California Regional Water Quality Control Board, San Diego Region
Regional MS4 Permit Focused Meeting

Meeting Notes

Date	Location	Agenda Topics
7/25/2012 Start time: 9:30 AM End time: 2:50 PM	City of Carlsbad Faraday Center 1635 Faraday Ave, Rm 173 Carlsbad, CA 92008	• Focused Meeting Highlights • Monitoring Requirements Introduction • Stakeholder Monitoring Presentation • Discussion on Monitoring Proposals Related to Permit Requirements • Parking Lot Discussion • Other Topics / Audience Comments

I. Introductions

Table participants introduced themselves. Lewis Michaelson (Facilitator) ensured the appropriate representatives were at the table, per the June 20, 2012, San Diego Regional Water Quality Control Board (SD RWQCB) Notice.

San Diego County Copermittees (5): Jo Ann Weber (County of San Diego), Andre Sonksen (City of San Diego), Paul Hartman (City of Vista), Karen Holman (Unified Port of San Diego), Alison Witheridge (City of Oceanside), Mikhail Ogawa* (City of Del Mar), Drew Kleis* (City of San Diego) **Indicates representatives rotated during the meeting.*

Orange County Copermittees (5): Grant Sharp (Orange County Flood Control District), Mary Anne Skorpanich (County of Orange), Ted Von Bitner (County of Orange), Richard Boon (County of Orange), Devin Slaven (City of Lake Forest, Lisa Zawaski* (City of Dana Point) **Indicates representatives rotated during the meeting.*

Riverside County Copermittees (3): Claudio Padres (Riverside County Flood Control District), Bob Collacott (Riverside County Flood Control District), Mike Shetler (County of Riverside)

Environmental Community (3): Colin Kelly (Orange County Coastkeeper), Jill Witkowski (San Diego Coastkeeper), Roger Butow (Clean Water Now! Coalition), Thom Spanos* (San Diego Coastkeeper) **Indicates representatives rotated during the meeting.*

Development/Business Community (3): Bryn Evans (Industrial Environmental Association), Wayne Rosenbaum (BIA), Mike McSweeney (BIA), Mark Grey* (BIA) **Indicates representatives rotated during the meeting.*

U.S. Environmental Protection Agency (US EPA) (1): John Kemmerer

San Diego Water Board Permit Team: David Barker, Wayne Chiu, Laurie Walsh, Eric Becker

II. Focused Meeting Highlights

David Barker (RWQCB) announced that there will be an additional meeting on the topic of hydromodification. The County of Orange has taken the lead on organizing the event, which will run in the same manner as the other focused meetings. Details will be sent out once they are available. A tentative decision has been made to have the meeting the last week of August.

David Barker (RWQCB) provided brief remarks on some of the points raised in the past focused meetings that are resonating with the RWQCB staff.

1. Monitoring doesn't have to be water quality sampling. Water quality data are not the only assessment tool that can be used. There were requests that monitoring programs should include field observations as monitoring data, especially for non-stormwater discharges.
2. Adding language to the permit, not just the fact sheet, about the non-enforceability of action levels.
3. Adaptive management in the permit should be flexible enough for the Copermittees to learn without fear of being out of compliance with the permit.
4. Including more specific public participation requirements for development of Water Quality Improvement Plans, and for development of priorities for the Water Quality Improvement Plans.
5. Clarifying Board approval process for all plan submittals, reports, and updates.
6. Making it clearer in the permit what is eligible for adaptive management practices and clarifying the points of compliance in the permit.
7. Consideration of other means of demonstrating compliance with TMDL requirements that are consistent with the assumptions and requirements of the TMDL. The Board does see some flexibility in how waste load allocations are incorporated into the permit.
8. Examining the proposal to change the permit language from "prohibit" to "effectively prohibit" non-stormwater discharges.

David Barker (RWQCB) did caveat that this is not a complete list, and the omission of any points does not mean the Board is ignoring the issue or has made a final decision on the issue.

III. Monitoring Requirements Introduction

Eric Becker (RWQCB) explained how RWQCB staff developed the monitoring provision in the administrative draft permit, almost starting from scratch. The Board looked at what is truly required in federal regulations of the monitoring program and included that in the

monitoring provisions. The Board also listened to feedback from the Copermittees from meetings, as well as recommendations from the Report of Waste Discharge (ROWD). It was a conscious change to include monitoring as a provision within the permit instead of as an attachment. The main goals of the monitoring program are to ensure non-stormwater discharges are eliminated, pollutants in storm water discharges are reduced to the maximum extent practicable (MEP), and that water quality limits are met in the receiving waters. The Board also wants to increase jurisdictional accountability, make sure that monitoring is used as a feedback loop to adapt programs, and identify illicit discharge sources within the MS4, including those outside of the control of the Copermittees. RWQCB staff expects significant changes to this Provision.

IV. Stakeholder Monitoring Presentation

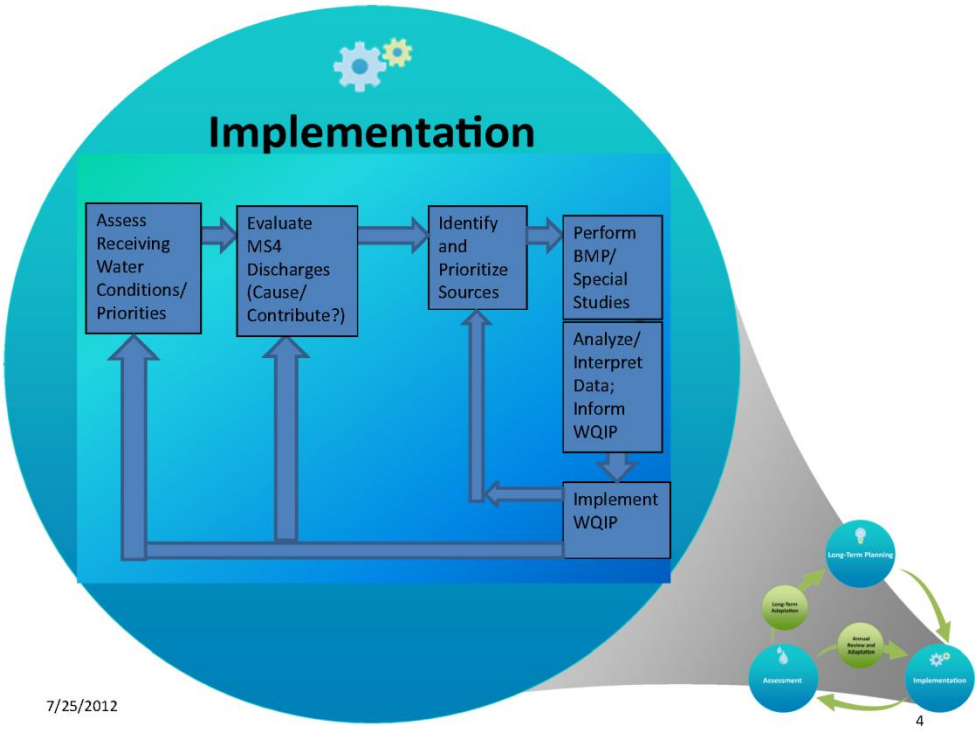
All stakeholders were provided the opportunity in advance to formally present materials at the focused meeting. The San Diego County Copermittees took advantage of the opportunity.

Jo Ann Weber (County of San Diego) stated that we all share a common goal of protecting beneficial uses in waterways. The purpose today is to build on the considerable level of effort already done and provide insights as to what works and what doesn't work. The program as written in Provision D does not support adaptive management. The San Diego County Copermittees have developed a new approach using specific questions provided by RWQCB staff.

The approach proposed by the San Diego County Copermittees is to require development of a Monitoring and Assessment Program (MAP) as part of each Water Quality Improvement Plan to provide information needed to answer management questions and support effective adaptive management. To do so, the San Diego County Copermittees propose to coordinate Provision II.D requirements with Provision II.B language. The goal is to answer the three big assessment questions as efficiently as possible.

Adaptive management has three phases: long-term planning, implementation, and assessment. To provide useful feedback, the MAP is proposed to be developed during the long-term planning process during the first twelve months after permit adoption. Monitoring needs to be coordinated with the other programmatic elements to provide the most useful information.

The San Diego County Copermittees see monitoring fitting in with overall program management. It fits in with the other implementation elements; it is not an element outside the program. To illustrate this, see the following figure.



The four overall components of the monitoring program (assess receiving water conditions/priorities; evaluate MS4 discharges; identify and prioritize sources; perform BMP/Special Studies) are shown across the top of the above diagram. The loop across the bottom of the diagram is the adaptive management, or feedback, process.

The San Diego County Copermittees have been monitoring receiving waters for close to 20 years now and have a high level of understanding of the problems in many of the receiving waters. In the 2007 San Diego Permit, the San Diego County Copermittees began to incorporate MS4 stormwater conveyance monitoring to determine how MS4s were impacting the receiving waters. The San Diego County Copermittees are now looking to move this information forward by placing more focus on identifying and prioritizing sources. In earlier permits, a lot of time has been spent in the first box on the left. The focus now should be taking resources and moving forward in the process.

The San Diego County Copermittees believe that this is the nexus to effective implementation because it fits into adaptive management and can guide and utilize other programmatic implementation efforts to improve water quality. For example, if nutrients and bacteria are priority problems, then sources of each must be considered separately. Different strategies for implementation will be necessary to target each audience. Pilot BMPs and other special studies will provide specific information to improve and target implementation activities. These studies may involve more than just water sampling. The loop at the bottom of the diagram represents the adaptive management process.

The San Diego County Copermittees recognize that watersheds are at different levels of understanding with respect to each of the four components. Those with TMDLs have a more mature program. The goal of the MAPs will be to strategically tailor the balance of

monitoring to the prioritized needs of the specific watershed management area. The result will be efficient, coordinated monitoring with an enhanced watershed and TMDL focus.

