

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
February 15-16, 2017

Agenda Item

FY2018-20 Triennial Budget and Work Plan

Purpose of Agenda Item

To discuss and seek AMWG initial input on the FY2018-20 Triennial Budget and Work Plan (TWP).

Action Requested

Feedback requested from AMWG members on the FY2018-20 Triennial Budget and Work Plan (TWP).

Presenters

Shane Capron, Western Area Power Administration, TWG's Budget Ad Hoc Group (BAHG) Chair
Katrina Grantz, Chief, Adaptive Management Group, Bureau of Reclamation
Scott VanderKooi, Chief, Grand Canyon Monitoring and Research Center

Previous Action Taken

In her July 8, 2016, memorandum, Secretary's Designee Jennifer Gimbel directed GCMRC and Reclamation to continue using a three-year budget and work plan process. The Department of Interior Record of Decision (ROD) for the Glen Canyon Dam Long-Term Experimental and Management Plan (LTEMP) Final Environmental Impact Statement signed by Secretary Jewell on December 15, 2016, and the LTEMP Scientific Monitoring Plan developed by GCMRC identified research and monitoring priorities for the program.

Relevant Science

N/A

Summary of Presentation and Background Information

At the January Annual Reporting Meeting the TWG heard critical updates on research and monitoring programs of the GCDAMP. The TWG also received updates on LTEMP implementation and expected timelines for experimental treatments in the next couple of years. During the TWG meeting, members reviewed the budget guidance and participated in an information gathering workshop to help bring together the important items that the membership would like to discuss and provide input to DOI for the initial budget guidance as described in the budget protocol. The workshop consisted of a dot ranking exercise aimed at identifying key areas of concern. The information from this exercise was summarized and provided to DOI as a draft, and the BAHG will meet prior to the AMWG meeting to further discuss these important issues to clarify the TWG initial input on the triennial work plan and budget. Further detail will be provided to the AMWG at this meeting. This is an opportunity for AMWG to discuss some of these important

issues and provide feedback to DOI and to TWG, especially on those issues that involve policy implications.

GCMRC and Reclamation will work with the TWG and BAHG in developing the initial draft FY18-20 TWP. The work plan will be developed following the steps and timeline outlined in the updated GCDAMP Triennial Budget and Work Plan Process (if this document is approved by the AMWG at this meeting). Priorities for this work plan will be activities in support of implementation of the LTEMP ROD as outlined in the LTEMP Scientific Monitoring Plan developed by GCMRC (VanderKooi and others, 2017; <https://pubs.er.usgs.gov/publication/ofr20171006>). An overview of these priorities and other potential research and monitoring activities to be proposed for inclusion in the FY18-20 TWP will be presented.

This meeting is an opportunity for AMWG members to provide further initial input on the development of the TWP and to better understand how the LTEMP ROD will be implemented by the GCDAMP.

FY2018-20 Triennial Budget and Work Plan

Shane Capron, Katrina Grantz, Seth Shanahan, and Scott VanderKooi

February 16, 2017



Priorities

March 31, 2011 Memo from A. Castle

1. “compliance with the Endangered Species Act”
2. “focus on sediment”
3. “science on both non-native fish control and the recreational trout fishery”

May 7, 2014 Memo from A. Castle

4. “how cultural and archaeological sites are linked to modern river processes and the role of Traditional Ecological Knowledge in contributing to scientific understanding and river operations”

July 8, 2016 Memo from J. Gimbel

1. “Science in support of Endangered Species Act compliance”
2. “Science in support of compliance with the Grand Canyon Protection Act, in particular sediment resources”
3. “Science relating cultural and archaeological sites to modern river processes, as well as the role of traditional knowledges in contributing to scientific understanding and river operations”
4. “Science of non-native fish...and potentially invasive aquatic species”

