers
William DeRagon	U.S. Army Corps of Engineers
Justin Reale	U.S. Army Corps of Engineers
Amy Louise	U.S. Army Corps of Engineers
Joel Lusk	U.S. Fish and Wildlife Service
Wally Murphy	U.S. Fish and Wildlife Service
Jason Davis	U.S. Fish and Wildlife Service
David Campbell	U.S. Fish and Wildlife Service
Kevin Cobble	U.S. Fish and Wildlife Service/BdA NWR
Tom Sinclair	U.S. Fish and Wildlife Service/Conservation Office
Grace Haggerty (A)	NM Interstate Stream Commission
Chris Shaw	NM Interstate Stream Commission
Brooke Wyman	MRGCD
Kyle Harwood	BBD/City of Santa Fe
Rick Carpenter	BBD/City of Santa Fe
Joe Jojola	Bureau of Indian Affairs
David Van Horn	UNM/Presenter
Cliff Dahm	UNM/Presenter
Alaina Pershall	Tetra Tech/Contractor
Marta Wood	Alliant Environmental (note taker)

New Mexico Interstate Stream Commission
Update to the MRGESCP Executive Committee
July 17, 2014

The ISC closed out its FY14 fiscal year at the end of June. This past year the ISC continued to support Collaborative Program and its ESA-related activities addressing not only the 2003 BO but also the new BO development, the RIP implementation, and drought management. These included:

- Funded River Eyes support this year again from mid-March through the end of June due to a delay with Reclamation's contract.
 - River Eyes was needed early in the year because of the low snowpack and poor spring runoff. River Eyes was important to ensure that the river remained continuous as per the 2003 BO.
 - The ISC made adjustments to their Rio Grande Bureau ESA work plan to accommodate this critical need.
- Funded all operations and maintenance of the Los Lunas Silvery Minnow Refugium from October 1, 2013 to the present (ongoing) due to delay with Reclamation contracts. The ISC and Reclamation have agreed to split the cost for the LLSMR O&M and hope to complete the contracting process in the near future.
- The Service issued a new permit for the Los Lunas refugium. We are now focusing on raising fish for augmentation and holding adult broodstock. We are incrementally determining the number of fish that can be raised in the outdoor refugium. This spring the Los Lunas refugium received over 30,000 eggs from the Service with a goal of producing about 17,000 fish for augmentation this fall.
- Coordinated with the CPUE Monitoring Workshop group to reinitiate planning and implementation of the workshop. The intent is to address outstanding questions about CPUE and the current monitoring program and to lay the groundwork for the RIP silvery minnow population monitoring program. The group, with the assistance of Janet Wolfe of DBS&A (ISC funded), met regularly and included representatives from the Service, Reclamation, Corps, State, MRGCD and ABCWUA. The EC received a questionnaire that will be used to help guide the goals and objectives of the workshop. Progress was made on establishing process, logistics and funding. Several commitments for funding and participation were offered by federal and nonfederal entities. However, the Service expressed concerns over the potential appearance of conflict of interest in using nonfederal cost share funds to contract with external scientists. Reclamation expressed some contracting and legal concerns as well. Therefore, Reclamation offered to fund the workshop fully. While the ISC does not fully understand these concerns we are willing to agree to move forward as long as Reclamation prioritizes the workshop so that

it occurs within a reasonable timeframe. Reclamation must assure the EC that the CPUE Workshop group will continue to guide the direction of the workshop. We believe it is important for the Collaborative Program to continue to focus on this because it is critical for implementing the RIP.

- Supported the movement of stored water to create a spring spawning pulse in the event a natural runoff did not occur. Provided technical expertise for planning and analyses for the Minnow Action Team's recommendations. ISC staff co-chaired the Minnow Action Team. Provided permitted contractor support for egg monitoring in the Albuquerque Reach prior to and during the spring runoff events that occurred this year. Also conducted habitat restoration monitoring after the Spawning Pulse had occurred through SWCA. The spawning pulse was made possible thanks to the Rio Grande Compact Commission, ABCWUA, MRGCD, 6 MRG Pueblos, Corps and Reclamation.
- Remained engaged with Reclamation, Corps, Fish and Wildlife Service, and the MRGCD on the BO consultation process. As the Service began to consult with Reclamation on effects of the proposed actions, the State was made aware that its proposed action affects analyses were not consistent with those of Reclamation and MRGCD. To address this, the BA partners convened several meetings. The actions proposed by the State which currently include baseline effects and proposed effects of up to 60 years into the future, will be refined so that baseline, ongoing, and new actions are more clearly distinguished so that these actions can be comparable and consistent with the proposed actions of the other BA partners.
- The State continues to work with Reclamation, MRGCD, and the Service on the draft Hydrologic Objective to clarify the purpose and use of the document and recommend technical and policy modifications that would be used within the adaptive management framework of the Recovery Implementation Program.
- On July 15, ISC and OSE staff met with the 6 MRG Pueblo Water Coalition Technical Team. They presented and discussed from the State's perspective, the status and process of the MRG ESA consultation and the State's supplement to Reclamation's BA. OSE staff also addressed questions about groundwater pumping, permits, and transfers. We found the communication to be positive and it was agreed that additional dialogue would be beneficial.
- For the upcoming fiscal year, we plan to continue work on the vast majority of activities listed above and to implement projects associated with the approximately \$1.8 million of capital funding received from the State Legislature.

Population Monitoring Workshop
Middle Rio Grande Endangered Species
Collaborative Program
Recovery Implementation Program

Presentation to Executive Committee
July 17, 2014



Need for Workshop

- Not a critique of current monitoring program, but an opportunity to shape program to meet changing needs; preliminary survey results show varied expectations.
- Program assessment and biannual symposiums were discussed in the draft monitoring plan from Sept. 2006.
- Monitoring program has been in place for about 20 years with little modification or assessment.
- Regardless of resolution of RIP or BO, the need for effective fish monitoring and regular evaluation of fish monitoring remains.

Objectives

- Evaluate statistical properties and interpretations of the current RGSM monitoring program, including precision and accuracy of CPUE.
- Discuss, evaluate, and reconcile areas of concern/disagreement over CPUE.
- Discuss and evaluate population estimation for RGSM and compare and correlate with CPUE.
- Identify and evaluate other potential methods for monitoring the RGSM, including methods used in other river systems.
- Identify, discuss, and reconcile uses of CPUE for RGSM, including demographics and inputs and parameter estimates for Population Viability Analysis.

Funding

- Group has agreed that this will be a Program funded workshop.
- Reclamation will use a TPEC to procure external experts.

EC Survey

- Surveys will guide the agenda for the workshop with the goal of shaping the monitoring program to best meet EC needs
- 10 questions related to the fish population monitoring program
- Each question addresses:
 - A. Level of Importance for Each Need
 - B. How Well Current Monitoring Program Addresses Need

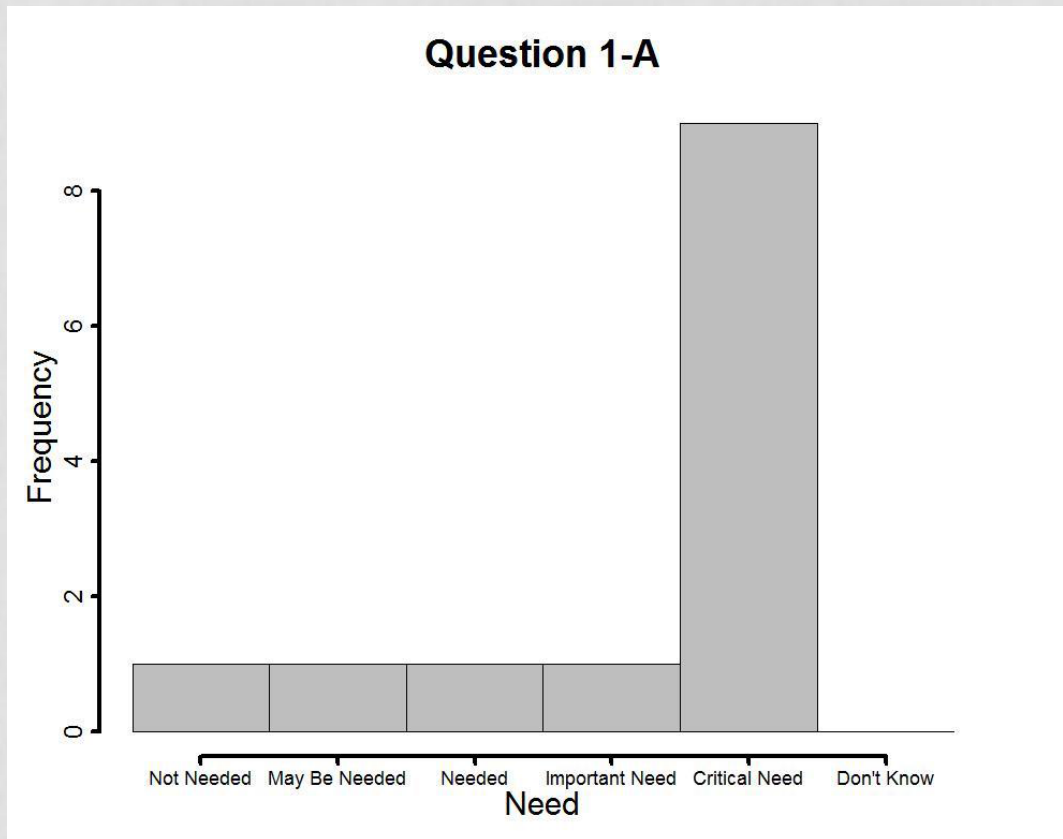
Survey Results

■ 13 signatories responded:

- Albuquerque-Bernalillo County Water Utility Authority
- Assessment Payers Association of the Middle Rio Grande Conservancy District
- Bureau of Reclamation
- City of Albuquerque
- Fish and Wildlife Service
- Middle Rio Grande Conservancy District
- New Mexico Department of Agriculture
- New Mexico Department of Game and Fish
- New Mexico Interstate Stream Commission
- Pueblo of Isleta
- Pueblo of Santa Ana
- U.S. Army Corps of Engineers
- University of New Mexico

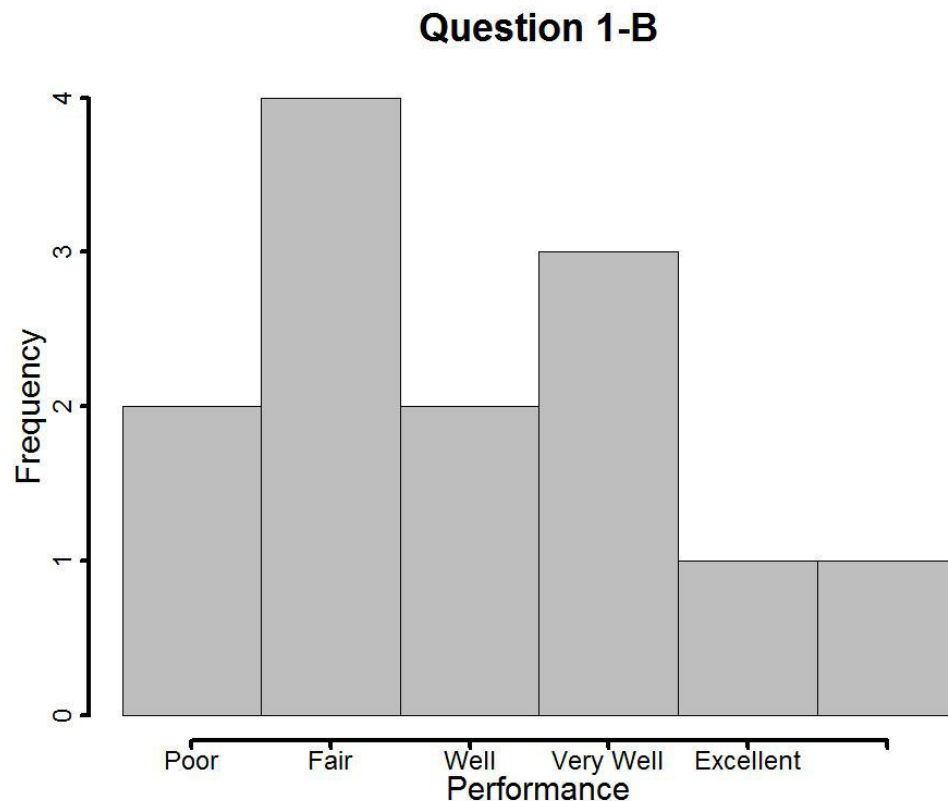
1. Provides estimates of long-term population trends (increase/decrease)

■ A. Level of Importance for Each Need



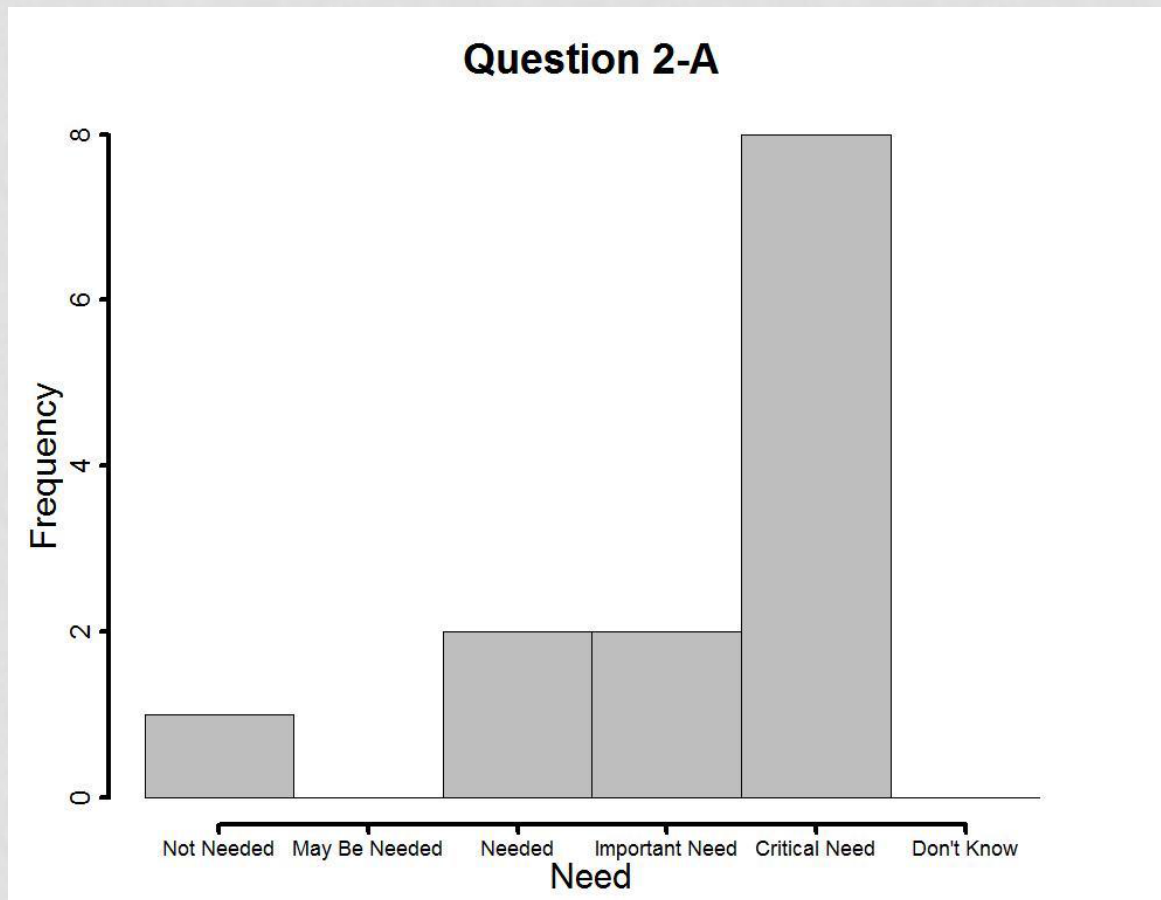
1. Provides estimates of long-term population trends (increase/decrease)