Provision D in the administrative draft permit has a lot of focus on the first two boxes, but does not allow Copermittees to shift effort to the third and fourth boxes. The San Diego County Copermittees would like that flexibility. The Copermittees want to coordinate the monitoring in Provision D with the assessment plan required in Provision B. To do so, the San Diego County Copermittees propose an Alternate Provision II.D to maximize the benefits of the programs overall. The concept is to use an informed design strategy that tailors a question-driven approach, starting with general questions that lead to more specific questions. The Copermittees would not be starting from scratch; rather, they would be building on the last 20 years of monitoring strategies. Also, as monitoring is not just water sampling, the Copermittees want to incorporate alternate monitoring methods better than has been done in the past. Ultimately, this will support watershed priorities and allow Copermittees to focus water resources on high priorities within each watershed.

The San Diego County Copermittees are proposing alternate language for Provision D that will better provide program managers with needed information to support effective adaptive management. The proposal includes having monitoring within the overall planning process of the Water Quality Improvement Plan. To accomplish this, the San Diego County Copermittees propose a phased approach with pre- and post- Water Quality Improvement Plan phases. The MAP would be developed as part of the Water Quality Improvement Plan. With this approach, the first and second year monitoring requirements would be set forth in the permit as part of a transitional monitoring program. The monitoring requirements would be re-assessed and adjusted as necessary to support the highest priorities in each watershed.

If the permit is adopted in spring 2013, then the current Order No. R9- 2007-0001 monitoring would continue until September 30, 2013 to accommodate the resource commitments for the current fiscal year. The transitional (pre-WQIP) monitoring program would run from October 1, 2013 to September 30, 2015 to accommodate the public review, RWQCB review, and lead time necessary for budgeting. The MAP as part of the Water Quality Improvement Plan (post-WQIP phase) would be implemented from October 1, 2015 forward.

The scientific basis of the San Diego Copermittees' proposed Alternate Provision II.D is an informed, question-driven approach. This approach is strongly endorsed at local, regional, state, and federal levels. At the June 2012 RWQCB meeting, RWQCB staff presented a similar approach that was well-received by the Board. The process proposed by the San Diego County Copermittees aligns well with the condition assessment process proposed by RWQCB Staff with an emphasis on setting priorities. All of these documents (A Framework for Monitoring & Assessment in the San Diego Region (SDRWQCB, 2012), Southern California Stormwater Monitoring Coalition's Model Monitoring Program (SMC, 2004), SWAMP Assessment Framework (SWMP, 2010), Elements of a State Water Monitoring and Assessment Program (EPA, 2003)) stress the importance of basing monitoring on clear questions that support explicit decisions ensuring that data are

gathered only when there is a validated framework in place. These documents follow an earlier National Research Council report on monitoring, which emphasized the importance of building on clear conceptual models and questions that are linked to management needs.

Jo Ann Weber (County of San Diego) stated that today she will summarize key technical issues that support Alternate Provision II.D. Detailed explanation will be provided in a separate memorandum to the RWQCB, including specific permit language revisions.

One key proposed change includes jurisdictional non-stormwater monitoring in Section II.D.1.a. Instead of extensive MS4 outfall testing, the San Diego County Copermittees propose to conduct a targeted program to reduce persistent flows that impact receiving water quality, thus allowing resources to focus on actions to ultimately improve water quality. The San Diego County Copermittees also propose a broad program to eliminate transient illicit discharges/illicit connections (ID/IC) getting the spatial coverage by using visual surveys and appropriate follow up criteria.

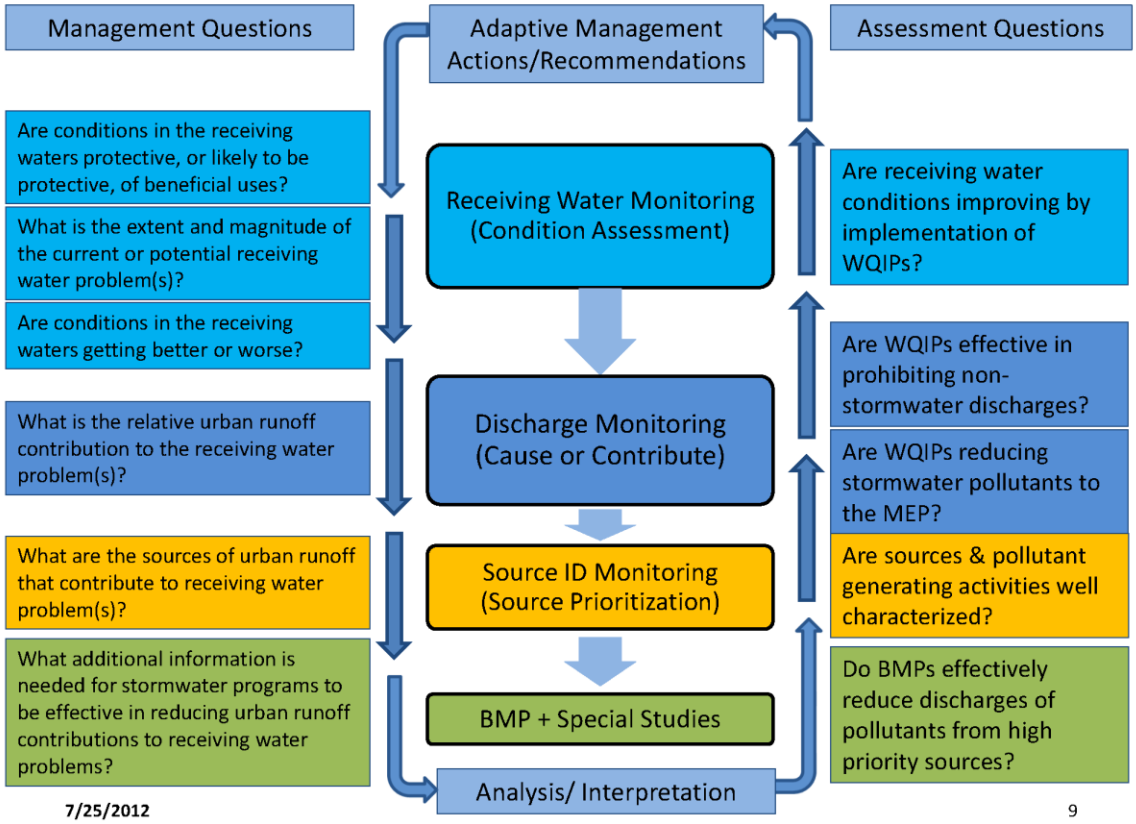
In addition, for the jurisdictional stormwater monitoring, instead of extensive MS4 outfall monitoring, the Copermittees propose monitoring homogeneous land uses as input to a model. This wet weather runoff modeling would better inform the planning process by prioritizing drainages for implementation efforts. Representative typical mixed-use sites could be used as a cross-check for model results. Selection of representative outfalls with homogeneous land use types may be coordinated and shared among Copermittees to provide the most efficient representation and characterization of major land use categories. Modeling currently being done as part of the bacteria TMDL implementation plan efforts may be built upon.

The San Diego County Copermittees recognize that the RWQCB wants to see jurisdictional accountability. Jurisdictional accountability should focus on completion of the iterative process and would be supported by data collected at prioritized targeted MS4 outfalls. The San Diego County Copermittees feel that the administrative draft permit's jurisdictional boundary monitoring does not support their goals. In the past, data have shown that jurisdictional boundary monitoring has little value, due to a combination of typically high variability of the concentrations of constituents in receiving waters and discharges, and a relatively small percentage of discharge flows and pollutant loading in the receiving waters. This combination of high variability and relatively small impacts or differences requires extremely high numbers of samples to detect significant differences and would be unlikely to result in any programmatic changes or improvements to water quality.

In addition, instead of the extensive compliance monitoring proposed to comply with the Bacteria TMDL in Attachment E, Copermittees have already developed monitoring programs to comply with Bacteria TMDL requirements that are due October 2012. The current language in Attachment E would replace the monitoring planning effort just completed.

Andre Sonksen (City of San Diego) continued that the workgroup has spent significant time and effort developing their proposed approach. One key point is that this is an ordered process that leads to solving specific water quality problems. This process can be applied at

any level – watershed, jurisdictional, or pollutant level. There are three different components to this: management questions (on the left), monitoring components (in the center), and assessment components (on the right). All three components are essential for this to work.



The administrative draft permit focuses on the top four management questions, the receiving water and discharge monitoring, and assessment. There are two more levels needed: source identification and special studies/BMPs. The top three (blue) deal with receiving waters. The next one (darker blue) is discharge monitoring. Yellow is source identification and pollutant-generating activity (PGA) monitoring and identification. The bottom (green) is special studies.

The process starts at the top and moves down. When starting at the top in receiving waters, information is collected that feeds down into discharge monitoring, which feeds into source identification, which then feeds into BMPs. These have to work together. Collecting information at a lower level without collecting information at higher levels will not work. The top question needs to be answered first, or else significant time and effort might be spent looking at something that is not a problem.

The assessment train works in reverse, going back up the process: start with data collected through special studies/BMPs, analyze if the BMPs were effective or if the special

study gives information for feedback into source identification or prioritization, and so on, up the ladder.

The Copermittees have spent a significant amount of time developing how each of these different components are outlined, how they work from top to bottom, left to right, and this is a very well thought out, organized, and methodical process to collect information with direct impacts on how to implement programs.

Andre provided Chollas Creek as an example. In Chollas Creek, the Copermittees have been doing a significant effort for the past 20 years that has culminated into TMDLs for bacteria and metals. Extensive receiving water information has already been collected, the Copermittees already have information at the MS4 discharge level, and there have been special studies completed in Chollas Creek. Looking at the proposed flowchart, some of the questions have already been answered in Chollas Creek. Special studies and BMPs are the next phase for Chollas Creek. Other watersheds don't have the plethora of data that Chollas Creek does, so they would start towards the top of the flowchart.

Claudio Padres (Riverside County Flood Control District) asked if the intent is that this process would be integrally part of the Water Quality Improvement Plan and if the types of monitoring being described would be focused on the high priority issues identified in the Water Quality Improvement Plan or if it would be discharge monitoring everywhere. Andre replied that the MAP would be integrally part of the Water Quality Improvement Plan. This is a methodology for implementing monitoring and how monitoring should be used to inform program planning, program implementation, and adaptive management. For watersheds that have developed high priorities already, the process would be used to tailor the monitoring to get at the issues that are further down in the monitoring tree.