December 15, 2016 ROD
from S. Jewell



The GCDAMP priorities are set by the GCPA of 1992, the LTEMP FEIS, and ROD, and related mitigation requirements for endangered species and cultural resources. The GCDAMP priorities include the management and experimental actions; mitigation and environmental commitments; and research and monitoring identified in the LTEMP FEIS and ROD, and these will be the highest priorities for GCDAMP over the term of the LTEMP. The GCDAMP activities that are eligible for funding from power revenues are

Triennial Budget and Work Plan Process

- May 7, 2014 Memo from A. Castle
 - “work with AMWG and TWG to prepare a triennial budget development timeline and process that can be used in the future”
- Process adopted yesterday

TWG meeting to review budget and provide initial guidance

AMWG meeting to discuss initial priorities

Month	Year-1 (2017) (development of TWP)	Year-2 (2018)
December (year prior)	GCMRC and Reclamation produces annual project reports document for GCDAMP review.	
January	Annual reporting meeting and information synthesis (2 days) followed by 1-day TWG meeting to review budget and provide initial guidance to GCMRC and Reclamation. TWG reviews progress in addressing Information Needs and research accomplishments.	Annual reporting meeting (1-2 days) followed by 1-day TWG meeting with a primary emphasis on reporting results/findings/scientific advances on previous work plan.
February	GCMRC meets with tribes and DOI agencies. GCMRC follow-up with BAHG on priorities and areas of emphasis on TWP. GCMRC meets with cooperators to develop projects. AMWG meeting to discuss initial priorities. DOI and Federal family input.	
March	GCMRC and Reclamation will develop an initial TWP based on DOI priorities and input from scientists, the TWG, and DOI/DOE family. Initial TWP presented to DOI and Secretary's Designee.	
April	GCMRC meets with tribes and DOI agencies. April TWG meeting to consider draft TWP, including anticipated funding sources. Unresolved issues or conflicting priorities will be resolved by DOI in consultation with the DOI Family. GCMRC begins development of second draft TWP.	BAHG and TWG considers potential changes to the Fiscal Year 2 TWP based on criteria in section 2.7.
May	GCMRC and Reclamation provide a second draft TWP to the BAHG, Science Advisors, DOI agencies, and tribes for their review and comment. GCMRC meets with tribes, BAHG, to get input on TWP. GCMRC develops third draft of TWP.	
June	GCMRC and Reclamation finish third draft for review. TWG meets to provide input on the draft GCMRC and Reclamation TWP and provide a recommendation to the AMWG.	TWG recommends Fiscal Year 2 (2019) budget of TWP to AMWG.
July	GCMRC and Reclamation provide a final draft TWP to the AMWG for their review.	
August	AMWG meets to provide input on the GCMRC and Reclamation draft TWP and provide a recommendation to the SOI.	AMWG recommends Fiscal Year 2 (2019) budget of TWP to SOI.
September	SOI reviews the budget and work plan recommendation from AMWG.	
October 1	Fiscal Year 1 begins under the TWP guidance.	Fiscal Year 2 begins under the TWP guidance.
November 1	Consumer Price Index becomes available.	
Late November	Science and management meeting with DOI and cooperators.	Science and management meeting with DOI and cooperators.
December	Budget is finalized. USGS produces GCMRC annual project reports document for prior year work.	GCMRC produces annual project reports document.

Budget Sideboards

Allocation	Fiscal Year (millions of dollars ¹)			
	2017	2018 ²	2019 ²	2020 ²
Reclamation (~20%)	2.11	2.2	2.23	2.25
GCMRC (~80%)	8.8	8.82	8.91	9
Total	10.92	11.03	11.14	11.25
¹ Values rounded				
² Assuming 1% CPI				

Slide 9

SAC1 Should include changing overhead rates for GCMRC as that is the most important piece of information for AMWG out of all of this.