■ B. How Well Current Monitoring Program Addresses Need



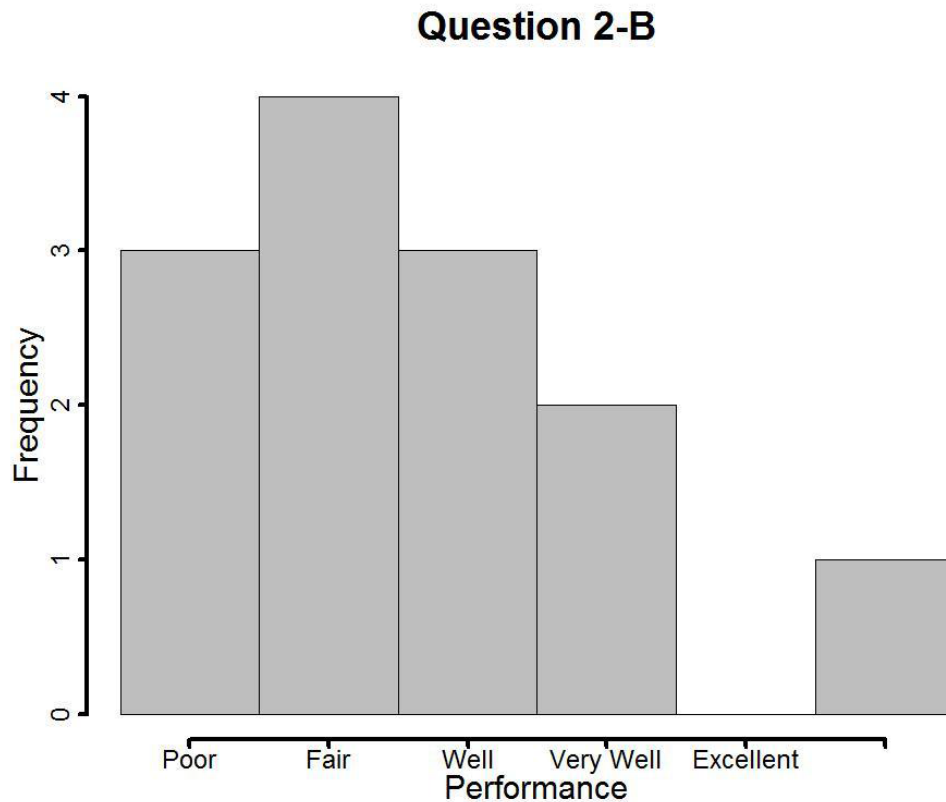
2. Provides estimates of population abundance over time and area.

■ A. Level of Importance for Each Need



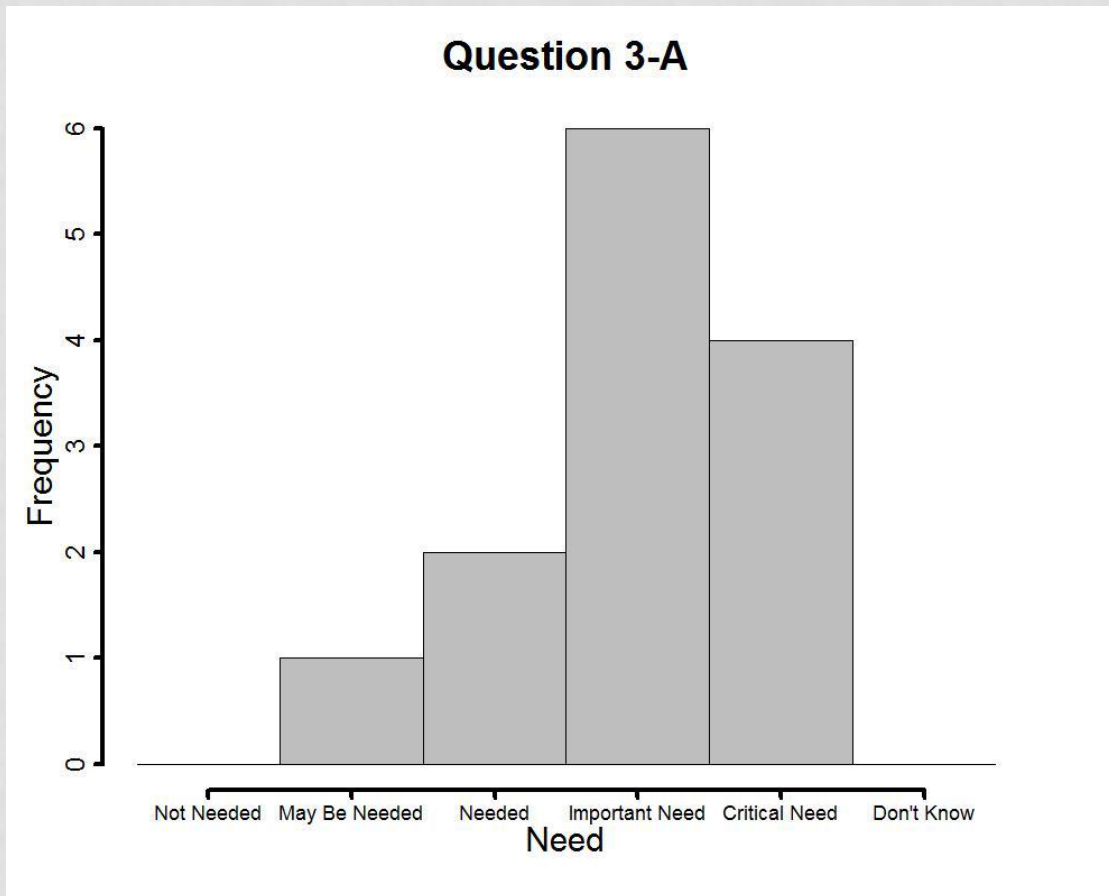
2. Provides estimates of population abundance over time and area.

■ B. How Well Current Monitoring Program Addresses Need



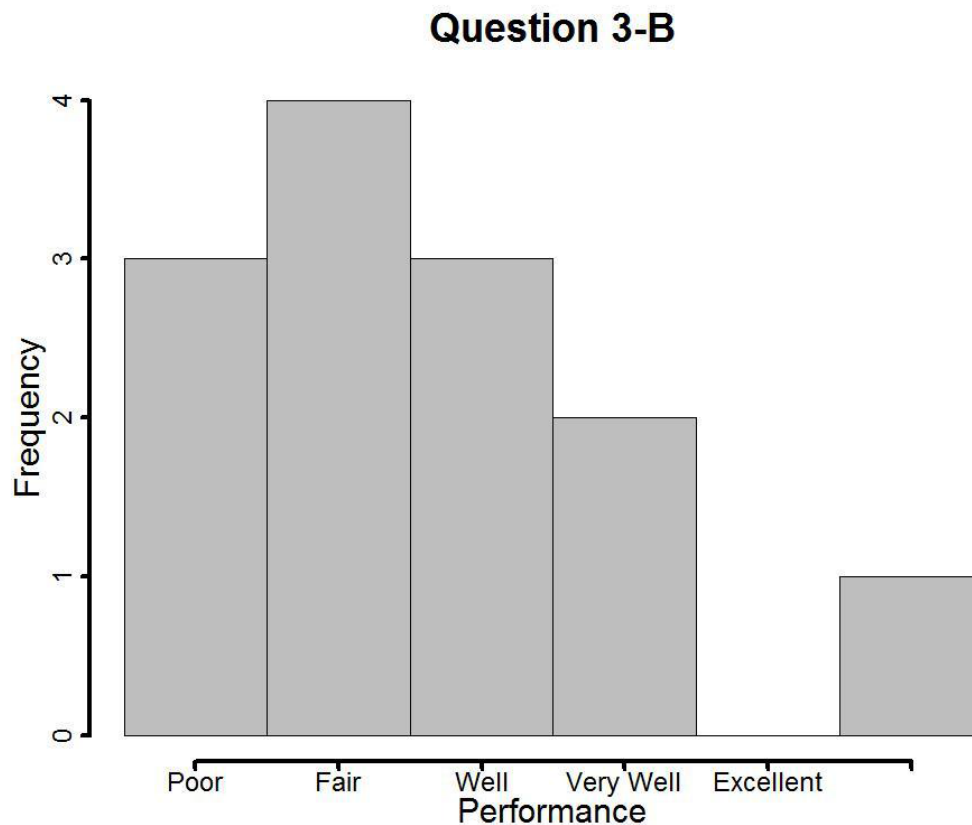
3. Evaluates species response to variations in natural conditions.

■ A. Level of Importance for Each Need



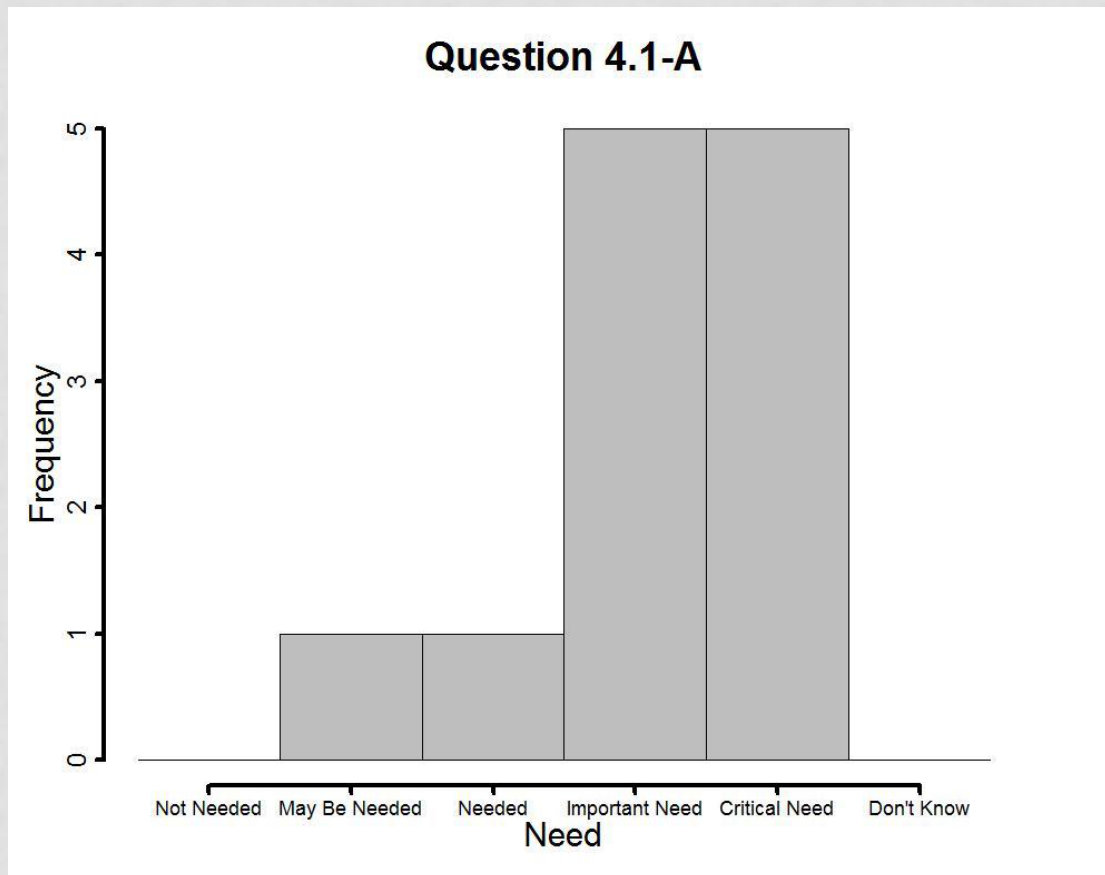
3. Evaluates species response to variations in natural conditions.