Paul Hartman (City of Vista) stated that the point of the monitoring programs is to allow Copermittees to focus resources on strategic areas identified in the Water Quality Improvement Plan. The way monitoring is laid out in the current administrative draft permit is too prescriptive. Ultimately, the focus needs to be further down in the above diagram, focusing on source identification and special studies.

Claudio Padres (Riverside County Flood Control District) stated that if the intent of the permit is to allow the Copermittees to focus their resources on those high priority issues, then one way to do that is to allow them to focus their monitoring resources, and staffing and time and money, and not spread resources too thin trying to assess everything everywhere.

Colin Kelly (OC Coastkeeper) asked how far the San Diego County Copermittees reached out to Riverside and Orange County about these general ideas. Claudio Padres (Riverside County Flood Control District) responded that the San Diego County Copermittees have been reaching out to Riverside. Unfortunately, due to deliverables under the current Riverside MS4 permit, the County of Riverside has not been able to be involved; however, he has heard a lot of good points and is so far in support of the San Diego County Copermittees presentation today. Richard Boon (County of Orange) stated that Jo Ann Weber has been studiously involving Orange County in conference calls with the group that

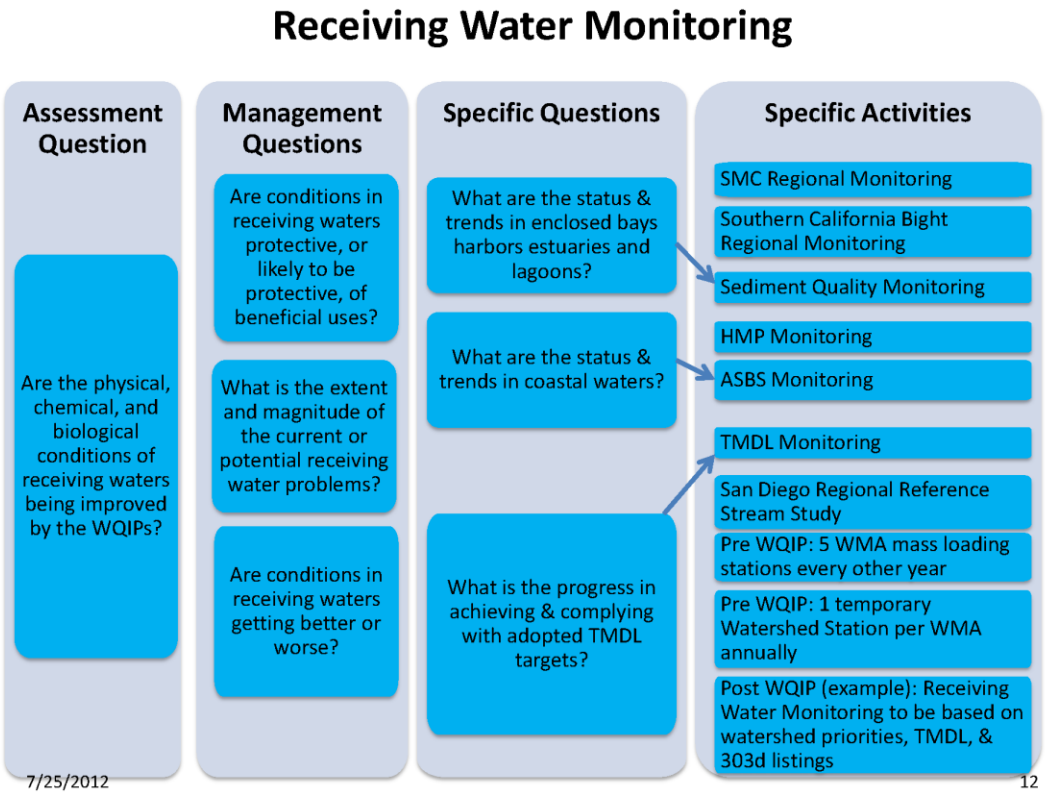
developed this approach. Orange County certainly endorses and supports the question-driven approach.

Colin Kelly (OC Coastkeeper) asked if the RWQCB anticipates each program doing every step in this process or if findings can be shared across the jurisdictions, such that if the City of San Diego has done an air deposition study, can those results be taken and used by Orange County so they aren't all doing the same special studies.

David Barker (RWQCB) replied that one reason they are pushing the regional permit is to allow collaborative use of studies.

Mary Anne Skorpanich (County of Orange) shared that she sees this approach very much fitting in with some of their own thoughts that these Water Quality Improvement Plans should take a much more central role in the permit overall. She is completely in concurrence with the overall monitoring required by the permit being linked to the Water Quality Improvement Plan.

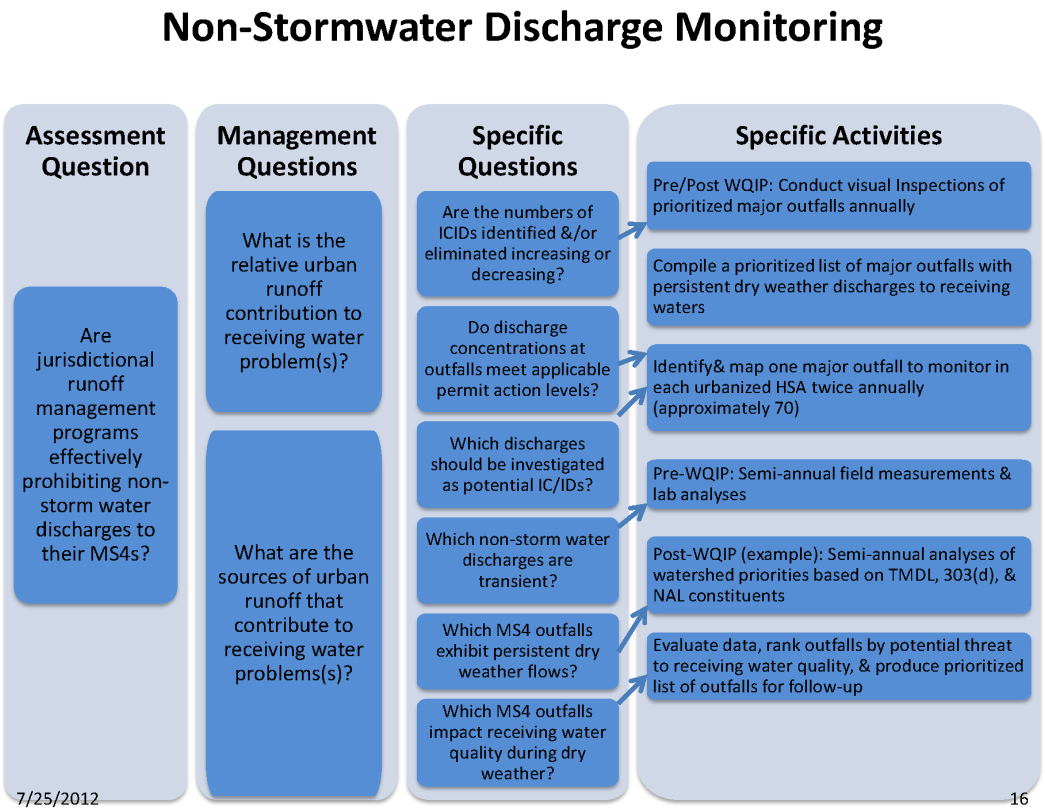
Jo Ann Weber (County of San Diego) stepped through the pre-Water Quality Improvement Plan (transitional) monitoring and examples of post-Water Quality Improvement Plan monitoring proposed in Alternate Provision II.D, beginning with receiving waters. The San Diego County Copermittees recognize their responsibilities and commitment to maintaining a level of effort of monitoring during the pre-Water Quality Improvement Plan or transitional phase similar to the current 2007 permit, but adapted to provide more useful information to support Program Managers' needs.



The above diagram illustrates the use of the question-driven approach in designing activities for receiving water monitoring. The process goes from left to right. The Assessment Questions (left side) are from the current Provision II.D ("Are there improvements in the receiving waters conditions?"). The second column lists the appropriate broad Stormwater Monitoring Coalition (SMC) questions that can be summarized as a status question, an extent and magnitude question, and a long-term trend question. These management questions provide context for the more specific, technical questions (third column) and associated monitoring activities (fourth column). Monitoring results from any given activity may only partially contribute to answers for the "big picture" management questions. The specific questions (third column) are examples of detailed study questions that could be used to design the monitoring program. When study questions are answered by specific activities, then the next prioritized study question can begin as part of the adaptive process.

The purpose of the monitoring is to assess trends of receiving waters and magnitude, highlighting rationale and benefits of specific activities. Copermittees are committed to continuing many of the receiving water monitoring programs and balancing sampling needs so that long-term receiving water trends will continue to be addressed. This process supports the question-driven adaptive management approach.

Paul Hartman (City of Vista) presented the Jurisdictional Non-stormwater Discharge Component of the Alternate Provision II.D.