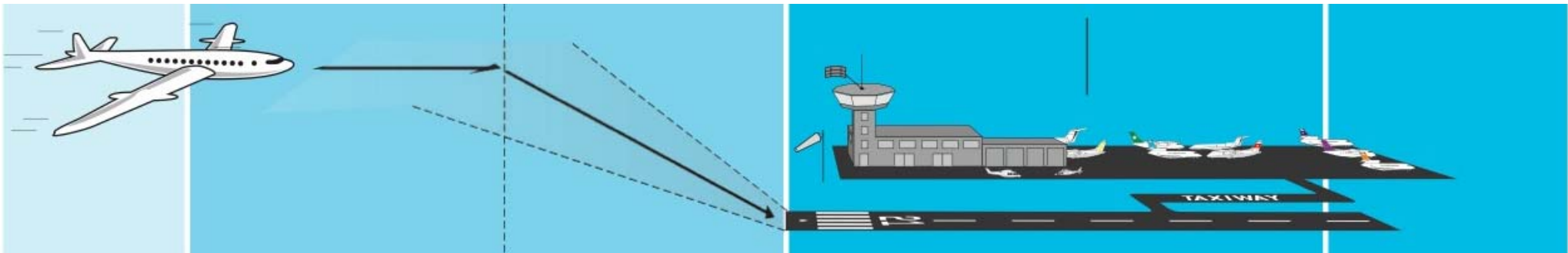
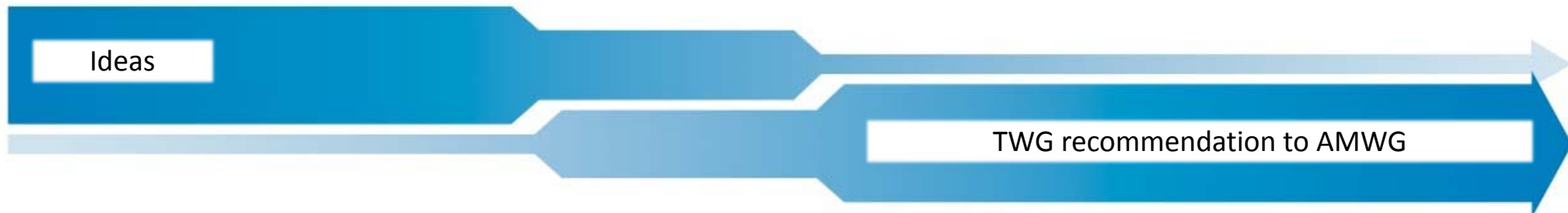
Capron, Shane, 2/6/2017

SS1 Scott, please include overhead rate information on this slide.

Seth Shanahan, 2/9/2017

TWG Meeting to Review Budget
and Provide Initial Guidance

Getting to a TWG Recommendation



January

February

March April May

June

I will buy you an excellent cup of coffee if you can tell me where the unmodified version of this graphic came from. Hint: snow