■ B. How Well Current Monitoring Program Addresses Need



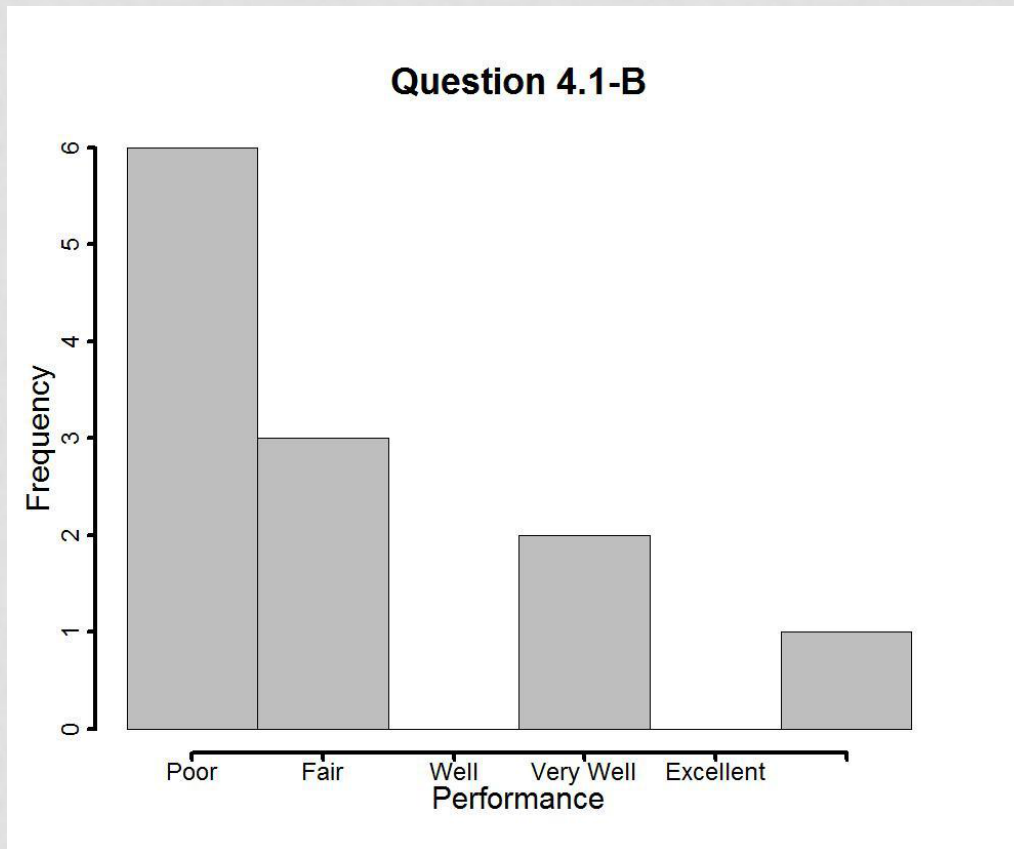
4.1 Evaluates species response to management actions: habitat restoration

■ A. Level of Importance for Each Need



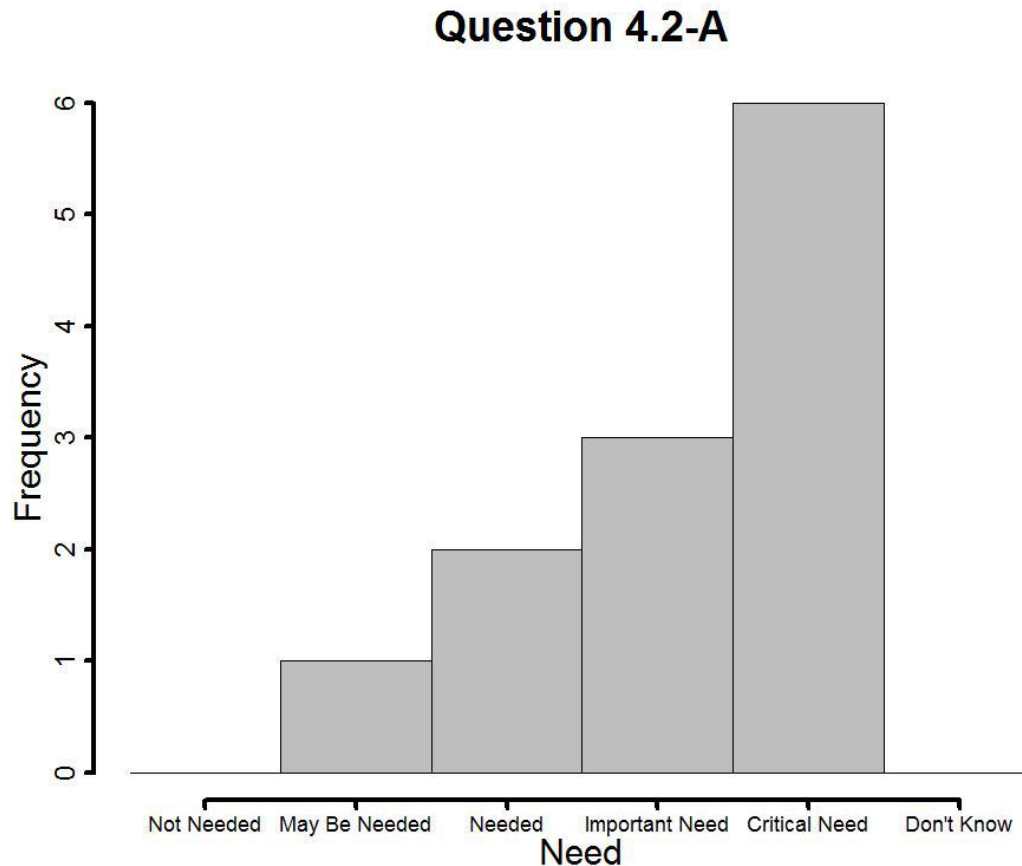
4.1 Evaluates species response to management actions: habitat restoration.

■ B. How Well Current Monitoring Program Addresses Need



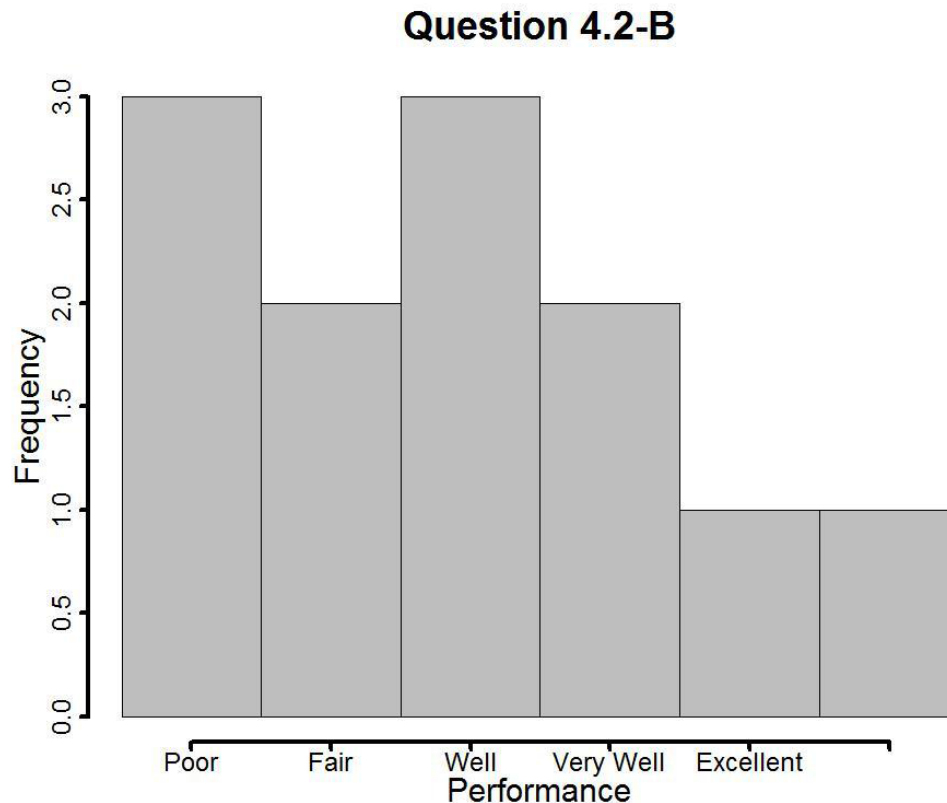
4.2 Evaluates species response to mgmt. actions: modified spawning flows.

■ A. Level of Importance for Each Need



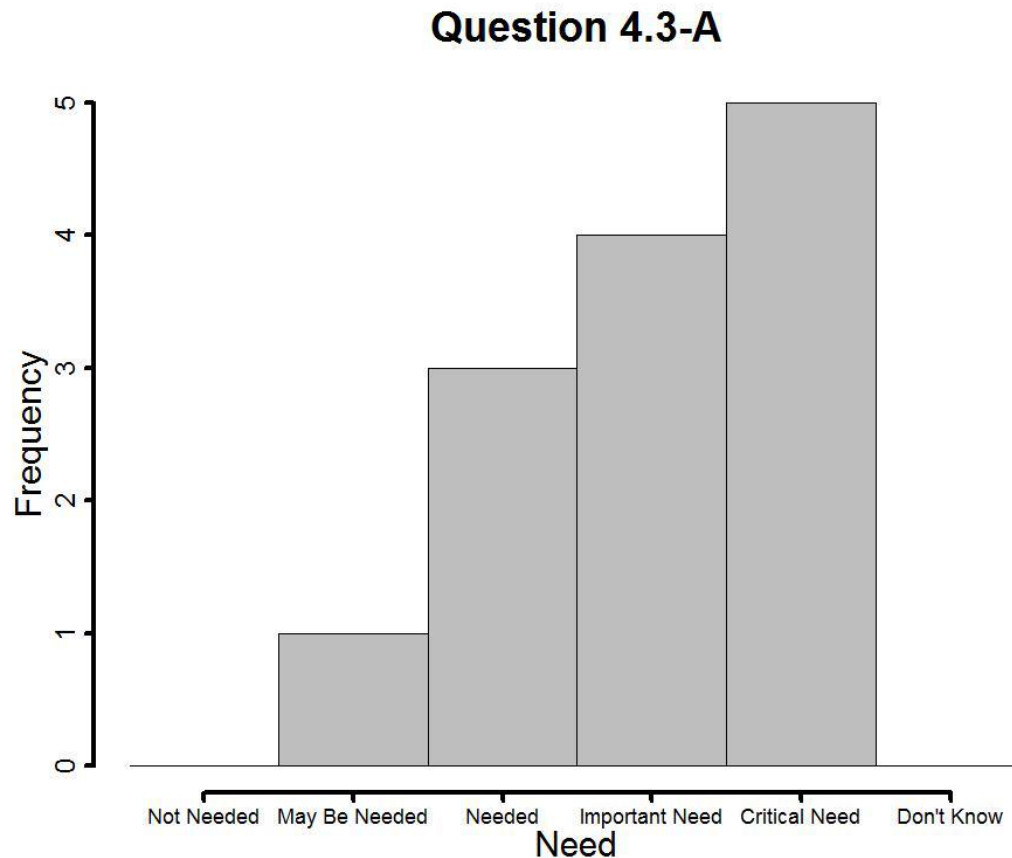
4.2 Evaluates species response to mgmt. actions: modified spawning flows.

■ B. How Well Current Monitoring Program Addresses Need



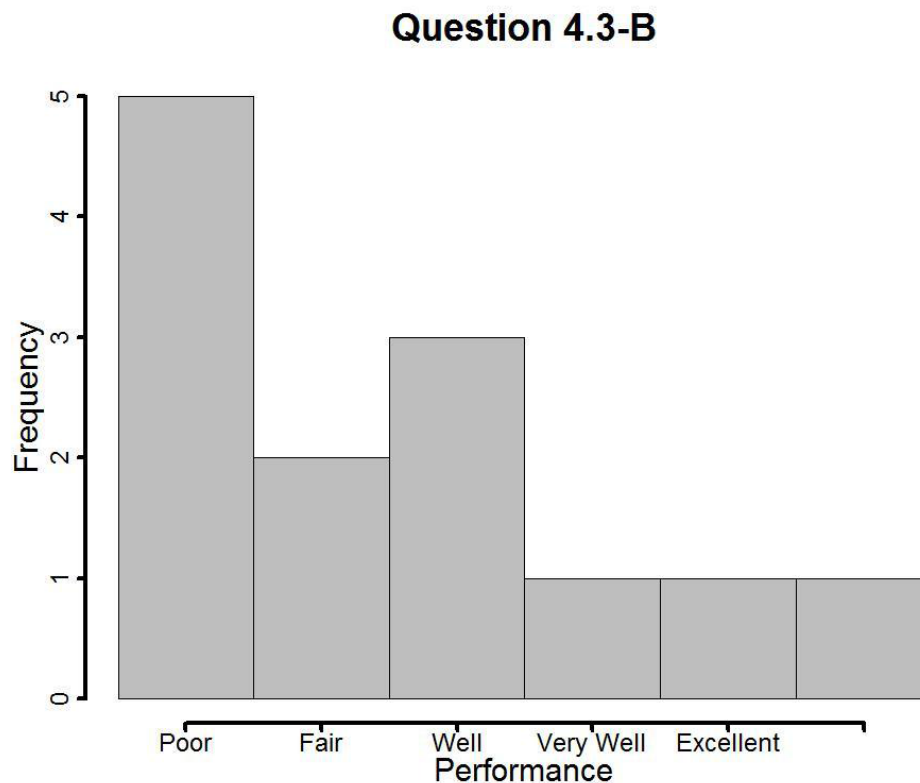
4.3 Evaluates species response to mgmt. actions: Summer/Fall/Winter operations.

■ A. Level of Importance for Each Need



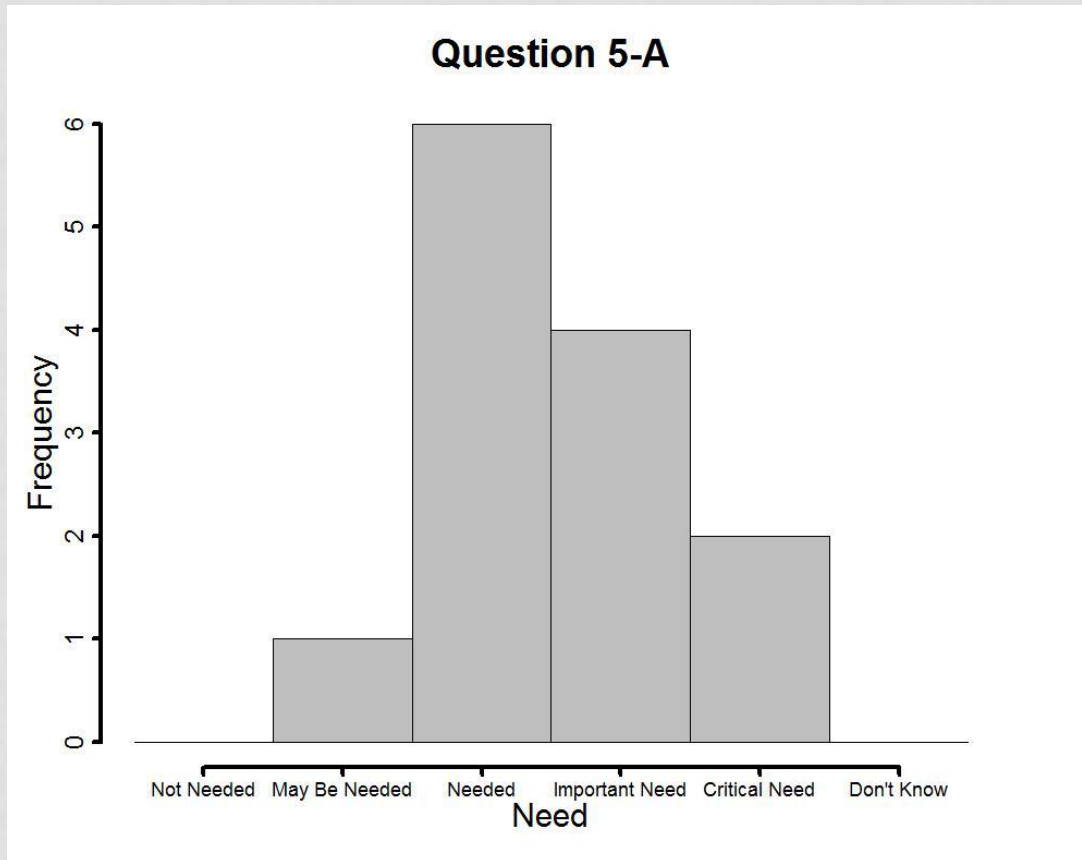
4.3 Evaluates species response to mgmt. actions: Summer/Fall/Winter operations.