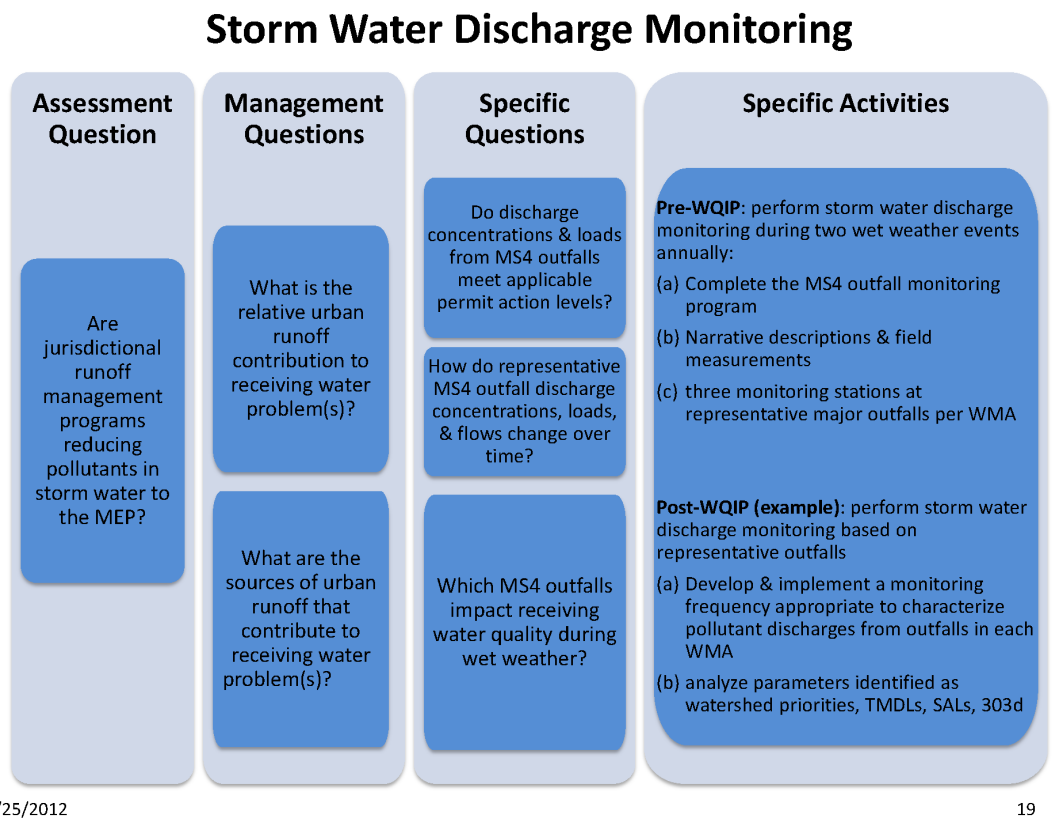
The primary assessment question on the left side is: Are jurisdictional runoff management programs effectively prohibiting non-stormwater discharges to their MS4s? To answer this overall question, the focus is on answering the management questions (second column). From these two management questions, specific monitoring questions have been developed to drive the design of the program. Examples of specific monitoring questions are provided above in the third column. These questions have led to the development of two distinct programs to address non-stormwater discharges during dry weather: one program targeting transient discharges focusing on IDDE; another program targeting persistent flows, designed to strategically prioritize and address outfalls with continuous non-stormwater discharges.

The transient flow program is rooted in a three-pronged approach designed to provide broad spatial and increase temporal coverage. The focus is on sources, the MS4 itself, and the MS4 outfalls discharging to receiving waters. This program would be implemented during both the pre-Water Quality Improvement Plan (transitional) and post-Water Quality Improvement Plan phases. The idea is that the main sources of non-stormwater discharges are addressed via programs such as Industrial, Commercial, and Municipal inspections. Based on analysis of recent data, this program appears effective in preventing discharge impacts. The second part of the transient flow program is to provide coverage of the MS4 system throughout the year, via jurisdictional programs such as complaint response, MS4 cleaning, and staff/citizen reporting of illicit discharges. The third part of the transient flow program consists of visual monitoring at major MS4 outfalls. This would require the updating of inventories and periodic surveys of major outfalls, looking for flow indicative of illicit discharges.

The persistent flow program is based on historical data gathered via existing dry weather programs, MS4 outfall programs, GIS information, and data from the visual observations program discussed previously to identify and prioritize major outfalls that exhibit persistent flows. The current MS4 outfall program will continue to its completion. Once identified and prioritized, one major outfall per hydrologic sub area would be selected for monitoring two times per year. This means approximately 70 outfalls would be under investigation throughout San Diego County at any time. As pollutants are reduced and non-stormwater flows are eliminated, the operation would continue through the prioritized list of outfalls. Comparison to numeric action limits would be used to prioritize outfalls within the Water Quality Improvement Plans.

By implementing the non-stormwater discharge program in two parts (transient and persistent), the Copermittees will be able to best utilize resources to eliminate and control the highest priority threats to receiving water quality.

Jo Ann Weber (County of San Diego) spoke to the stormwater discharge monitoring program.



The overall assessment question from the administrative draft permit is if runoff management programs are reducing pollutants to the MEP (first column). The same two over-arching questions are: what is the relative contribution and, if significant, then what are the sources (second column)?

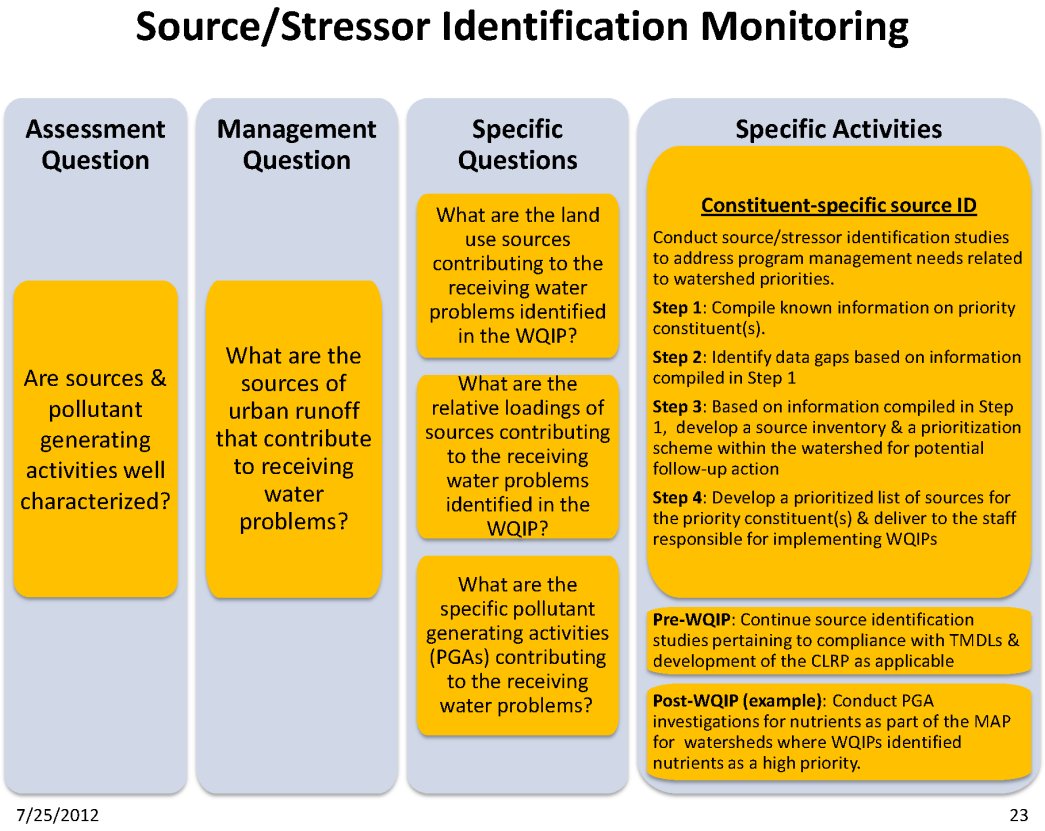
Using the specific questions to guide design, the pre-Water Quality Improvement Plan (transitional) monitoring program commits to completing the current outfall monitoring program (fourth column). In addition, the outfall monitoring in the pre-Water Quality Improvement Plan (transitional) phase would consist of at least three monitoring stations at representative major outfalls per watershed management area. Selection of representative outfalls may be coordinated and shared among Copermittees to provide the most efficient representation and characterization of major land uses. This will allow for more efficient and informed characterization of the MS4 discharges. This effort builds on the rainfall runoff models that use land use coefficients to estimate runoff loads. Sophisticated models developed as part of the implementation plans for the regional bacteria TMDL can be used to inform where additional data for local homogeneous land uses is needed. This proposed MS4 program will be more resource-intensive than the current MS4 program and demonstrates the Copermittees' commitment to gather useful data to target implementation activities.

The post-Water Quality Improvement Plan phase program continues a commitment to perform monitoring of outfalls to characterize pollutants from the MS4s; however, the

design of the program will evolve depending on the specific questions and needs of the watershed management area.

Benefits of this approach are multifold, including broad spatial and temporal coverage; support for assessment-driven, adaptive management approach; and, flexibility in site selection allowing jurisdictions to focus resources on the highest watershed priorities.

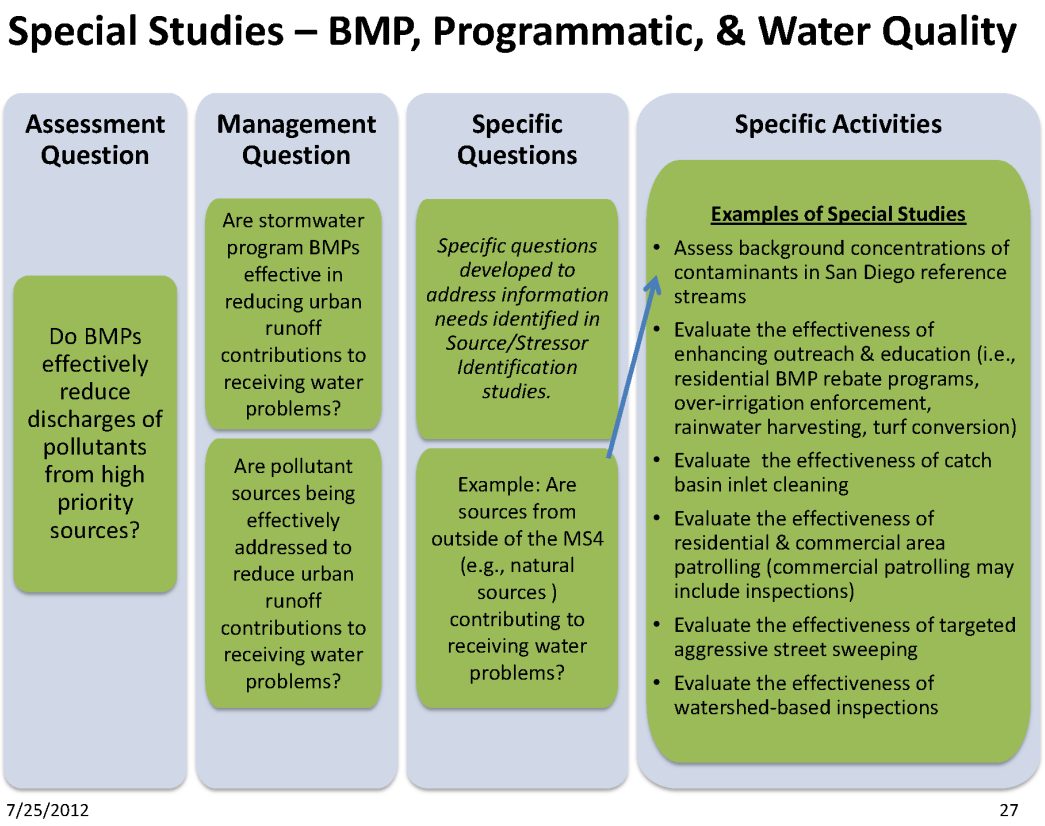
JoAnn Weber (County of San Diego) spoke to source/stressor identification (yellow layer). To provide the necessary feedback to improve program implementation, Copermittees have increased emphasis on the Source Identification and BMP/Special Studies, adding the assessment question: "Are sources and pollutants well characterized?" The Copermittees recognize that an increased understanding of sources allows implementation efforts to be focused.