Slide 11

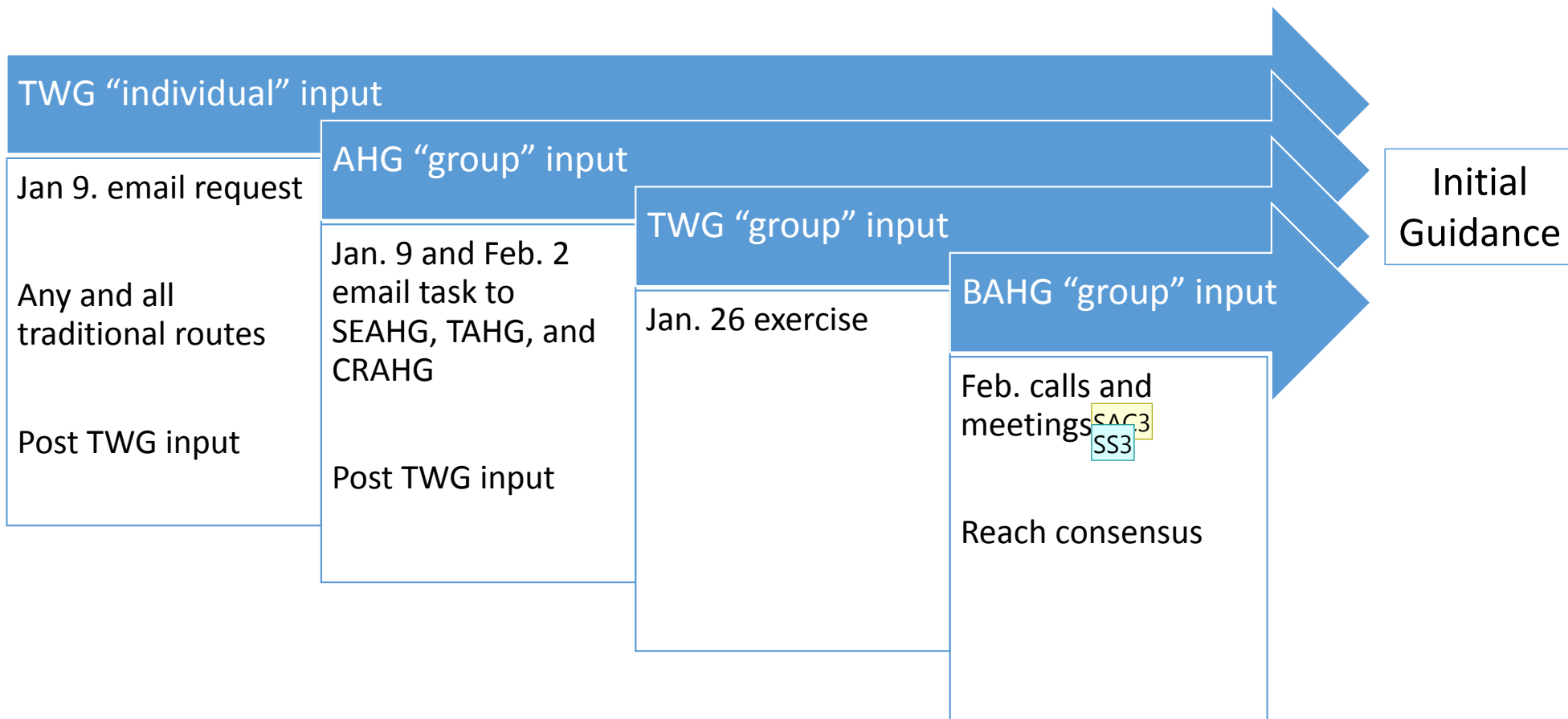
SAC2 I might make the landing August. In June there will also be a SA review of the workplan that happens before the landing. We also need to think about the timing of that.

Capron, Shane, 2/6/2017

SS2 See next slide for additional actions to get to an August AMWG recommendation.

Seth Shanahan, 2/9/2017

A Layered Approach



Slide 13

SAC3 Under BAHG group. maybe add reach "consensus" on their input on the budget
Capron, Shane, 2/6/2017

SS3 Item added.
Seth Shanahan, 2/9/2017

Group Input through an Active Exercise

Step 1. Brainstorm a list of work plan elements

Initial list of elements	152
Elements developed during the meeting	<u>+ 31</u>
Total elements	183

Step 2. Stick stickers on most important elements to deal with

Quasi-multi-voting technique¹

¹ Technique used previously for the core monitoring project work

Slide 14

SAC4 maybe also say we have done the dot-ranking exercise with twg before a couple of times during the core monitoring project work

Capron, Shane, 2/6/2017

SS4 Agree. Superscript and notes added as a reminder.