■ B. How Well Current Monitoring Program Addresses Need



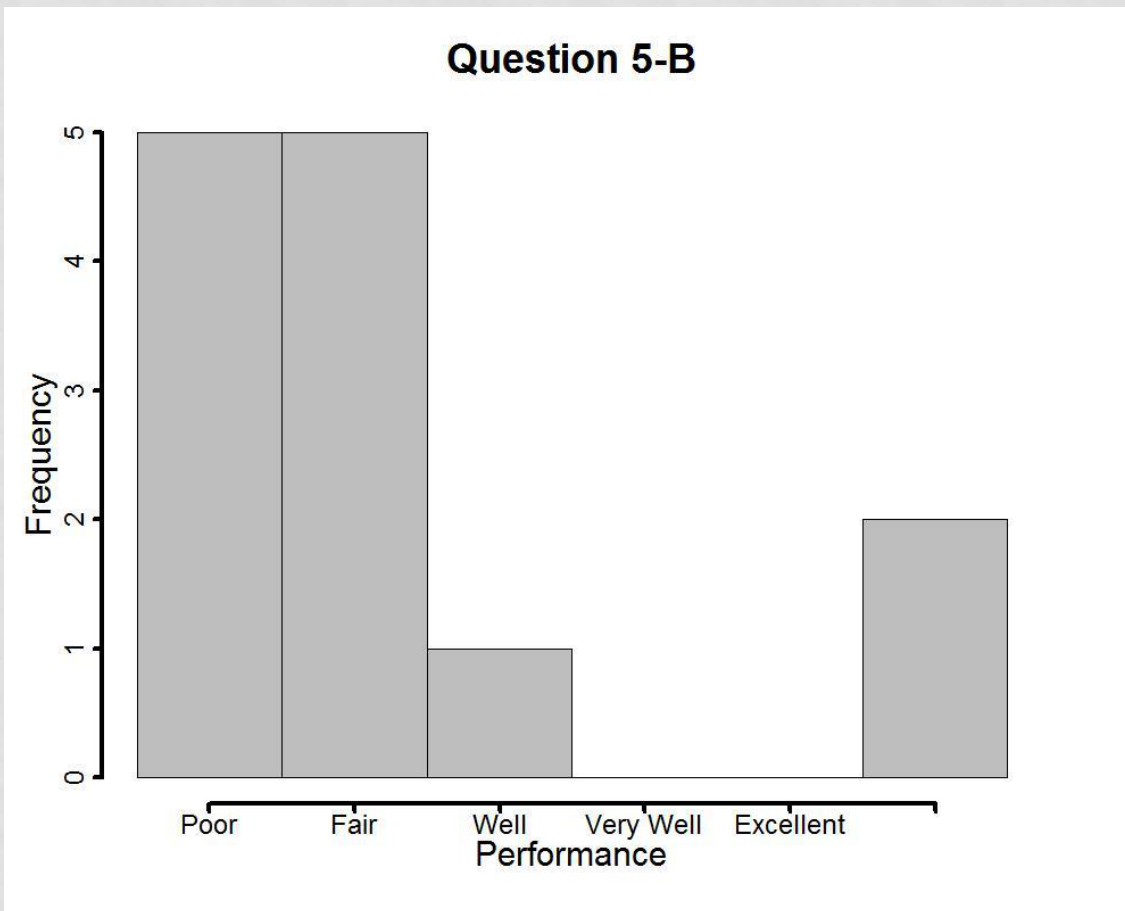
5. Refines understanding of species development and behavior.

■ A. Level of Importance for Each Need



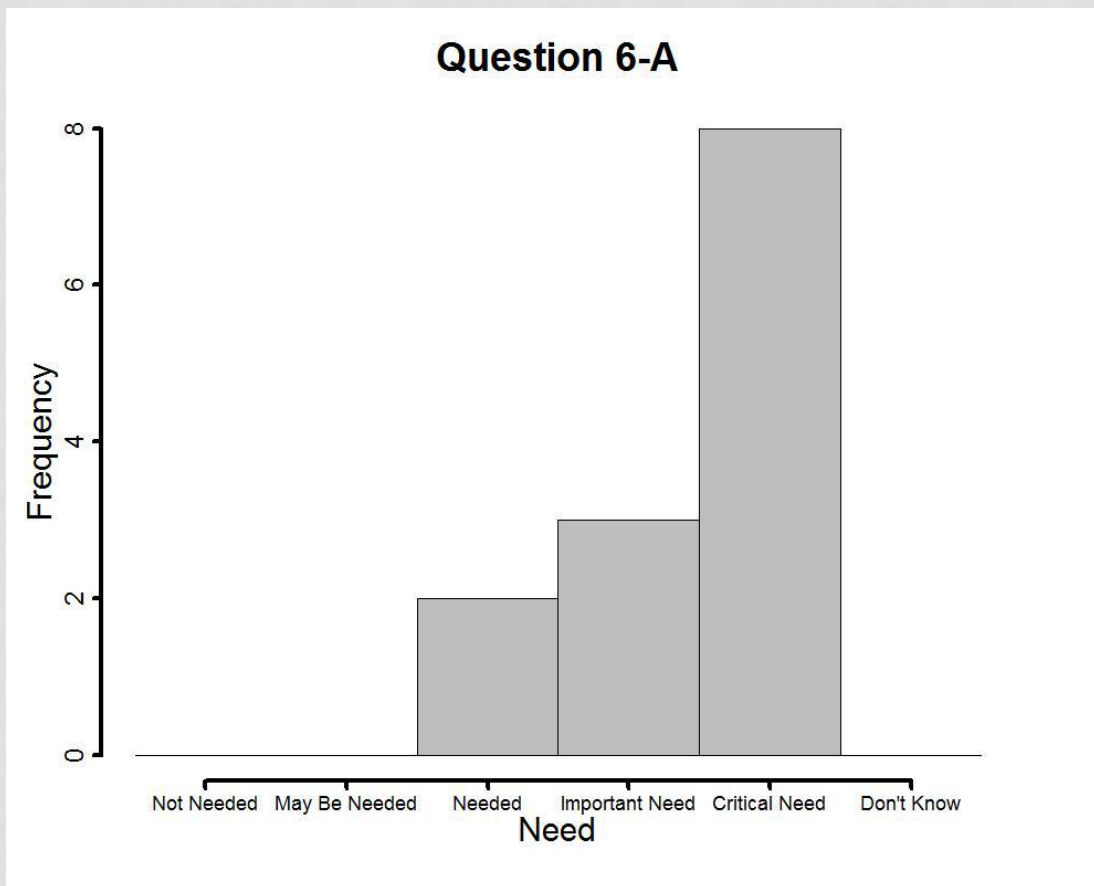
5. Refines understanding of species development and behavior.

■ B. How Well Current Monitoring Program Addresses Need



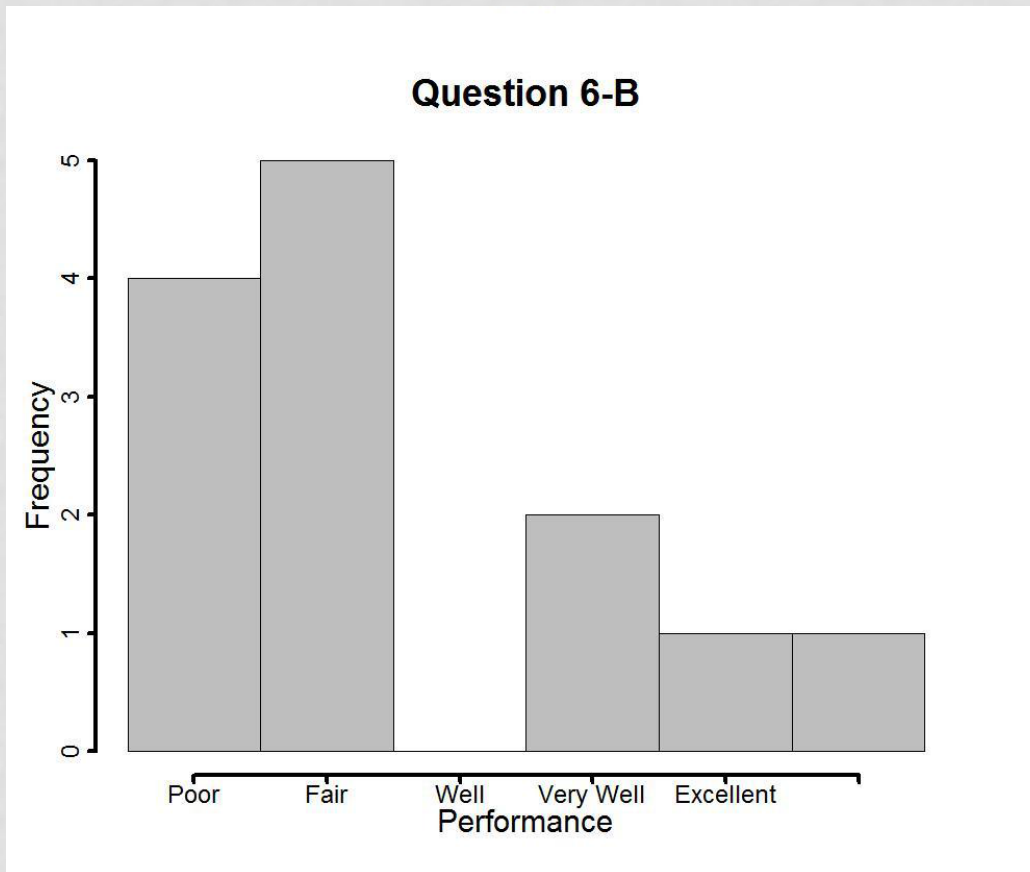
6. Evaluates progress toward species recovery.

■ A. Level of Importance for Each Need



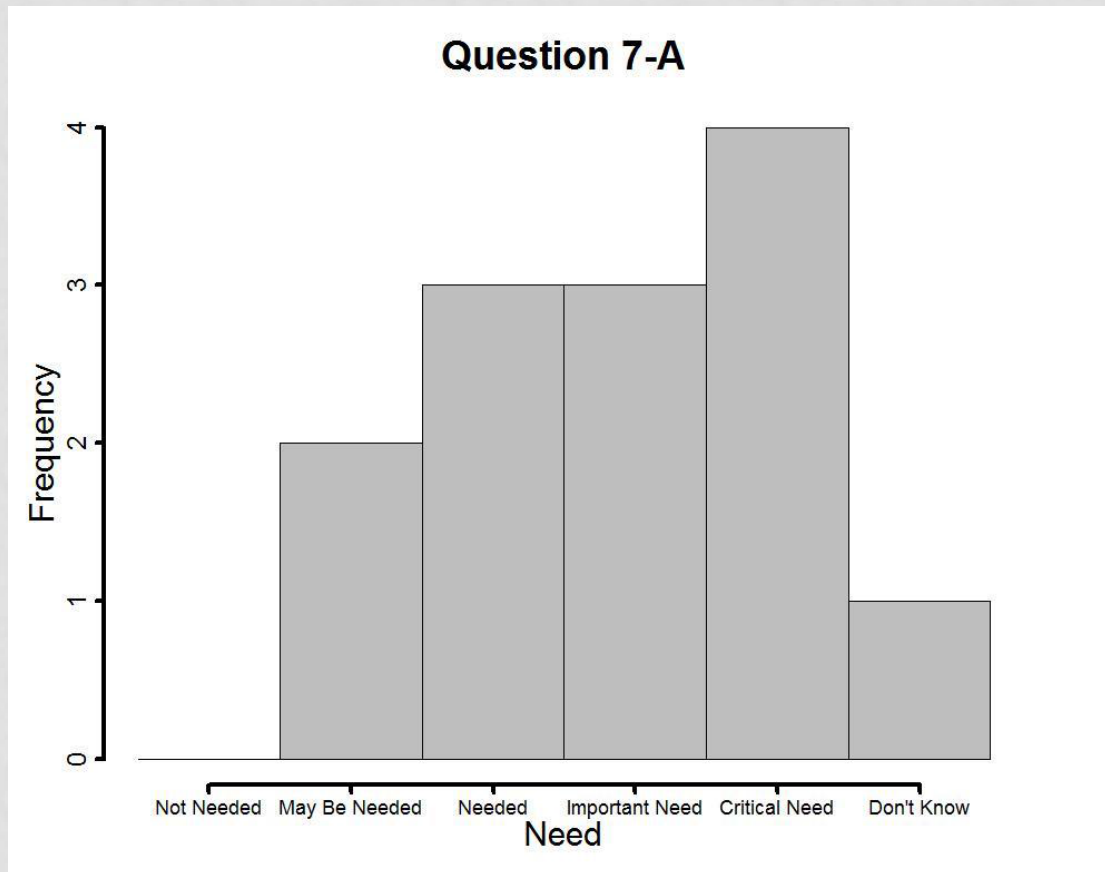
6. Evaluates progress toward species recovery.