The principle role of identification is to identify and prioritize pollutant generating activities (PGAs) and source categories. PGAs can result in release of pollutants. Once PGAs are identified and prioritized, then behavioral changes and education can take place. Identification of high priority sources is an important step in support of the Water Quality Implementation Plan process, to help inform the development of effective pollutant control strategies for particular priority constituents on a watershed-specific basis.

The key benefits of the source/stressor identification studies are to provide program management with information to verify, quantify, and prioritize sources and provide links between sources, activities, and effects of runoff.

Andre Sonksen (City of San Diego) spoke to Special Studies/BMPs (green layer).



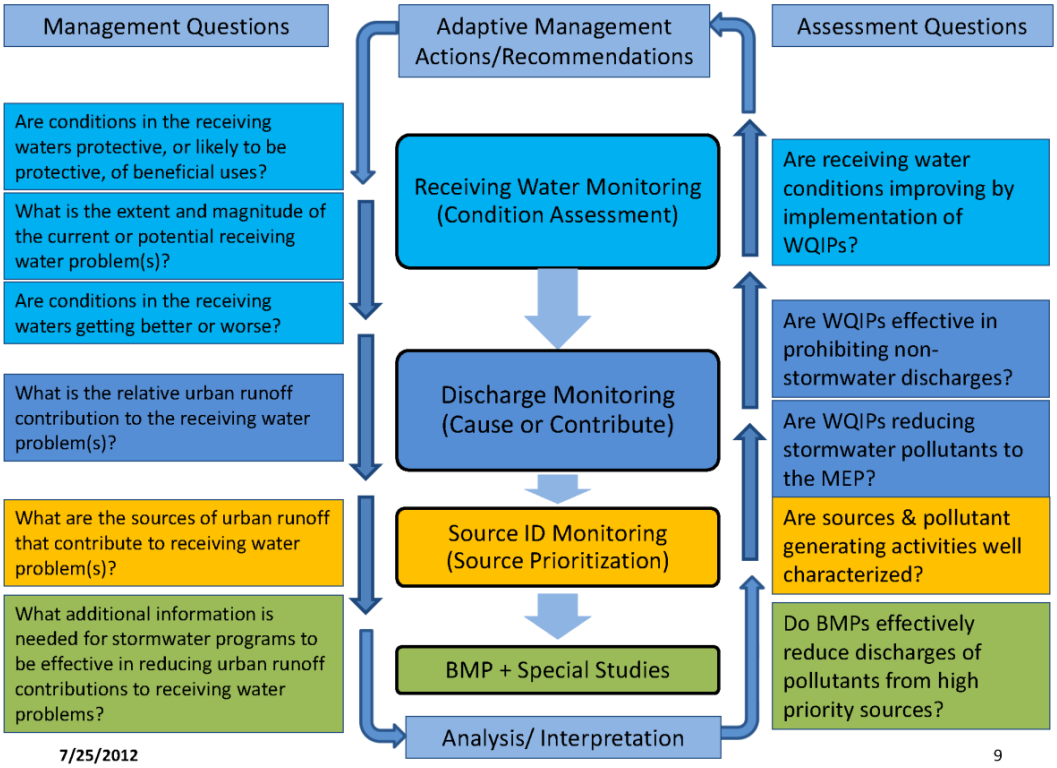
The BMP special studies program follows the same general format seen for receiving waters, etc. Assessment questions are from the administrative draft permit, management questions were developed similar to scope and language as that in the SMC, then specific questions are developed based on specific information needed or desired (third column).

The City of San Diego has used this process to evaluate one of the BMPs in the current permit: street sweeping. As an example, the management question was “Can street sweeping effectiveness be improved?” The City then conducted a pilot study in four phases; each phase had its own specific question. The question for the first phase was “Is there an optimum sweeping frequency? How often do you need to sweep streets to get the maximum benefit?” The question for phase two was “Is there a sweeper type that is better than the others? (vacuum vs. mechanical sweepers).” Phase three asked “How much pollutant removal does sweeping the median in streets add?” Finally, phase four asked “Is there an optimum sweeper speed?” Each phase of the study built upon the results of the previous phases. As a result of the study, the City implemented changes to their street sweeping program.

The purpose of special studies/BMPs is to support effective adaptive management, assess BMP effectiveness, and perform scientific investigations to address data gaps. The methods are very focused (pilot BMP studies, source identification special studies, water quality studies). The benefits are that this all feeds into adaptive management and how to improve programs to improve water quality.

Roger Butow (Clean Water Now! Coalition) asked who creates the questions for this question-driven approach and how much input or influence do watchdog NGOs have over the questions, as the questions are the beginning of the entire flow chart.

Karen Holman (Unified Port of San Diego) responded that the Copermittees started with RWQCB assessment questions from the original permit and SMC questions, especially in the blue areas of the below diagram.

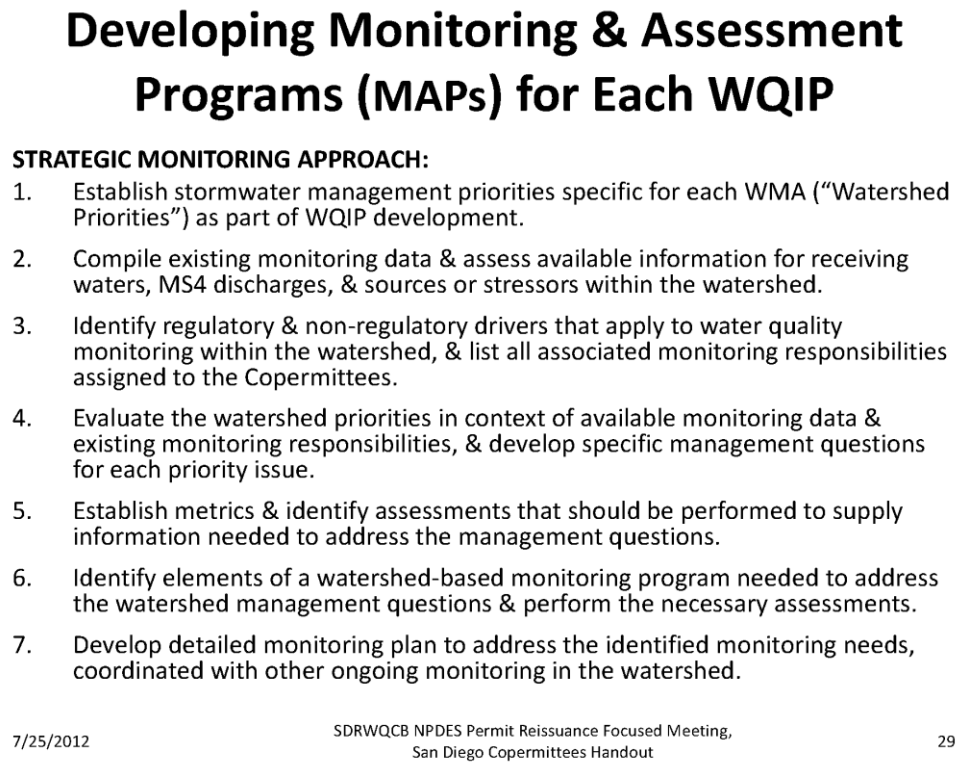


Karen continued that the next two levels (yellow and green) are where adaptive management starts, and that is where the Copermittees are focusing on making the nexus between monitoring and the rest of the permit programs. For these areas, the questions are being developed by the Copermittees based on needs. Questions could be driven by priorities in the Water Quality Improvement Plans; other focused questions could be on whether BMPs are working as expected. Karen hypothesized that NGO involvement could begin there, with the more focused questions that are aligning with Water Quality Improvement Plan priorities.

Jill Wittkowski (SD Coastkeeper) shared that the questions look to be along the right lines. If this is done hand-in-hand with the Water Quality Improvement Plan process, it

makes sense that the public participation process for the Water Quality Improvement Plan would result in a collaborative public process for developing some of the monitoring questions.

Jo Ann Weber (County of San Diego) provided an example of how a MAP might be developed in an example watershed. The slide below lists the steps for the strategic monitoring approach.



Developing Monitoring & Assessment Programs (MAPs) for Each WQIP

STRATEGIC MONITORING APPROACH:

1. Establish stormwater management priorities specific for each WMA ("Watershed Priorities") as part of WQIP development.
2. Compile existing monitoring data & assess available information for receiving waters, MS4 discharges, & sources or stressors within the watershed.
3. Identify regulatory & non-regulatory drivers that apply to water quality monitoring within the watershed, & list all associated monitoring responsibilities assigned to the Copermittees.
4. Evaluate the watershed priorities in context of available monitoring data & existing monitoring responsibilities, & develop specific management questions for each priority issue.
5. Establish metrics & identify assessments that should be performed to supply information needed to address the management questions.
6. Identify elements of a watershed-based monitoring program needed to address the watershed management questions & perform the necessary assessments.
7. Develop detailed monitoring plan to address the identified monitoring needs, coordinated with other ongoing monitoring in the watershed.