Seth Shanahan, 2/9/2017



Group Exercise

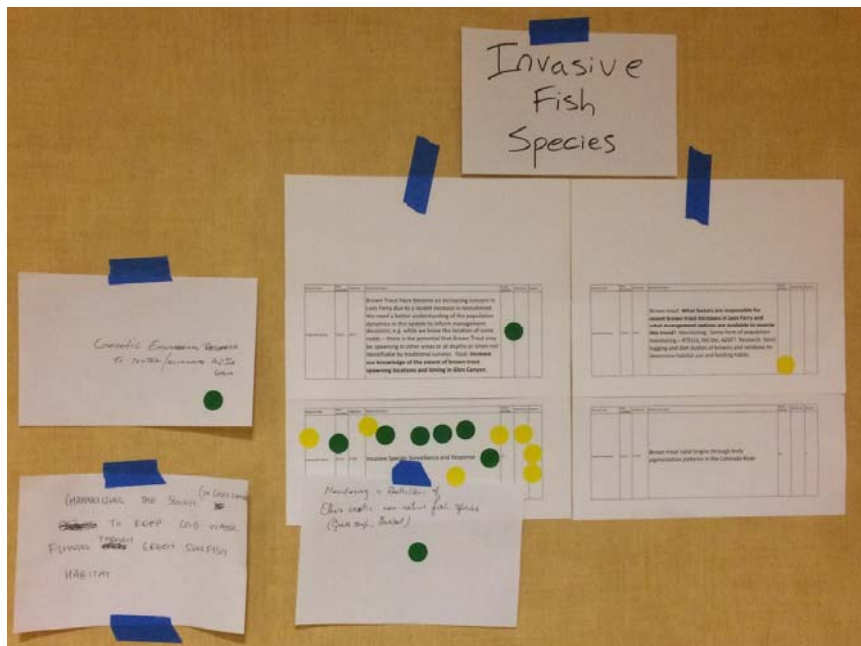
Weaknesses

- Results reflective of participants only
- List contained “have to do’s”
- Some stakeholders were skeptical and concerned that non-stickered elements would be disregarded

Strengths

- Gathers input but does not **decide** anything
- Represents a “group” perspective
- Guides further discussion

Results



Category	No. of Elements
Aquatic food base	35
Multiple	33
Humpback chub	31
Overall	18
Rainbow trout fishery	15
Sediment	14
Archaeological and cultural resources	13
Recreational experience	7
Invasive fish species	6
Water quality	4
Riparian vegetation	4
Hydropower and energy	2
Duplicate	1
Grand Total	183

Category	Most Stickers
Aquatic food base	Investigate the water quality drivers that affect the aquatic food base and <u>conduct fertilization experiments to stimulate the food base.</u>
Archaeological and cultural resources	Digitize and make accessible Hualapai Tribal Elder interviews.
Humpback chub	Investigate humpback chub in western Grand Canyon including their origins and drivers that led to their distribution.
Hydropower and energy	<u>Conduct experiments that increase hydropower.</u>
Invasive fish species	Create and implement an invasive species surveillance and response program.
Multiple	Integrate tribal values and knowledge into archaeological site treatment.
Overall	<u>Plan and conduct Spring HFE's.</u>

Slide 19

SAC5 This is my favorite part. You should try to spend time on each of these if you can, not just read but discuss a bit, we can help. This is the list I would suggest AMWG then take and discuss as a group for THEIR input.

Capron, Shane, 2/6/2017

SS5 Agree. I have copied these slides to the end of the presentation so that we can do as you suggest.

Seth Shanahan, 2/9/2017

Category	Most Stickers
Rainbow trout fishery	Investigate the drivers that affect the rainbow trout fishery and identify options for management.
	<u>Test Trout Management Flows targeted at brown trout.</u>
Recreational experience	Investigate how flows and other management actions impact whitewater boating community.
	Investigate the regional economic impacts of recreational angling at Lees Ferry.
Sediment	<u>Investigate the effects of HFE downramp rates on beach edge slope angle.</u>
Water quality	<u>Investigate temperature control devices to cool water, including using the bypass tubes with turbines inside.</u>

BAHG Activities – February and March

- BAHG will take the guidance from January and work through a revised work plan based upon the LTEMP ROD resources
- Walk through each project area focusing on important guidance to GCMRC and BOR on needed projects and their scope
- Assess impacts and recommend projects based on available funding for 18-20 given rising overhead rates
- Culminate in draft TWP provided to full TWG in April (20-21), which will be the emphasis of that meeting