■ B. How Well Current Monitoring Program Addresses Need



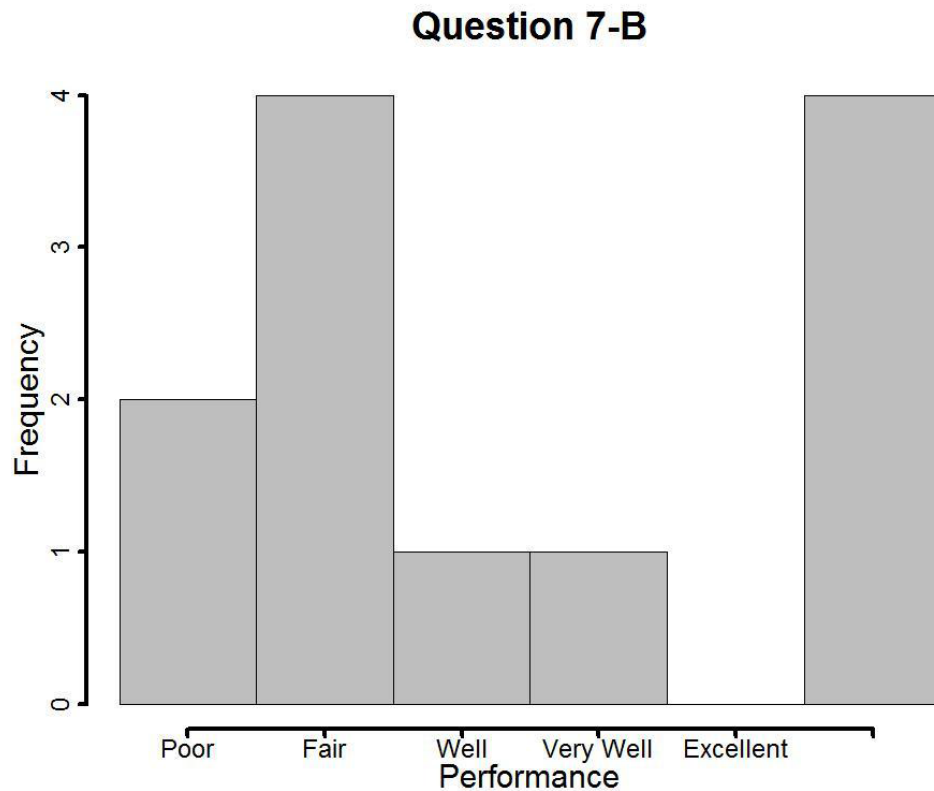
7. Evaluates sufficient progress.

■ A. Level of Importance for Each Need



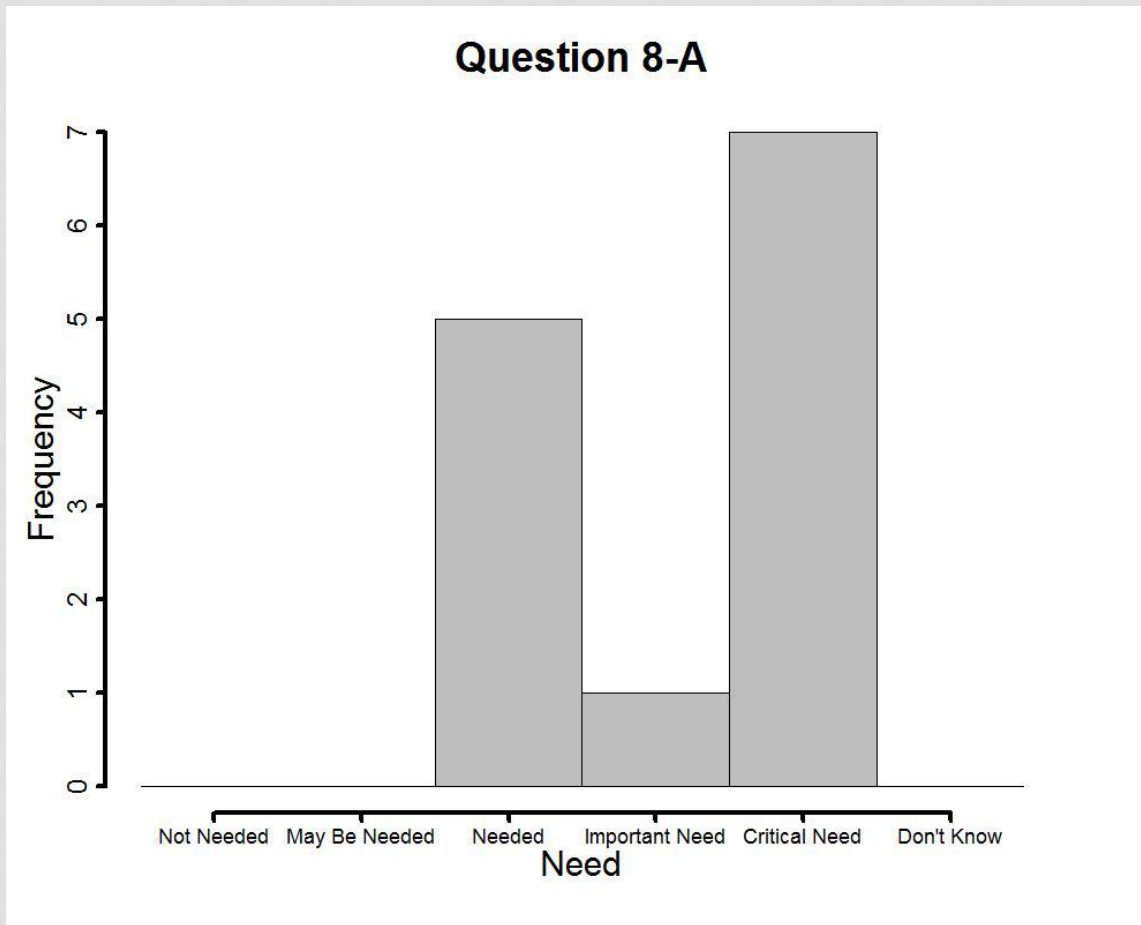
7. Evaluates sufficient progress.

■ B. How Well Current Monitoring Program Addresses Need



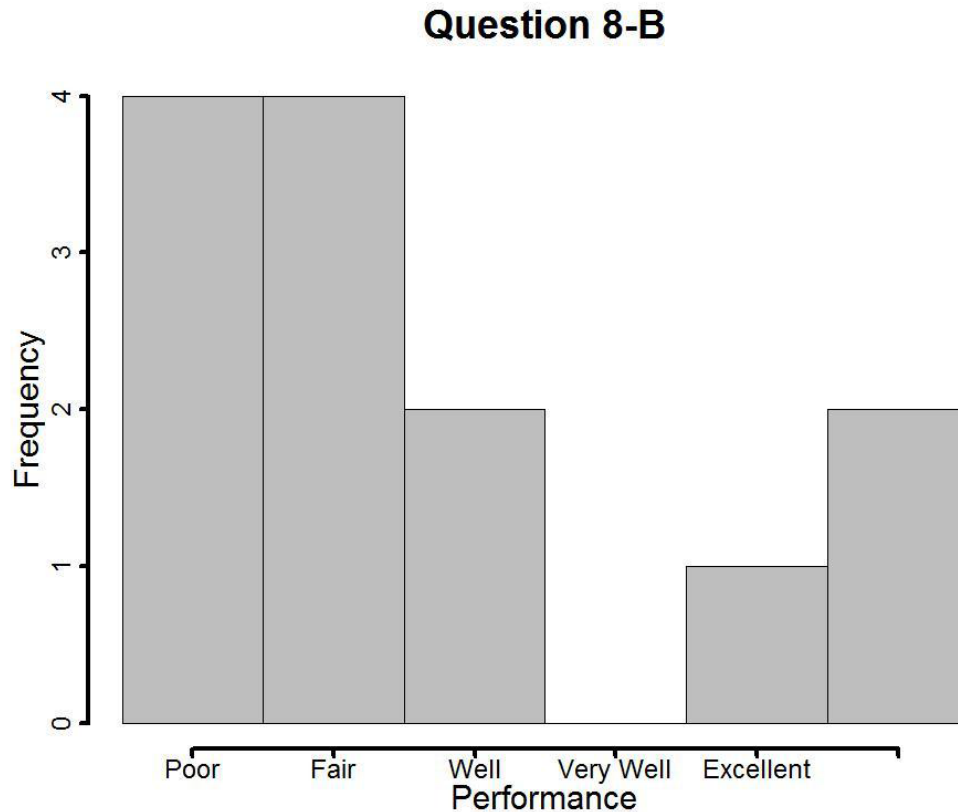
8. Assesses population viability and self-sustainability.

■ A. Level of Importance for Each Need



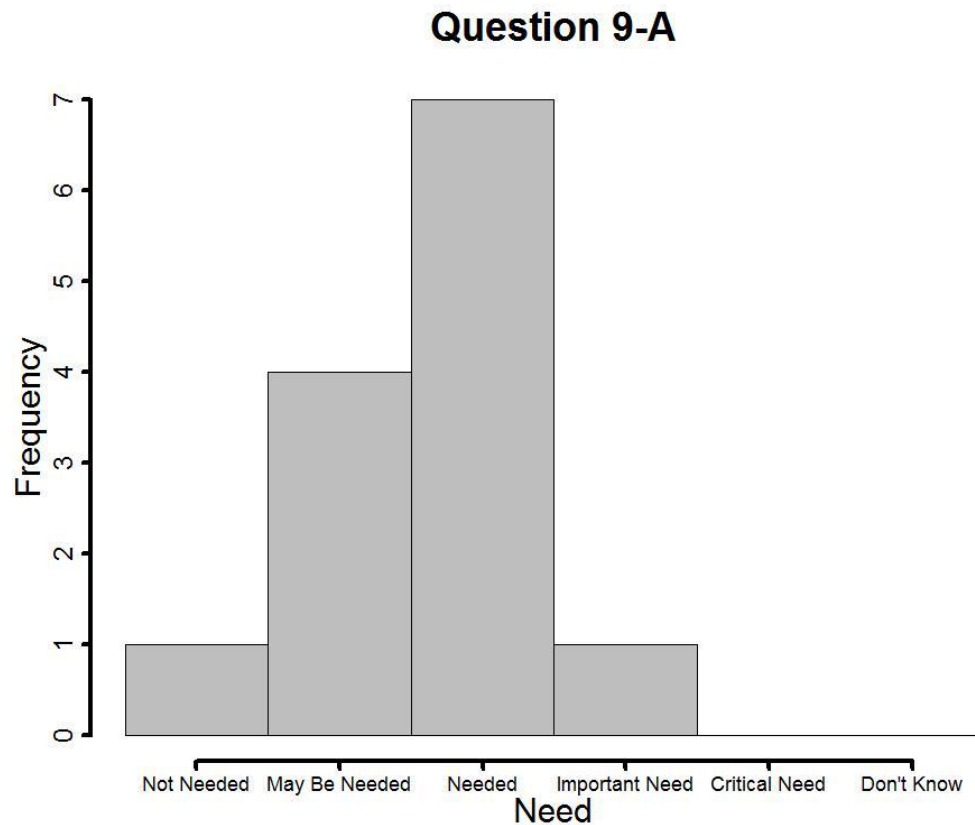
8. Assesses population viability and self-sustainability.

■ B. How Well Current Monitoring Program Addresses Need



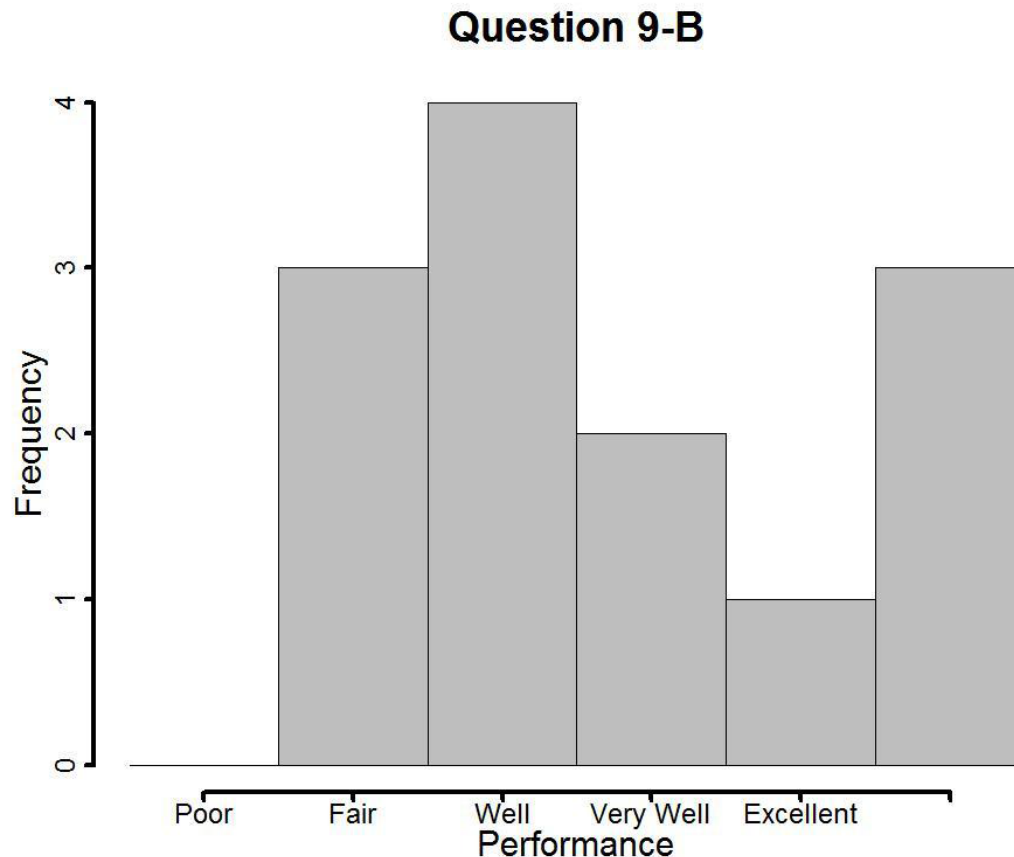
9. Tracks trends and abundances of other fish species.