7/25/2012 SDRWQCB NPDES Permit Reissuance Focused Meeting, San Diego Copermittees Handout 29

For a sample watershed, assume priorities are TMDL for bacteria and 303(d) listing for copper and nutrients. A likely assessment question would be "Are jurisdictional runoff management programs reducing pollutants in storm water to the maximum extent practicable?" A likely management question would be "What are the sources of urban runoff that contribute to receiving water problems?" Following the previously presented flowchart, the next step would be to develop specific questions using available information. For bacteria and copper, MS4s are known sources; however, MS4s are less well known sources of nutrients. In this watershed example, loadings from land uses are not well quantified to support planning of wet weather management actions or evaluate their effectiveness. A specific question in this case would be "What are the representative MS4 outfall discharge concentrations, loads and flows?" The approach to answering the specific question is to support model development, calibration, and validation. Stormwater discharges should then be monitored at a determined number of sites based on appropriate land use characterization for modeling, at a determined frequency (e.g., 2 storms per year), for specific constituents (e.g., bacteria, copper, nutrients, and any other special study

needs), and for a specific duration (e.g., at least one adaptive management planning cycle to allow for data usability).

To include the San Diego County Copermittees' proposal in the draft permit, the next steps are to provide the RWQCB with Alternate Provision II.D and a technical memorandum with support and rationale for the alternate provision.

In closing, Jo Ann Weber (County of San Diego) stated that the purpose of monitoring is to provide information to program managers to inform implementation of the stormwater programs. A thorough and thoughtful planning process using a question-driven approach provides the roadmap for success. The San Diego County Copermittees have metaphorically traveled the freeways and will now venture onto the roads less traveled, including conducting source identification studies, BMP studies, and targeted special studies. The Copermittees admit they may meet dead ends along the way and through the adaptive planning process will be adjusting the strategic route. The Copermittees look forward to partnering with all stakeholders in the challenging journey ahead.

Roger Butow (Clean Water Now! Coalition) asked how and under what circumstances would the monitoring look at contaminants of emerging concern and take into account any recalibration of trigger levels or metrics. Claudio Padres (Riverside County Flood Control District) responded that there would still be a component of receiving water monitoring to detect emerging issues. The idea would be to assess each issue as it arises, annually go back and review data and review priorities. For example, if perchlorate became an issue, that would get on the priority list and would be set in order as far as doing specific programs to target that particular constituent. It would be addressed in the context of the Water Quality Improvement Plan and its priorities.

Paul Hartman (City of Vista) agreed that it is a matter of striking a balance in the monitoring program: some parts will be monitoring for a broad suite of constituents over the long term; other parts will drill down to activities and BMPs effective at preventing pollutants of concern. The monitoring program will keep a broad approach but will not be monitoring everything everywhere.

Mike Shetler (County of Riverside) shared that Riverside County actually developed a demonstration on flood control district property where they are evaluating different BMPs that could be used in the field. He encouraged Roger Butow to visit the demonstration project.

Jill Wittkowski (SD Coastkeeper) stated that having this presentation in so much detail shows the benefit of the workgroups that the San Diego County Copermittees have. It does not look like these workgroups will be going forward with the new permit. Jill believes it would be valuable to the overall process to continue these workgroups with the next permit.

Jill Wittkowski (SD Coastkeeper) mentioned that the purpose of monitoring that has been repeated a few times is to make the programs better. Another purpose is to keep the pulse of the waterways; to know if the waterways are healthy or not.

Jill Wittkowski (SD Coastkeeper) asked what parts of the administrative draft permit are prohibiting the San Diego County Copermittees' proposed process.

Paul Hartman (City of Vista) replied that there are certain portions of the permit that are focused prescriptively on receiving water and MS4 monitoring. A specific example is the current dry weather program which appears to look for more broad spatial coverage, increasing sampling sites to a ¼-mile grid system (from 40 sites to more than 380 sites for Vista) while also going from quarterly to monthly monitoring. The San Diego County Copermittees are looking for flexibility to dial back those requirements and focus resources through adaptive management monitoring to get valuable feedback.

Claudio Padres (Riverside County Flood Control District) stated that he sees the difference from a high level of what is currently in the administrative draft permit versus the adaptive management strategies presented by the San Diego County Copermittees is the difference between monitoring for monitoring's sake versus strategic monitoring. The current administrative draft permit is a broad brush to do everything everywhere, not the focused approach presented by the San Diego County Copermittees.

Mike McSweeney (BIA) appreciated the approach presented by the San Diego County Copermittees and appreciated that he could understand the thought process from looking at the flowchart. Mike agreed that sampling should not be done so infrequently that if something bad happens it is not caught. He complimented the Copermittees on developing a smart way to address what the RWQCB is looking for. He agrees with Paul Hartman (City of Vista) that the grid pattern seems to be sampling for the sake of sampling, not smart or strategic sampling.

Roger Butow (Clean Water Now! Coalition) asked RWQCB staff if the language "economic feasibility" and "technological possibility" will no longer be used as metrics in the permit.

Wayne Chiu (RWQCB) replied that those terms are not used in this permit. Everything in the permit is a technical possibility and is feasible. The question of whether it is cost effective is part of the equation as well. What the RWQCB has proposed here are the minimum federal requirements, but those are put in as a starting point to basically provide the Copermittees an understanding of what can be in a permit. Those terms are not being used anymore.

Richard Boon (County of Orange) spoke on the definition of MEP as it is a crux issue for this process. The State of California did define MEP in 1993 and used the language "public acceptance," "cost," and "technical feasibility." Until State Board Counsel withdraws that memorandum, Orange County would very much expect to see those discussions in this permit. With respect to monitoring, it would mean that the resources available for monitoring are finite; therefore, Copermittees must be careful with how they allocate resources to monitoring because every dollar spent on monitoring is a dollar not spent on implementation of BMPs.

David Barker (RWQCB) replied that in the administrative draft permit, the State's definition of MEP is listed as part of the definition of MEP; therefore, what Richard has stated is fully consistent with how the administrative draft permit is defining MEP.

Bryn Evans (IEA) stated that the IEA has comments on the permit with regard to permitted non-stormwater discharges, such as groundwater dewatering, that have their

own permits. These activities can be mapped and utilized in the other elements of stormwater programs, including third party data. This would allow Copermittees to cost efficiently understand where those permitted non-stormwater discharges are currently and then focus on non-stormwater discharges that do not have authorization.

Grant Sharp (Orange County Flood Control District) mentioned that Monday was the Phase II Small MS4 permit comment deadline. That permit will target small communities and non-traditional Copermittees, such as school districts, state beaches, state parks, etc. One of the interesting things is the requirement for these non-traditional Copermittees to begin to do water quality monitoring to develop IDDE programs. In addition, the draft Phase II permit also has action levels in it for non-stormwater discharges and when compared to the Phase I MS4 permit, they are very different. With the action levels in the Phase II permit, one of the conceivable situations is one of the new non-traditional Copermittees will be doing their own IDDE monitoring and determine they don't have a problem because findings are below their discharge action levels, but the findings could be above the Phase I MS4 non-stormwater discharge action levels. This results in double investigations with different standards. Grant suggested partnering with the Phase II Copermittees to reduce the chance of double investigations.

Jill Wittkowski (SD Coastkeeper) stated that the modeling makes her nervous. The value of any model is based on the validity of the data being used to create the model. If a bad model is used, then bad decisions may be made based on the bad model. She would like to see the modeling concept developed further so that modeling will be robust and give good information to make good decisions.

Andre Sonksen (City of San Diego) explained that the problem with the current models for the San Diego region is that most of the data for the models are not from the San Diego region. Moving forward, the Copermittees would collect region-specific information that would go into current models or refine models to make them applicable to the appropriate region.

V. Discussion on Monitoring Proposals Related to Permit Requirements

Jill Wittkowski (SD Coastkeeper) stated that Coastkeeper is not the only environmental group involved and interested in this permit. Coastkeeper understands that Copermittees are concerned about the cost and breadth of dry weather monitoring; however, some of the environmental groups do not think that cost should be an issue. It should not be the case that Copermittees are required to comply unless it is too expensive. Dry weather monitoring should be kept in the permit. Jill recognized that Copermittees seem worried about the ¼-mile grid system. An alternative view is that this is a dry weather blitz for the first year and maybe it does make sense for the first year to do a blitz and acquire a broad view of the health of our waters throughout the watersheds. Another possibility may be a tradeoff of dry weather monitoring in exchange for the Copermittees agreeing to the inclusion of numeric effluent limitations in the permit.

Jill Wittkowski (SD Coastkeeper) raised the issue of third party data; the permit allows use of third party data but it is not clear how and when that happens. Coastkeeper would like to see in the permit specific requirements for being able to use the third party data, such as requiring use of that data so long as Quality Control training is done. There is a perception that Copermittees only use the data that looks good for them. The permit should require all data to be used. Coastkeeper would also like to see a useful database where all of the data from the region comes together, including Copermittee data and third party data. The database should be accessible by the public and perhaps show green, yellow, and red as an overview of water health. If people knew better that there are serious problems in waterways, then they may support water quality improvement efforts more and there might not be huge budget struggles.

Jill Wittkoswki (SD Coastkeeper) stated that she heard earlier today there are some places for which the Copermittees do not have a lot of data. If they don't have data, Jill questioned how they are setting priorities.

Jill Wittkowski (SD Coastkeeper) acknowledged that commercial, industrial, and municipal inspections are doing a good job looking at non-stormwater discharges. The big question now is residential sources and what should be done about them. Jill would like to see a commitment from Copermittees to crack down on this issue; to really have a plan for residential sources and be willing to take a stand on it. Jill has seen in watershed reports that there is a problem. She also questioned that if non-stormwater discharges are supposed to be prohibited, then why are there numeric limits for the discharges and why should money be spent on analyzing the discharges rather than locating the sources.

Jill Wittkowski (SD Coastkeeper) recognized the discussion earlier about pollutant-generating activities (PGAs) and using studies to determine which PGAs need to be cracked down on. This information should already be known. Coastkeeper did an audit in the Agua Hedionda Watershed, identified a nutrients problem, and determined it was probably coming from nurseries. They did not see any big problems when doing inspections, but also have not seen any follow up or alternate plans. Coastkeeper would like to see work continued and followed up on.

Jill Wittkowski (SD Coastkeeper) had a general question about having one monitoring station per HSA. She would like to understand how that was chosen, as some areas it may be that more than one would be appropriate.

Colin Kelly (OC Coastkeeper) stated that some issues that Coastkeeper is concerned about were first discussed about an hour ago with the Clean Water Now! Coalition. Colin would like to know what the County believes that this modification might do to impact the prioritization of different waterbodies as constituents of emerging concern (CECs).