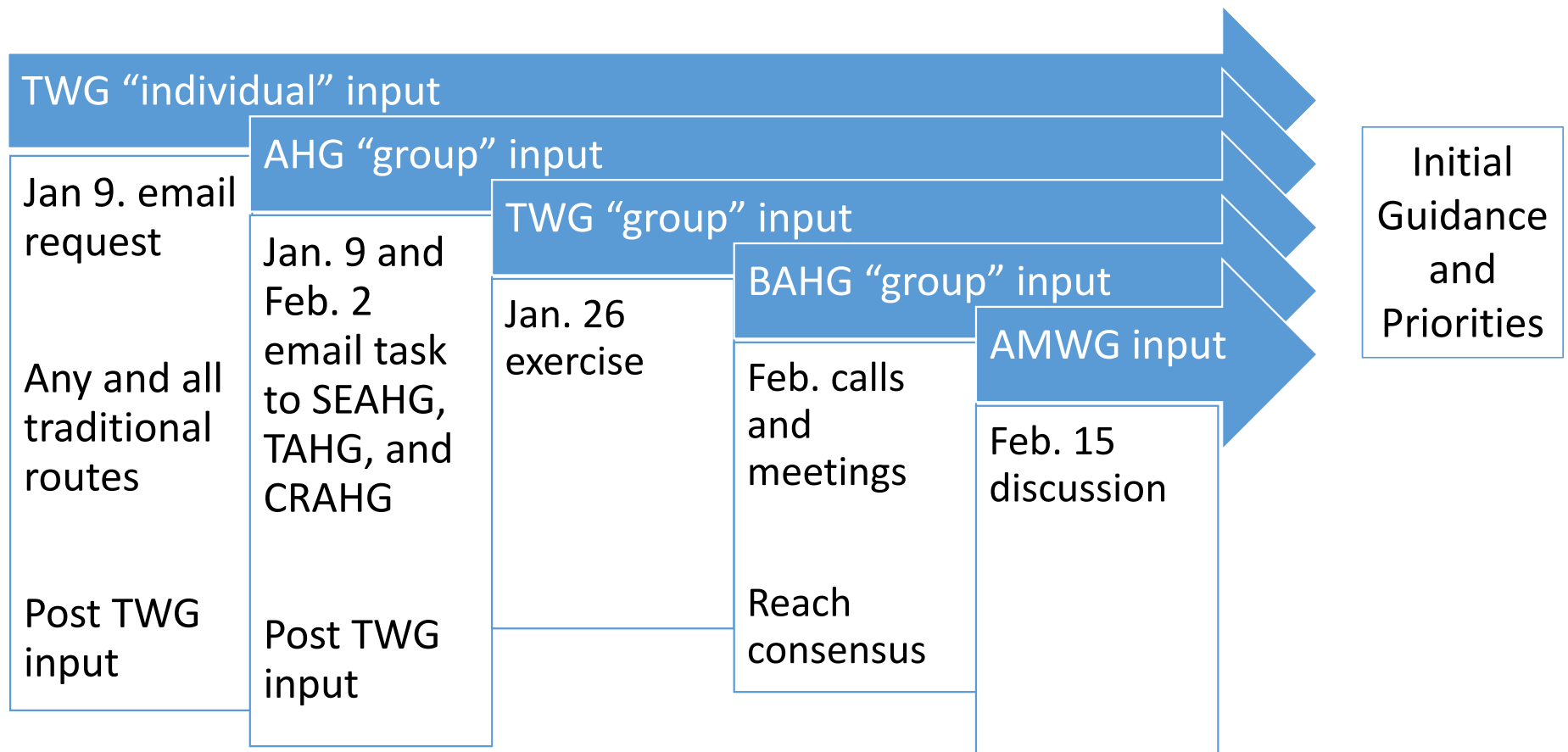
BAHG meetings to follow up on AMWG priorities for TWP with GCMRC and BOR

Continued BAHG input/feedback in March

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AMWG Meeting to Discuss Initial Priorities

Initial Guidance and Priorities



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