■ A. Level of Importance for Each Need



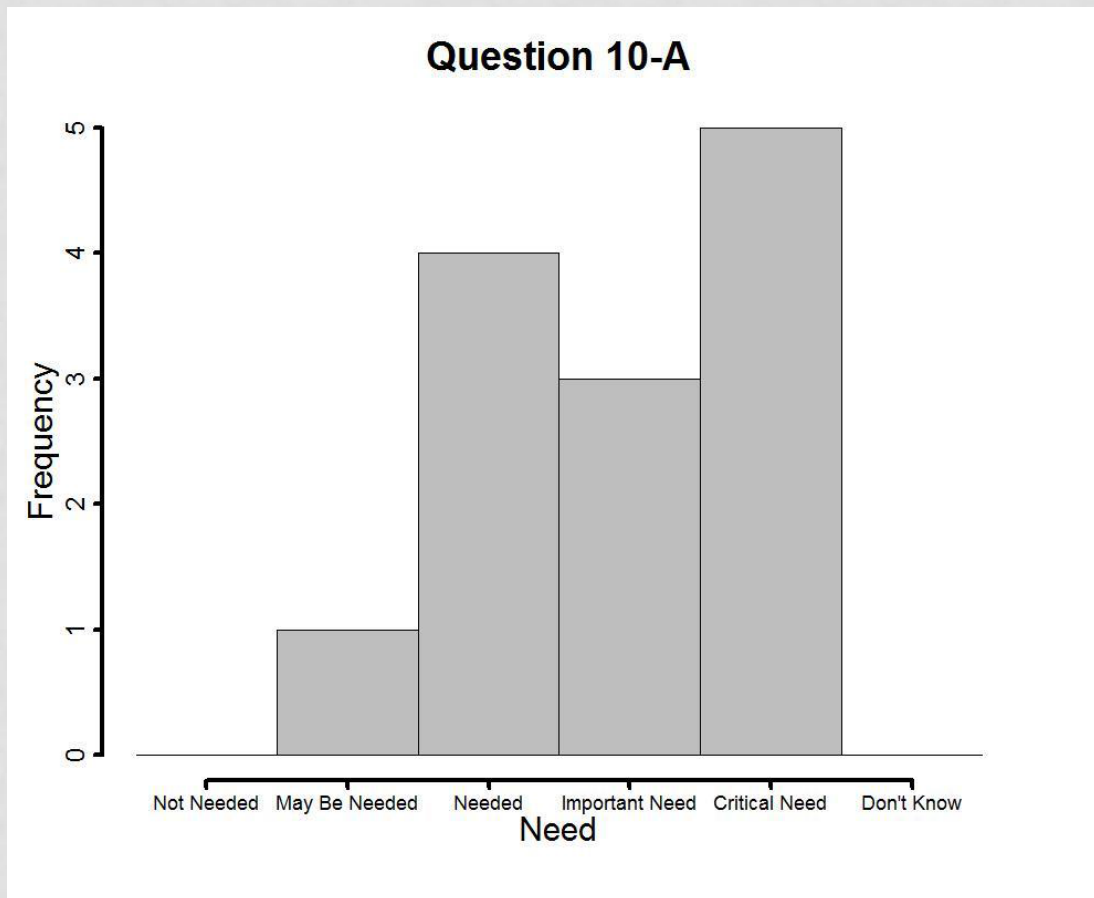
9. Tracks trends and abundances of other fish species.

■ B. How Well Current Monitoring Program Addresses Need



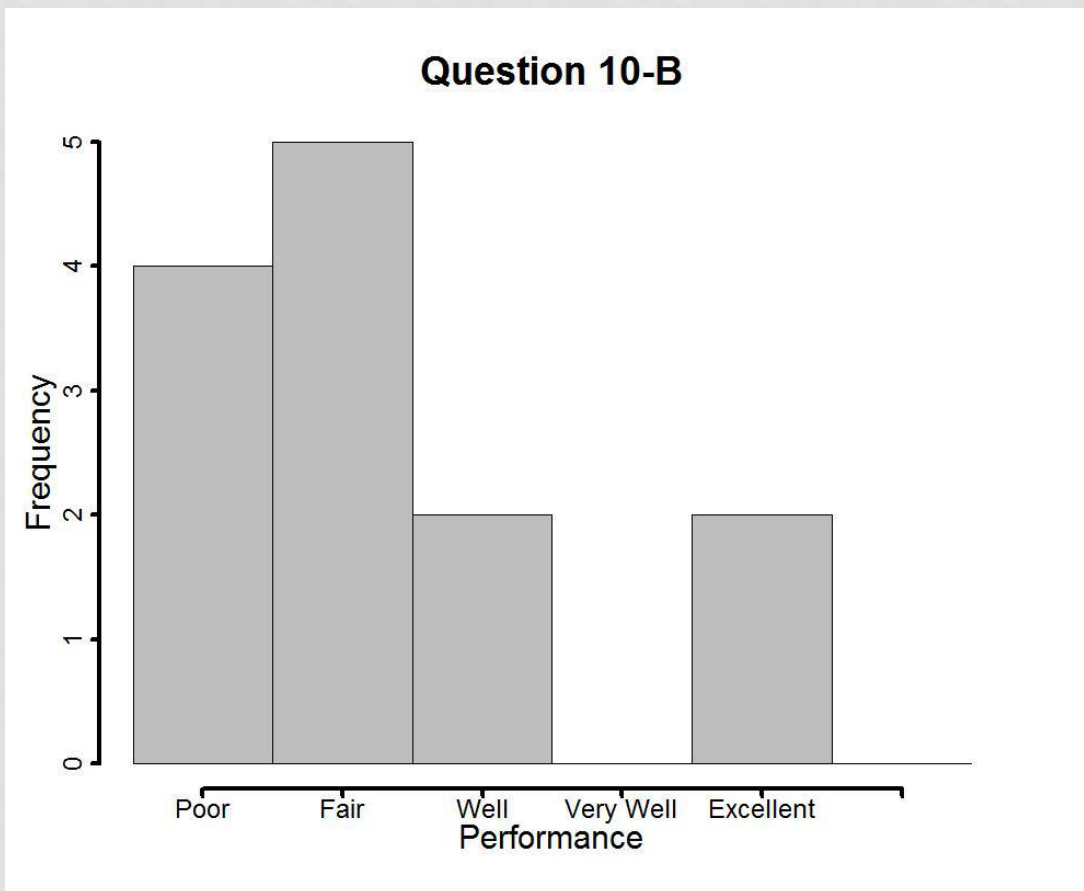
10. Provides high level of precision and accuracy for the cost.

■ A. Level of Importance for Each Need



10. Provides high level of precision and accuracy for the cost.

■ B. How Well Current Monitoring Program Addresses Need



Observations

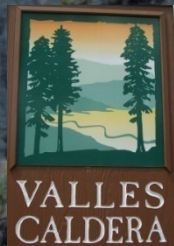
- Current monitoring program is not meeting our expectations
- In many cases, our expectations are inconsistent with goals and intent of the current population monitoring program
- Modifications to or additions to the current monitoring program may help us to refine and improve our management actions to benefit the species
- Cost vs. result is an important criteria

Forest fires and water quality

July 17, 2014 MRGESA Collaborative Program

*Clifford N. Dahm and David Van Horn - Department of Biology;
University of New Mexico, USA*

Valles Caldera, New Mexico, USA



Multiple Stressors

Jared Diamond (2005)

Collapse - How Societies Choose to Fail or Succeed

“People often ask, “What is the single most important environmental problem facing the world today?”

The single most important problem is our misguided focus on identifying the single most important problem!

... because any of the dozen problems, if unsolved, would do us great harm and because they all interact with each other.

Progress Needed on Multiple Fronts

USACE - Continuous Water Quality Monitoring Network for the Middle Rio Grande



History: 2005 - Present

Goals: Assess temporal and spatial water quality trends in the Middle Rio Grande (MRG)

Methods: Continuous installation of four water quality probes in the Abq. reach of the MRG since 2005 and three above Cochiti Reservoir since 2011



US Army Corps
of Engineers®

New Mexico EPSCoR - Improving Water Quality Monitoring in High Altitude Streams and Rivers



History: 2009 – 2013

Goals: Develop and deploy water quality sensors for the monitoring of stream waters in high altitude environments to investigate controls on water chemistry in a changing climate

Methods: Installation of nutrient sensors and water quality probes in the VCNP

Continuous Water Quality Instrumentation



YSI Sondas:

- Temperature, DO, pH, SC, and Turbidity
- 15-min intervals



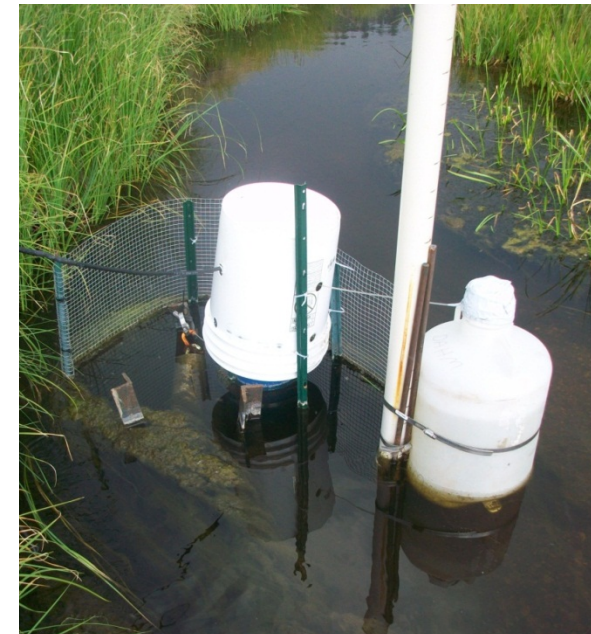
WETLabs Cycle-P:

- $\text{PO}_4\text{-P}$
- 1-hr intervals

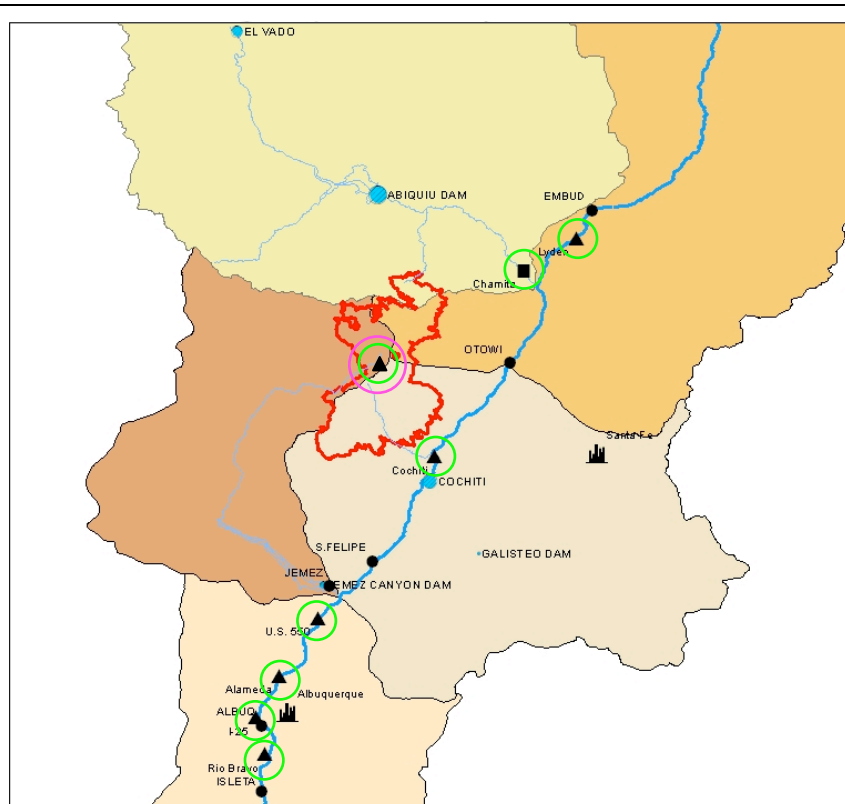


Satlantic SUNA:

- $\text{NO}_3\text{-N}$
- 30-min intervals



Study Area



YSI Sonde Locations

- 8 locations (green circles)
- Some co-located with USGS gages
- Upstream and downstream of fire impacts

Nutrient/Sonde Installation

- 1 current, 1 proposed (green + pink circle)

Las Conchas Fire Perimeter

- Located upstream of our previous reference site

Las Conchas Fire –2011



**Cochiti Canyon Flood
Dixon's Apple Orchard**

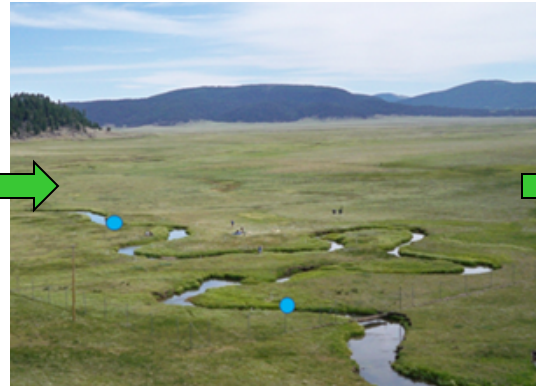
August 22, 2011

Stream Continuum

2nd Order: Jaramillo Creek



3rd Order: East Fork Jemez



3rd Order: East Fork Jemez



7th Order: Rio Grande

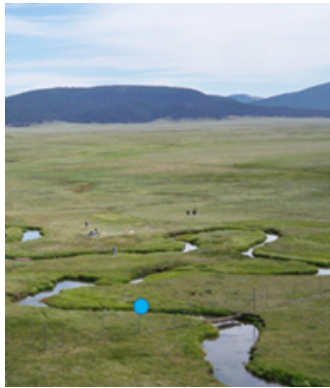
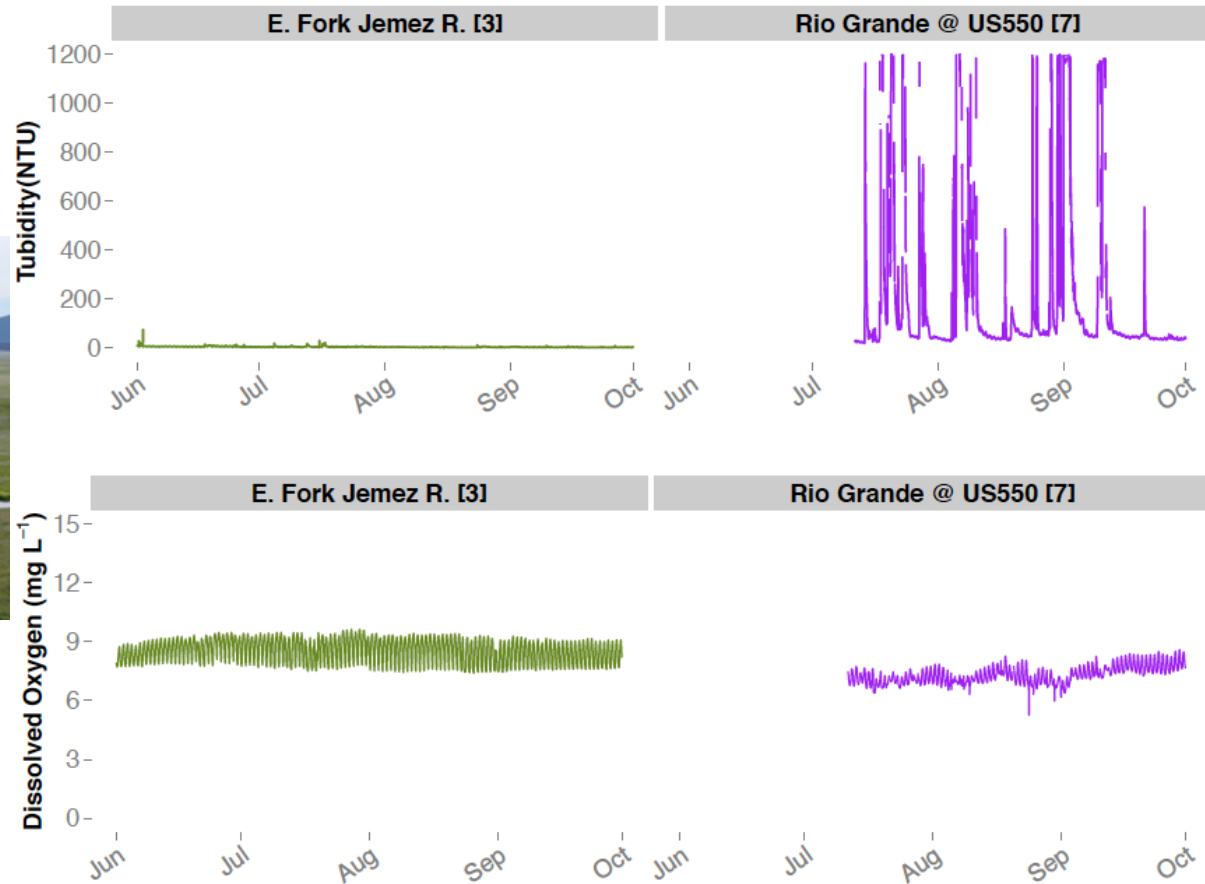