Colin wants to make sure that waterbodies not on the priority list are not ignored. Minimum monitoring should be required on the non-priority waterbodies to get a baseline. Colin clarified that he is not specifically asking for Copermittees to test for CECs, but he would like to know the minimum requirements.

Colin Kelly (OC Coastkeeper), regarding the use of historical data, would like to know what is considered to be historical data. There has been a significant adjustment in

technology and lower detection limits between now and the 1970s and 1980s. If there is a ten year term, Colin would like to know at what point will historical data not be useful, or what data can be used by third parties. Colin does not think money should be wasted in duplicative efforts between citizen water monitoring and Copermittee water monitoring. Third parties should be able to provide data to the Copermittees. Colin continued that with the use of historical data, there has been significant land development in Southern California. If there is a certain area that has data from the 1990s but has been developed since then with changed hydrology, then that may be a higher priority.

Thom Spanos (SD Coastkeeper) recognized that there are much more stringent requirements for monitoring during the first year of this permit, but after that it seems to allow much flexibility and the prioritization that the Copermittees desire. Thom asked Copermittees to take a step back and look from the broader perspective; it is not too much to ask that once in every five years Copermittees go back and make sure they are not missing anything. Thom continued that Coastkeeper does understand that costs can be significant, but the Clean Water Act is supposed to be a technology-forcing statute. If they are not made a requirement, then there will be no development in these fields. Copermittees should find ways to make this a more efficient process, into which adaptive management does feed. Coastkeeper does not want Copermittees held responsible for something that is not their fault. If action levels in Phase II permits are higher than Phase I permits, then this is the perfect opportunity for the RWQCB to implement more stringent requirements within their region. Thom hopes that everyone is keeping in mind not just the short term costs, but also the other factors involved.

Roger Butow (Clean Water Now! Coalition) thanked Coastkeeper for their comments on contaminants of emerging concern and that increased science does give a better ability to detect lower limits.

Roger Butow (Clean Water Now! Coalition) mentioned Aliso Creek as an example of sampling where sampling was done week 1 on Monday at 9 am, week 2 on a different day of the week at noon, etc., which resulted in a better window of sampling. He would like to see that type of sampling written into the permit itself, as well as integrating sampling by non-governmental organizations (NGOs). Roger agreed that sampling must take place in a manner that maximizes funds and maximizes the database being developed. Sampling the same time, the same day of the week at one site does not give a general concept of fluctuations and the ability to lead to source tracking.

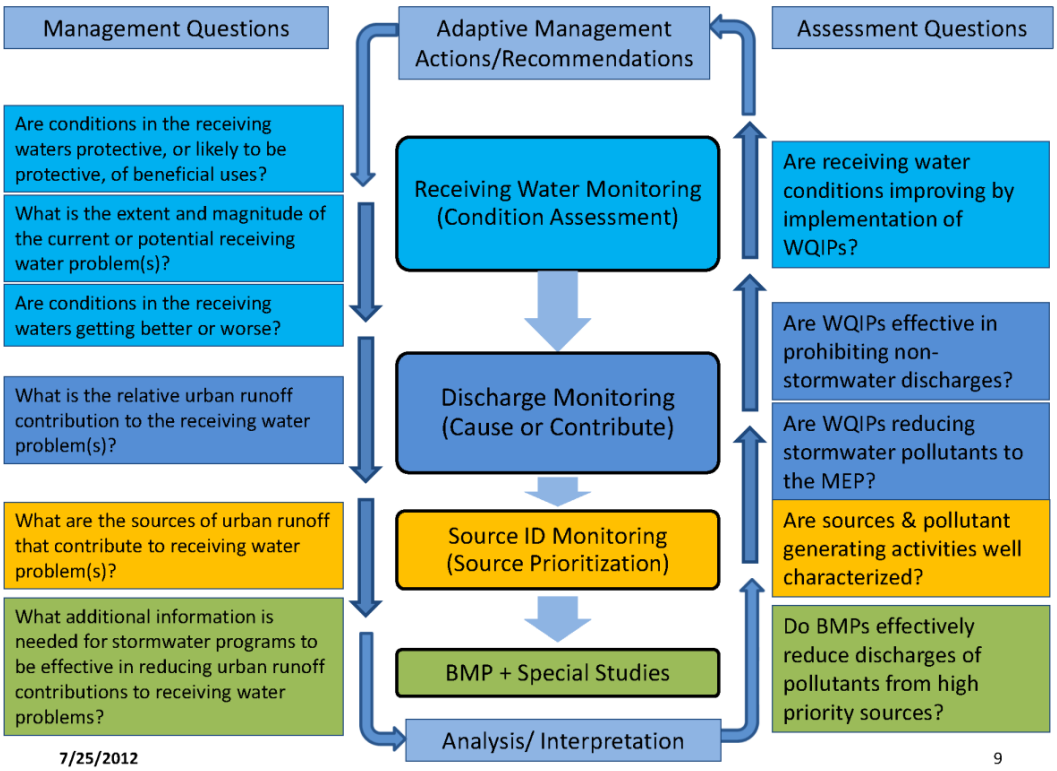
Ted Von Bitner (County of Orange) stated that the RWQCB's goal is to answer basic questions: what is the condition of the watershed, are beneficial uses being protected, and how are those conditions changing over time? Each permit cycle, the Copermittees have changed their monitoring program. Losing that continuity causes the data set to become less valuable.

Ted von Bitner (County of Orange) continued that one of the primary principles of the NPDES Program in general has been that while you can judge the quality of your discharge by sampling at a specific point, you cannot judge the health of the watershed, which is the mission objective of the RWQCB. Orange County has started on that effort by coming up

with new programs, new monitoring designs that are designed to answer that question. Orange County has the Stormwater Monitoring Coalition's Regional Watershed Monitoring Program which gives a holistic view of the watersheds in general. That approach has also been used by the San Diego RWQCB for the San Diego River Integrated Regional Program, and they are now starting on a coastal program. There seems to be a common approach there that should be adapted for this permit. Following what Coastkeeper said and in context of the approach that San Diego provided, there are some basic questions that need to be answered first about the MS4: What is the condition of the MS4? What needs to be worried about? The Copermittees also need to answer basic questions like: What are the frequency and magnitude of PGAs? Who are the priority pollutant dischargers? The Copermittees cannot answer those questions at this point because they have tried in the past with programs, but each time the permit changes, the Copermittees lose their ability to answer those key questions. The Copermittees would hope to follow what has been proposed and bring back to their previous program. Thinking about the MS4 program, it should be an overall design, recognizing how much of the MS4 creates an impact on receiving waters. It should also be a comprehensive program where everyone comes together, including Phase II dischargers and the Industrial General Permit dischargers. With identical submittal dates, it is difficult to incorporate their program findings with the Copermittees' reports. There is no mechanism to incorporate that data. At same time, Ted does not get a sense from the administrative draft permit of when the RWQCB and Copermittees stop and meet; when does the adaptive management process kick in.

Karen Holman (Unified Port of San Diego) acknowledged that attendees are asking a lot of questions, and that is encouraging because that is why the San Diego County Copermittees developed this question-driven strategy. There are two types of questions: management questions and assessment questions. Looking at the diagram, it is structured in a way that makes sense, asking bigger general questions first, then moving down toward source identification and BMPs.

This approach envisions more time and effort spent on the yellow and green areas, then moving up to answer the larger questions. Going up the ladder focuses more on the assessment questions. At the end of this long phase, the Copermittees should be able to answer the receiving water questions. Adaptive management kicks in throughout the entire process, but especially in the yellow and green areas.



Alison Witheridge (City of Oceanside) shared that as a monitoring person for the last 5-10 years, she wants to believe that monitoring is the answer; that monitoring will indicate if water quality gets better or worse each year; however, she is disappointed each year when the data are analyzed that the variability in water quality data does not allow for indicating changes year after year or even in decades; the amount of data does not seem to help identify or eliminate sources. More data does not always mean more knowledge. That is why the San Diego County Copermittees are proposing a heavier visual observation program instead of straight water quality data collection. As a public employee, Alison needs to spend public funds in a responsible, efficient, and effective manner. For the City of Oceanside alone, it would cost 2 million dollars the first year to implement dry weather monitoring per the current administrative draft permit.

Jo Ann Weber (County of San Diego) continued that for Copermittees in San Diego it is a ten-fold increase in costs the first year with 94 percent for MS4 dry and wet weather monitoring, but at least 70 to 80 percent of that just for dry weather monitoring. In subsequent years, although it does decrease, it is still three to four times what is spent now. The Copermittees want to use their money where they get the greatest value for it. The quarter-mile grid was in the early programs in the mid-1990s and was a guidance document, somewhere to begin. Looking at the current permit writer's guide, it is perfectly reasonable to build on historical record instead of using such a prescriptive grid.

Jo Ann Weber (County of San Diego) is open to discussion on what threshold of monitoring is sufficient, considering visual observations as a key factor to get there. It is

hard to go through an entire MS4 system on an annual or biannual basis for larger jurisdictions, but the County would be okay with prioritizing efforts.

Claudio Padres (Riverside County Flood Control District) stated that regarding cost, his perspective is that everyone can toss around numbers all day, and really what it is not about is not spending money on monitoring; the Copermittees are not trying to avoid monitoring. The Copermittees have to answer to their constituents that they are using their money in an effective way; it needs to be effective monitoring.

Regarding the issue of "cherry-picking" of data, Claudio called attention to the fact that all MS4 permits require the MS4 Copermittees to report all collected data under penalty of perjury.

Claudio Padres (Riverside County Flood Control District) stated that monitoring does not solve problems by itself. Entire city budgets could be spent analyzing the situation without having solved a single problem. The Copermittees need to focus on the type of monitoring needed to take action on high priority issues. Monitoring is an easy way to steal large portions of budgets. The monitoring needs to be taken with an appropriate baseline to assess emerging conditions, taken into the Water Quality Improvement Plan process, and then engaged at the right level to locate sources and measure effectiveness.

Mike McSweeney (BIA) stated that it needs to be realized where our State is financially. It needs to be how smart work is done; not how much money is spent but how the money is spent. Copermittees are trying to figure out the best way to spend money. We all want the same outcome; therefore, there needs to be a sort of triage for priorities. The system should be focused on the outcome and what the best, most efficient way to reach that outcome is.

