**Population Monitoring Work Group (PMWG)**

**Meeting Minutes**

**September 9, 2020; 9:00 AM­­­­­­–12:00 PM**

**Location:** Zoom Meeting

**Decisions:**

* Approval of September 9, 2020 PMWG meeting agenda
* Approval of June 2, 2020 PMWG meeting minutes

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| --- | --- | --- |
| Who | What | By When |
| Catherine Murphy and Rich Valdez | Discuss the executive summary process | 9/30/2020 |
| Shay Howlin | Send feedback from the PWMG on the mapper to U.S. Geological Survey (USGS) | 9/9/2020 |
| Shay H. | Give an update on the mapper at the next meeting | 9/30/2020 |
| Rich V. | Use the outline developed by the PMWG to begin framing the report to the Executive Committee (EC) | 9/30/2020 |
| Program Support Team (PST) | Schedule the September 30, 2020 PMWG meeting | 9/11/2020 |
| PST | Send out the Archdeacon and Reale paper | 9/9/2020 |

**Action Items:**

**Next Meeting:** September 30, 2020; 1:00 – 4:00 PM

**Meeting Summary**

**Welcome, Intros, Agenda, Meeting Notes**

Rich Valdez, SWCA Environmental Consultants, opened the meeting. Debbie Lee, PST, introduced everyone in the meeting. The PMWG approved the September 9, 2020 meeting agenda and June 2, 2020 meeting minutes. Rich V. reviewed action items from the previous meeting. The following comments were made:

* Catherine Murphy, PST, and Mike Marcus, Assessment Payers Association of the Middle Rio Grande Conservancy District, were working on revising the Consolidation of Mesohabitats for Monitoring Rio Grande silvery minnow (RGSM) executive summary. The first drafts of the executive summaries have shown that they are tackling too many issues at once. The executive summaries will be broken into smaller, more manageable pieces and handled by the Science and Adaptive Management Committee and Science and Technical Ad Hoc Groups.
  + Rich V. and Catherine M. will discuss the executive summary process before the next meeting.
* Charles Yackulic and Rich V. were working to develop an approach to look at modeling scenarios. Charles Y.’s model will be finalized in the next couple weeks. Rich V. will continue working with him on modeling scenarios.
* **Decision**: Approval of September 9, 2020 PMWG meeting agenda
* **Decision**: Approval of June 2, 2020 PMWG meeting minutes
* **Action Item**: Catherine M. and Rich V. will discuss the executive summary process

**Program Portal Data Discussion**

Shay Howlin, PST, presented on the Program Portal’s functionalities. USGS, currently developing the Portal for the Program, requested input on how the Portal’s geospatial mapper displays RGSM population monitoring data. Shay H. walked the PWMG through how the data is being housed on the Portal and opened discussion. The following are the main points from the discussion:

* Are the datasets from American Southwest Ichthyological Researchers, L.L.C. (ASIR) comprehensive?
  + ASIR is likely only sending the current year’s monitoring data and it is up to managers to add it to the database.
  + Be cautious when using provisional monthly data, as they tend to include the surveys from multiple months. To avoid redundant data, it is better to use end of the year data.
* How is monthly and annual data segregated?
  + Monthly data is linked to the monthly report. It’s stored as a downloadable Excel file in the document archive. The aggregated 1993 – 2019 data has its own data page under Datasets.
    - The PST will request that the date range be added to the data page.
* What is the “RGSM Population Monitoring Repeated” dataset housed on the RGSM Population Monitoring page?
  + These are the repeated November surveys.
  + This should be titled “Occupancy” instead as most people would understand that better.

Shay H. presented the Portal’s geospatial mapper. The mapper is currently in development and not live. When you enable the RGSM layer, every dot shown is a survey site. The dots are linked to the aggregated population monitoring data. The PMWG was asked to provide input on how data should be displayed on the mapper. These were the responses:

* Are the orange dots the 20 standard sampling sites?
  + The dots indicate every site that has been sampled since 1993.
* Pop-Up Discussion:
  + What is currently included in the pop-up window when you click a dot?
    - A summary of data parameters from the population monitoring reports, including the number of wild fish, the number of marked fish, and some water quality parameters.
    - A link straight to the datasheet would be more helpful.
  + The information in a pop-up is for one location on a given day.
    - You can use arrows to change between days.
    - It’s possible to limit the days shown by a time component.
    - The pop-up does not present days in chronological order, but we could ask for that.
  + It may be useful to include a water quality layer and separate it from the pop-up window.
  + Could you select a specific date range and get a simple graph of absolute numbers by date?
    - USGS can include some graphs. They could use absolute numbers or catch per unit effort (CPUE).
  + It would be helpful to have filter buttons for date range and other parameters you can choose to see in the pop-up.
  + Suggestion for the filter to use different colors to indicate sites for different dates and locations.
  + The first thing you’d want to know when clicking a dot is a general overview of the data in time series from 1993-2019. There should be a data point from every sampling that can be compared, like CPUE. Then, you can focus on a particular point in time, like one year or the same month every year.
    - In past mapping efforts, there’s often been a summary analysis that links back to the spreadsheet data.
  + Add more metadata into the pop-up, including the range of years that occurred at the site, the most recent sampling year, a table or two with more detail.
    - Or just a figure that plots numbers out in a time series.
  + There are no filters for the RGSM layer. A filter could include these options.
  + Suggestion to focus on an October graph, as it is the key one for the U.S. Fish and Wildlife Service. For other graphs, users could go back to the dataset.
  + As the website is publically facing, the Program may want to be cautious of what results are shown on a graph.
    - The end-of-the-year data from ASIR is no longer provisional; it has been quality checked and is available to the public.
    - The PMWG agrees to not use provisional data on the mapper.
  + Suggestion to include photos of sites.
    - ASIR does not take set photos of a site.
  + What should the Y-axis be on the graph?
    - CPUE
* Has the mapper been shared with any other group?
  + No, the PST wanted to show it to the technical experts first.
* Program members would need to play with the mapper more to give better feedback.
  + Shay H. will ask USGS when they’ll have a draft ready for testing.
* How much use do managers get out maps like these?
  + Some maps get a good amount of use, but it’s important to talk to managers and administrators to see how they’d use it. Technical experts would be more likely to access the datasheets.
  + One issue for managers in the past is how long it takes to figure out details for a site. Taking into account adaptive management (AM), managers would like to know if an AM action is making a difference or not. It would be useful to know where the restoration projects are, what the flow components were in a given year, etc. This would help create a story about what is being done for adaptive management.
    - EC members likely won’t use the mapper, but some managers would.
* Suggestion to make the dots for the 20 standard stations from the population monitoring program a different color and slightly larger.
* What’s the general direction for the mapper from here?
  + Shay H. will send notes from the PMWG meeting to USGS.
  + The final form of the mapper should be out by the end of the year.
  + Shay H. will present an update on the mapper at the next meeting.
* **Action Item**: Shay H. will send feedback from the PWMG on the mapper to USGS
* **Action Item**: Shay H. will give an update on the mapper at the next PMWG meeting

**Open Discussion**

Rich V. opened discussion on the report to the Executive Committee (EC) on the current fish monitoring program (FMP). The PMWG was charged with three principle tasks. Task 2 is reviewing the Middle Rio Grande FMP. The PMWG will present a report to the EC on task 2 before it sunsets. The PMWG was asked to give feedback to guide how the report is written. These were the five questions discussed by the group:

• What are the purpose and objectives of the FMP?

• How well does FMP track trend and status of RGSM?

• What is current precision and accuracy of RGSM CPUE?

• Can FMP detect change in RGSM with management actions?

• What are ancillary benefits of data collected by FMP?

Rich V. produced an outline from the discussion and will use it to start framing the report.

* **Action Item**: Use the outline developed by the PMWG to begin framing the report to the Executive Committee (EC)

**Wrap-Up**

* The next meeting is scheduled for September 30, 2020 from 1:00 – 4:00 PM.
* Thomas Archdeacon announced the publication of three recent papers he co-authored. Two were sent out by the PST. The third will be sent out as soon as possible.
* Lynette Giesen, U.S. Army Corps of Engineers (USACE), announced that her funding for involvement with the Program was cut to zero. Starting October 1st, USACE will not be involved with the Program outside of the EC.
* **Action Item**: The PST will schedule the September 30, 2020 PMWG meeting
* **Action Item**: The PST will send out the Archdeacon and Reale paper

Participants

Andy Dean U.S. Fish and Wildlife Service

Anne Marken Middle Rio Grande Conservancy District

Aubrey Harris U.S. Army Corps of Engineers

Catherine Murphy Program Support Team

Charles Yackulic U.S. Geological Survey

Debbie Lee Program Support Team

Eric Gonzalez U.S. Bureau of Reclamation

Grace Haggerty New Mexico Interstate Stream Commission

Lynette Giesen U.S. Army Corps of Engineers

Michelle Tuineau Program Support Team

Mick Porter U.S. Army Corps of Engineers

Mike Marcus Assessment Payers Association of the Middle Rio Grande Conservancy District

Mo Hobbs Albuquerque Bernalillo County Water Utility Authority

Rich Valdez SWCA Environmental Consultants

Shay Howlin Program Support Team

Thomas Archdeacon U.S. Fish and Wildlife Service

Trevor Birt New Mexico Interstate Stream Commission