4th Order: Jemez River

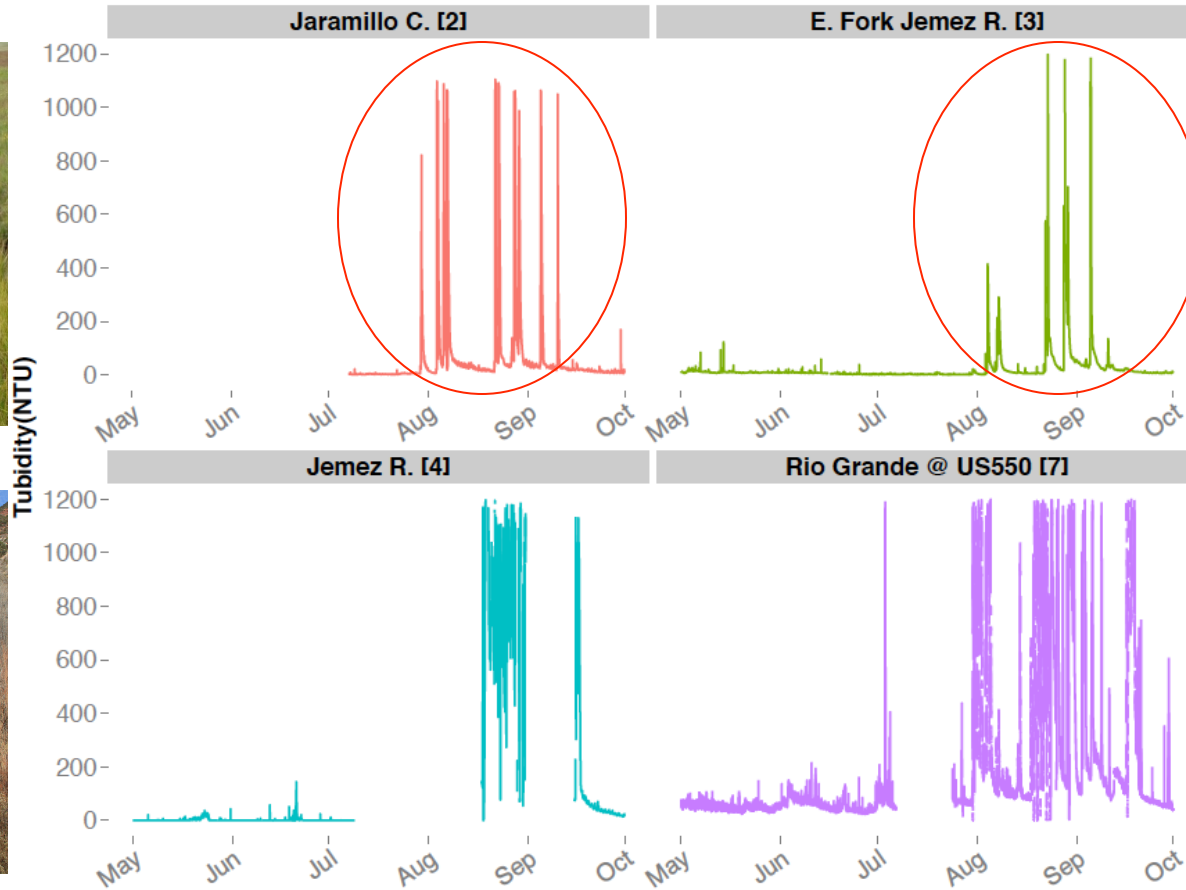


4th Order: Jemez River

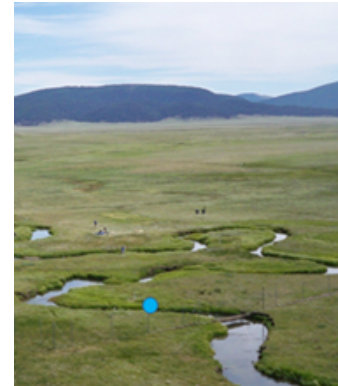
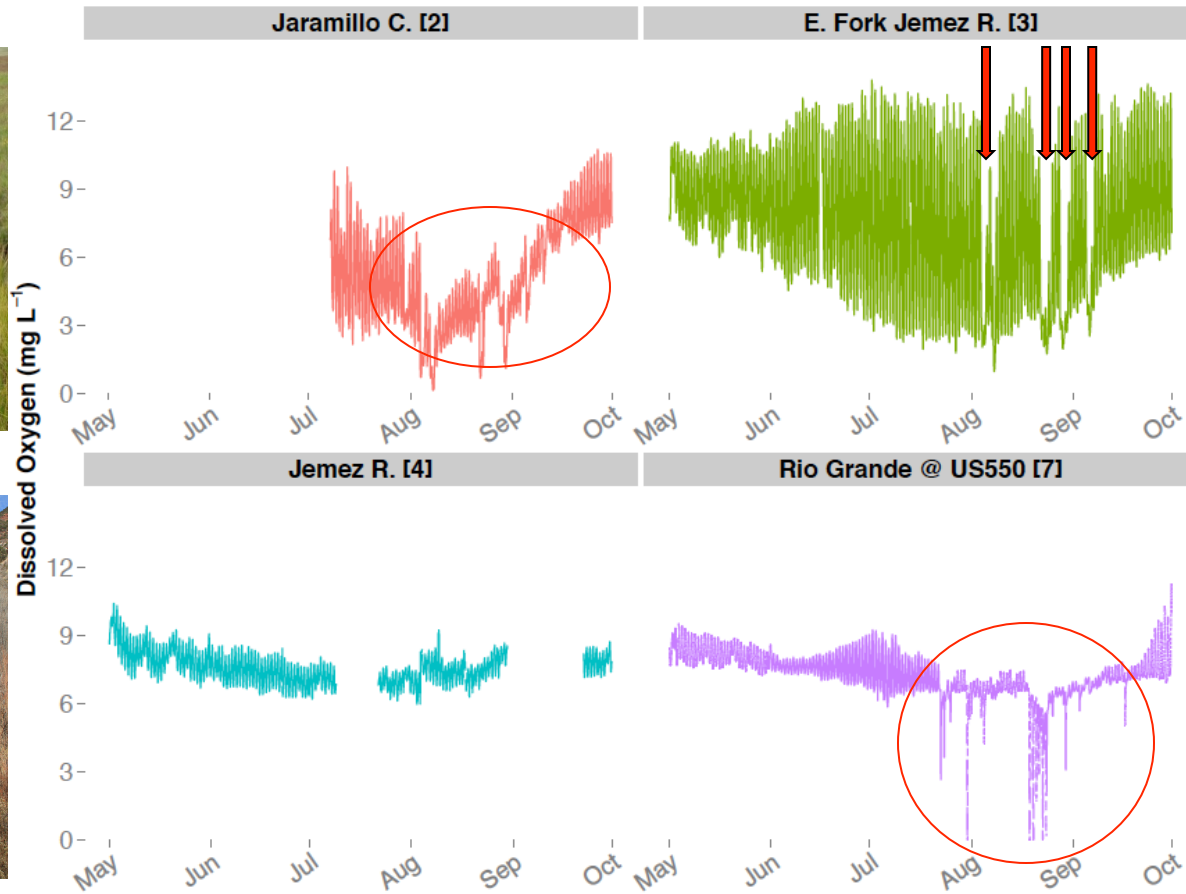
Pre Fire DO and Turbidity (2008)



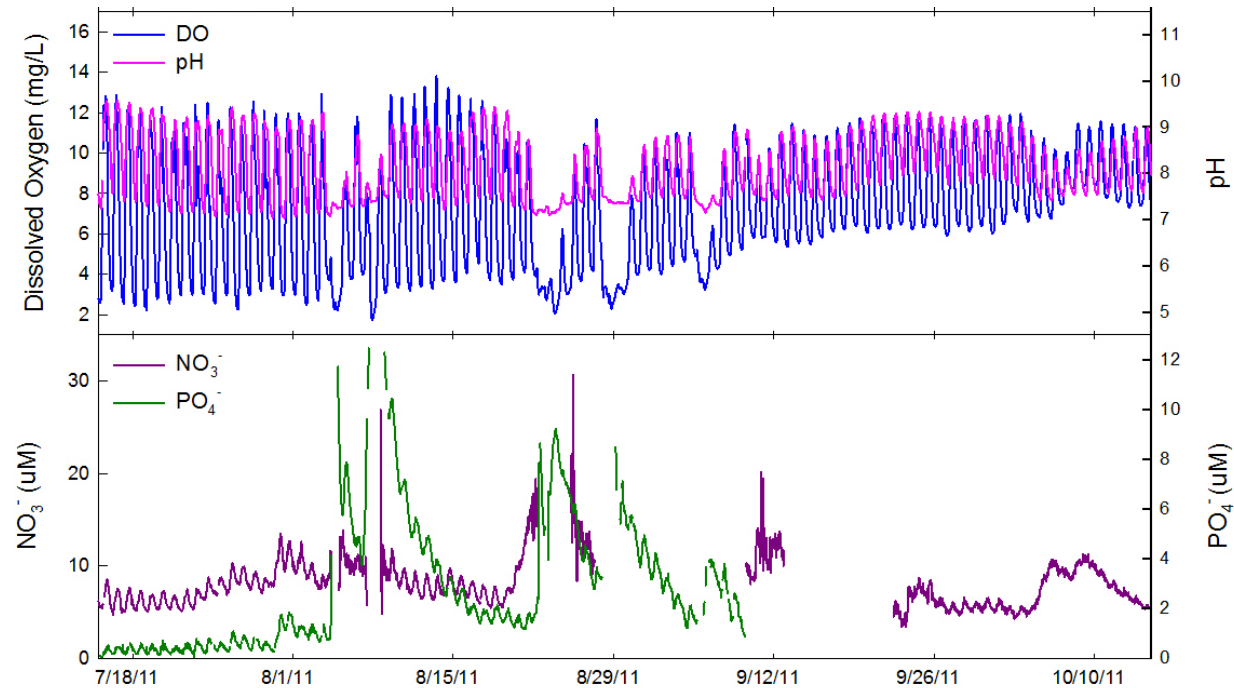
Post Fire Turbidity (2011)



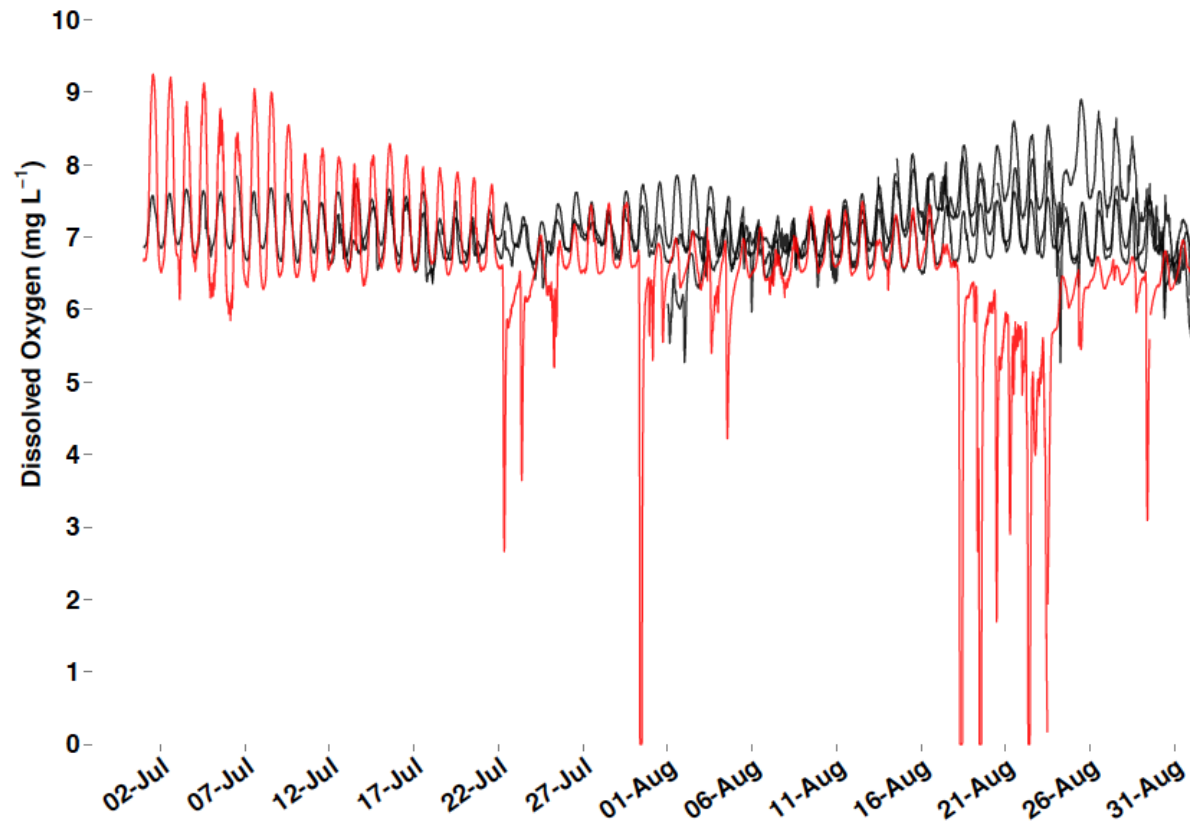
Post Fire DO (2011)



Post Fire Nutrients (2011): 3rd Order

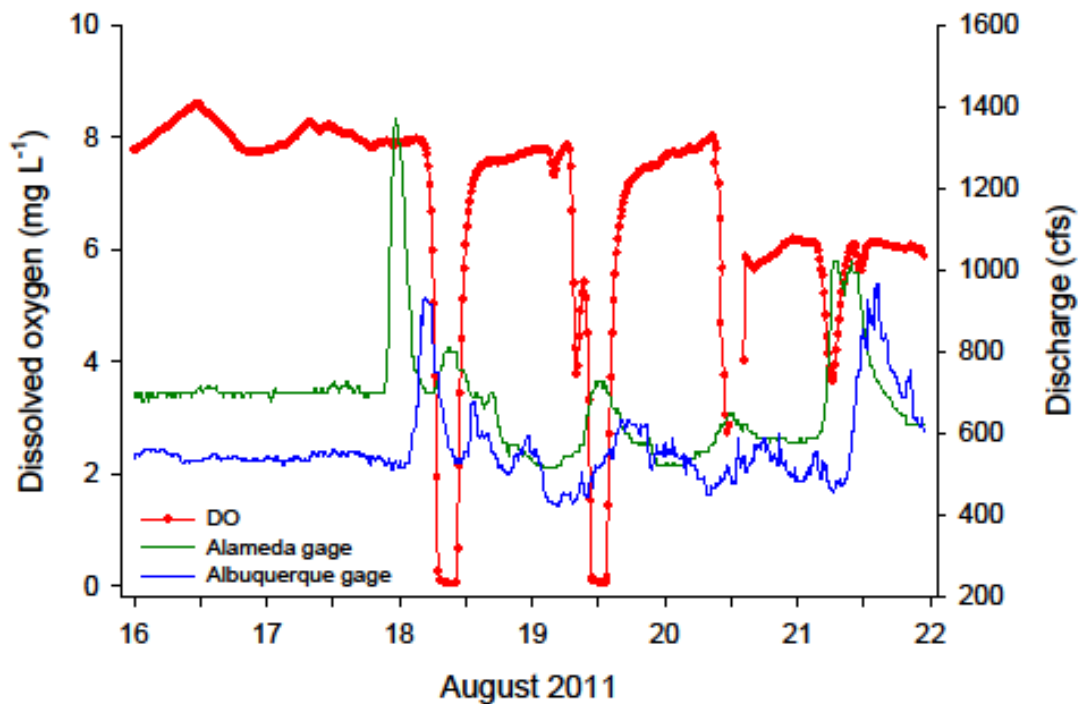


Post Fire DO (2011): 7th Order

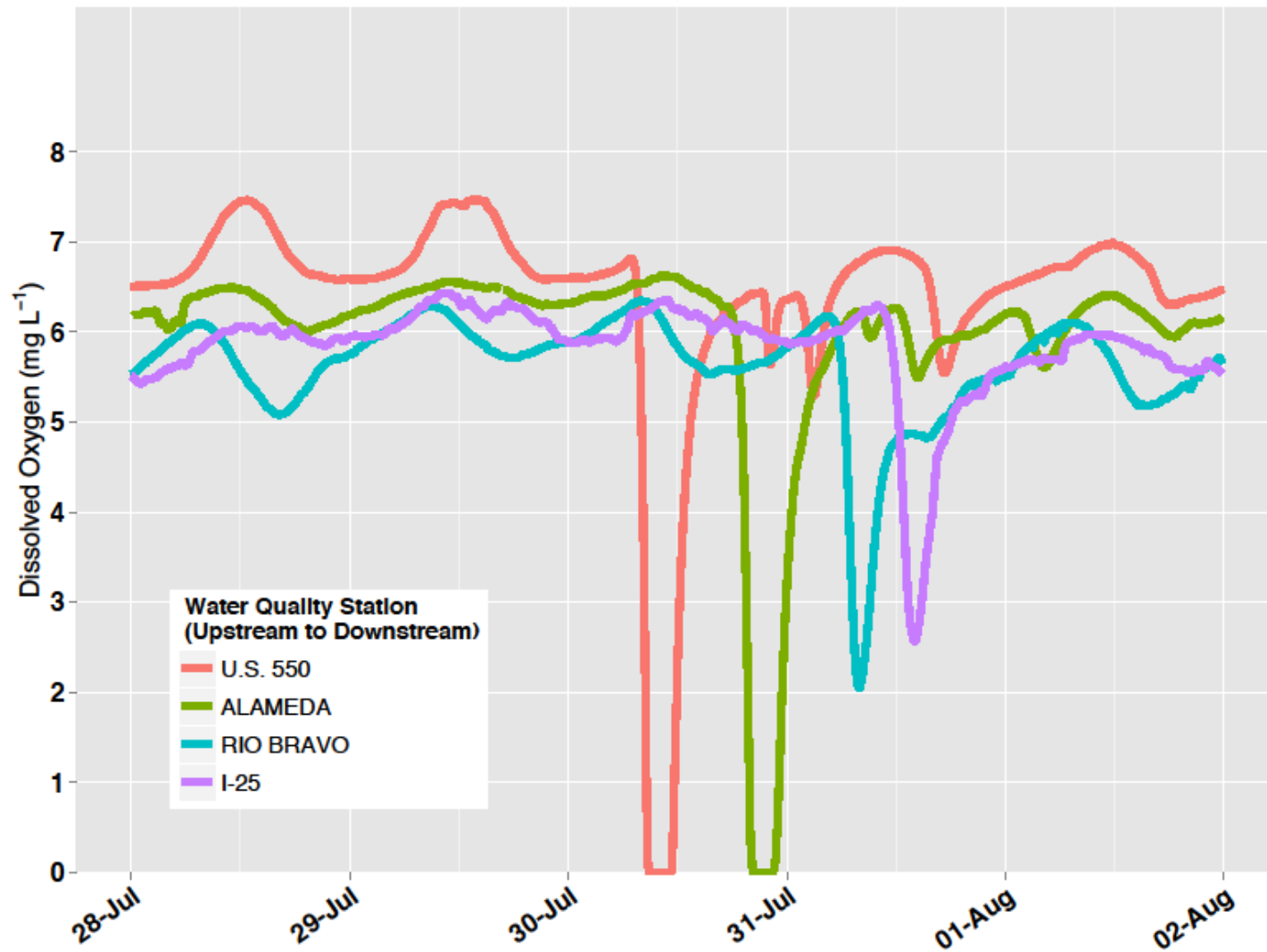


Post Fire DO (2011): 7th Order

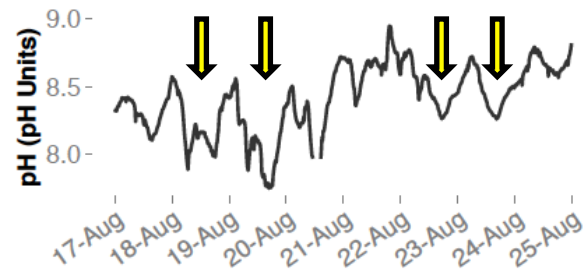
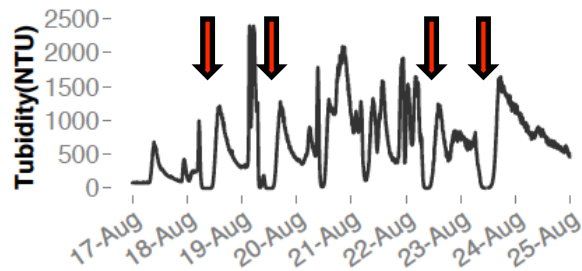
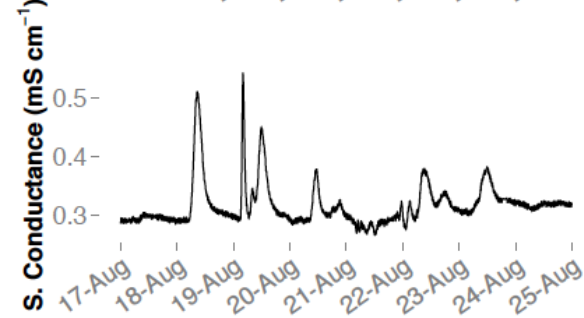
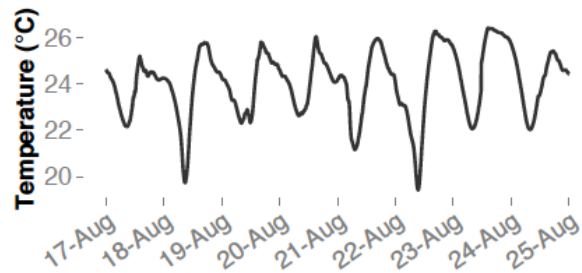
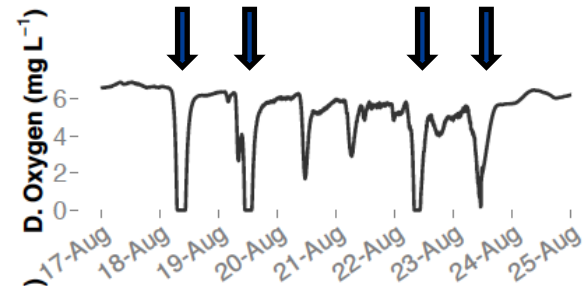
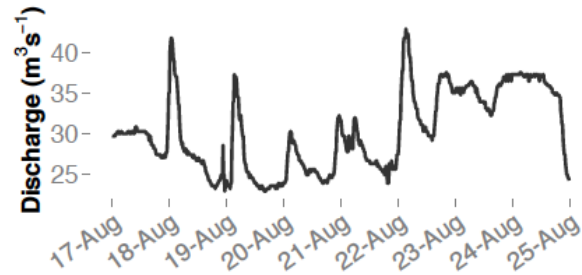
Dissolved Oxygen at Bernalillo Site and
Rio Grande Discharge at USGS Alameda and Albuquerque Gages,
16 - 22 August 2011



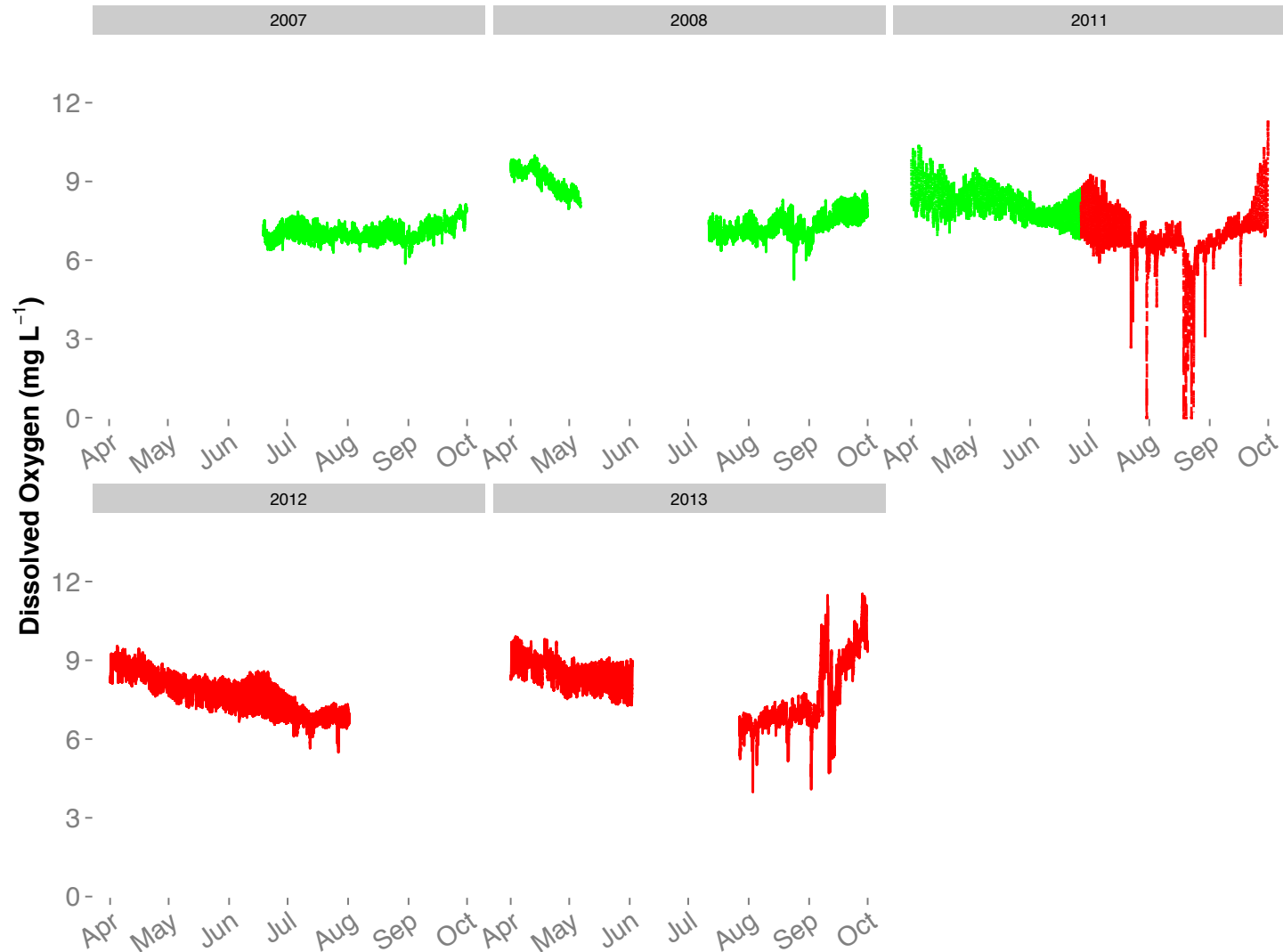
Post Fire DO (2011): 7th Order



Post Fire WQ (2011): 7th Order



Post Fire DO Recovery: 7th Order

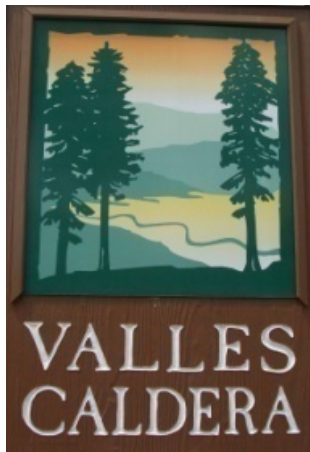


Linking Wildfire and Water Quality

- A. Mobilized burn scar material (black carbon)
- B. Indios Creek flood flow – July 27, 2011
- C. Water clarity before and during flood event in Indios Creek
- D. Flood flow off the burn scar in Cochiti Canyon on August 22, 2011
- E. Sediment deposit at confluence of Rio Grande and Bland and Cochiti Canyons
- F. Burn material in Rio San Antonio in Valle Caldera National Preserve



Acknowledgements



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