Andre Sonksen (City of San Diego) explained that when coming up with the proposed monitoring plan and proposing how to implement the program, the workgroup looked at dry weather monitoring program data for the last two years and found it was less than two percent effective in eliminating illicit discharges. The Copermittees do not anticipate that a shotgun approach during the initial year of the new permit would be any more effective than past programs. In developing the proposed process presented today by the San Diego County Copermittees, the workgroup looked at almost twenty years of data from their programs and other related water quality programs not only in San Diego but throughout the country and how to have real, effective changes in water quality.

Colin Kelly (OC Coastkeeper) acknowledged that everyone seems to be broke, and he is not hearing that prioritization is the wrong way to go. He does not, however, want this to be a program where the pause button is hit, causing the Copermittees to not know what is going on with non-priority issues for the next five years. Colin would like to know if there is a floor, and what it is. Focusing all jurisdictional resources on a small portion of a watershed and ignoring everything else is a concern.

Karen Holman (Unified Port of San Diego) agreed with Colin; the intent is not to look at one area in a Water Quality Improvement Plan and ignore the rest. She volunteered the best way to explain the proposed program in more detail may be to meet with Coastkeeper and explain the intent and potential details of the program.

Paul Hartman (City of Vista) stated that one way the Copermittees are looking to address that is through long-term monitoring at existing mass loading stations for a large suite of constituents, including monitoring for contaminants of emerging concern. Also proposed are temporary watershed assessment stations to cover water bodies where information is needed on those outfalls.

Karen Holman (Unified Port of San Diego) responded to Jill Wittkowski's earlier comment about why characterize non-stormwater discharges if they are prohibited. The San Diego County Copermittees are now proposing to look at the transient flows and eliminate transient flows by using observations or other monitoring efforts instead of analytical characterization of the flows. In areas with perpetual flow with sources that cannot be identified easily, those flows would be put into the prioritization program and steps would be taken in the yellow and green areas.

Paul Hartman (City of Vista) responded to Jill Wittkowski's earlier comment about one monitoring station per hydrologic subarea for persistent flows. That provides a broad look at the region, amounting to approximately 70 sites throughout San Diego. The idea came up when working through the Lagoon Investigative Order with SCWRRP, where it was noted that generally one to two outfalls contribute 80 to 90% of the pollutants found in a watershed. As the Copermittees can't monitor everywhere all time, they are trying to use resources effectively and this approach is practical from a staff perspective.

Wayne Chiu (RWQCB) expressed gratitude to the San Diego County Copermittees for providing their proposal as an alternative to what is currently in the administrative draft permit. Throughout this process the RWQCB has asked for recommendations, ideas, etc., and the San Diego County Copermittees have stepped up to the plate. Wayne continued that there are a lot of elements in what he heard today on which all can agree and buy into. The devil will be in the details, and there are a couple aspects where the Board may have its own thoughts. Generally, the approach is sound. In terms of considerations of cost and working smarter, the Board is in favor of that. What is currently in the administrative draft permit is quite onerous, and the Board was not expecting it to make it through to the final draft. The Board hoped to stimulate thinking among Copermittees and send the message that they want to see things done differently, with an increased effort toward eliminating non-stormwater discharges. This permit focuses on elimination first, analysis second for non-stormwater discharges. Stormwater discharges will be a much longer effort.

In terms of historical data, all data collected at any time can be useful. Whether or not it is comparable at all times is a different question. All data can provide historical context and show changes; therefore, any data collected can be used to inform the programs. Wayne agrees that monitoring does not solve problems, but it does indicate if a problem is being solved. Monitoring is needed to identify problems and then to indicate if progress is being made toward solving those problems.

This process is part of the iterative and adaptive management process the RWQCB is trying to incorporate into the permit. Monitoring is an integral part of this; that is why it is the central portion of the permit.

Wayne Chiu (RWQCB) continued that there are two major aspects of the monitoring that the RWQCB would like to make sure are still in the monitoring program: (1) the concept of individual jurisdictional accountability and responsibility and (2) identification of non-Phase I MS4 sources. Wayne is not sure that there is anything with what has been proposed that would inform RWQCB Staff as to what improvements are being shown or demonstrated within a receiving water within a Copermittee's jurisdiction. Wayne would also like to see non-Phase I MS4 sources identified through data. If the monitoring data being collected by non-Phase I MS4 sources are not enough to inform, then the RWQCB has the ability to compel additional information from those dischargers. With a common goal and common understanding through this permit, Wayne believes resources can be jointly used to address the problem.

Karen Holman (Unified Port of San Diego) stated that jurisdictional accountability needs to be in the programs because that is how budget is allocated by City managers. As the Copermittees have been presenting their proposal and talking in depth, it is understood that jurisdictional accountability is a key point for the RWQCB. One of the things the Copermittees are looking at is to see jurisdictional accountability in the green and yellow areas (BMP/Special Studies and Source ID Monitoring). Jurisdictional accountability may not be evident in receiving waters because problems may originate elsewhere.

Paul Hartman (City of Vista) stated that he heard several times in the first focused meetings that the RWQCB is looking for accountability via the iterative process and implementation but that assessment and adaptation of the Copermittees' programs would be more focused on improving the programs. The yellow and green processes are one of the ways to do that. Accountability of items in the blue areas is going to take years to see change unless the RWQCB is only looking at the elimination of non-stormwater flows.

Wayne Chiu (RWQCB) recognized that it will take a long time to see changes in stormwater. The Board expects to see changes in non-stormwater quicker if efforts are placed in the correct places. The Board also still expects monitoring to be done to establish the long-term stormwater trend.

Paul Hartman (City of Vista) stated that one of the places where the Copermittees experience discomfort is where the assessment question is what are the monthly flows and pollutant loads from all outfalls in a jurisdiction.

Wayne Chiu (RWQCB) responded that a lot of the requirements in the monitoring and assessment sections stem from 40 CFR stormwater regulations. There is one assessment requirement in the 40 CFR regulations concerning pollutant loads. That is where the pollutant loading assessment requirement came from. The RWQCB believes that is valuable information, whether it is obtained through modeling, statistics, or empirical data. The RWQCB wants a record of flows and pollutant loads coming out of each Copermittee's MS4; that record can be used to track how improvements are being achieved over time. The RWQCB does not expect everything to happen within a year or 10 years; however, they still need those records to see the trend.

Wayne Chiu (RWQCB) continued, speaking of assessment, when looking at the monitoring requirements, all the monitoring requirements in the administrative draft permit

were shaped and formed around assessment requirements, including what is coming out of the MS4 (non-stormwater and stormwater; what pollutants; how much). The receiving water is something that the RWQCB does not think needs to be monitored every year, but some monitoring data are still needed to establish trends over time. It could take decades to see the trend, but a record is needed to see it. The Copermittees should be using the monitoring data from this administrative draft permit and from the last 20 years to improve their programs.

Richard Boon (County of Orange) shared an approach to dry weather monitoring that had been in a prior permit: a hybrid dry weather reconnaissance program. It included monthly monitoring at over 60 stations across South Orange County. The program was designed to clearly identify aberrant anthropogenic sources (IDIC). It gave really good spatial coverage, directed resources very effectively, and created and established jurisdictional accountability. Richard would be happy to do a presentation on the merits of this approach. He spoke with US EPA headquarters' staff last Friday because they are trying to get the merits of this approach into national rulemaking expected next summer. The dry weather reconnaissance program has dry weather action levels that force the investigation of non-fecal sources of bacteria to identify conditions or pursue elevated bacteria levels that may be the consequence of vegetative decay, or pursue metal concentrations that are most likely from natural shallow groundwater sources. The dry weather reconnaissance program talks about adaptive management, prioritization, accountability, and focusing resources on the issues of real concern. Throughout this process and commentary on the draft permit, Orange County will be advocating for the statistical dry weather reconnaissance approach.

Claudio Padres (Riverside County Flood Control District) recognized that all information has value to the RWQCB. The Copermittees should be looking and focusing on data that have value as they relate to the high priority issues. Claudio asked if it was the intent of the RWQCB staff with the administrative draft permit to have the monitoring requirements be consistent with tailoring to high priority issues or if the intent to was to have monitoring requirements implemented irrespective of priorities.

Wayne Chiu (RWQCB) responded that the Board is trying to build in the ability for the Copermittees to use the monitoring data to inform their priorities. First year monitoring would take a look and make sure priorities are correct. Subsequent years of monitoring would primarily analyze the highest priority pollutants; however, there is a need to go back to make sure priorities are correct.

Claudio Padres (Riverside County Flood Control District) pointed out that one year of monitoring data (i.e., the first year monitoring mentioned previously) is not sufficient to establish priorities. Copermittees must also use historical data to create valid priorities. With that in mind, Claudio is unsure of the benefit of the blitz of first year monitoring currently in the administrative draft permit. Wayne Chiu (RWQCB) responded that RWQCB staff is open to revising that portion of the administrative draft permit.

Ted Von Bitner (County of Orange) reiterated Richard Boon's point about the hybrid dry weather reconnaissance program. It allows Copermittees to draw statistical inferences on a region-wide basis about overall conditions and priorities. Using the numeric approach, it

tells Copermittees what the background levels are across a large-scale region. From there, Copermittees can determine what the region's floor is. As sites are fixed and removed, the average begins to lower on a region-wide basis. With this method, the Copermittees have a robust physical model through which a more cost-effective, smaller-scale monitoring program can be developed that provides an increased power of analysis. Ted would prefer the permit to come back to this type of monitoring. Ted clarified that this monitoring would fit into the blue areas of the San Diego County Copermittees' diagram. Mary Anne Skorpanich (County of Orange) voiced concern that the Copermittees still need to pay attention to the top level (blue level) of the San Diego County Copermittees' diagram. Those top level questions are important to understanding the conditions in the receiving waters and protecting beneficial uses.

Jill Wittkowski (SD Coastkeeper) acknowledged that the regional clearinghouse is a great idea. If done well, it could be huge resource, and she would love to see it housed on the Regional Board's website. She believes there also needs to be public input into the process of creating the regional clearinghouse.

Jill Wittkowski (SD Coastkeeper) recognized the main point of the permit is that pollution has to be controlled to the MEP; however, it is very frustrating that even in the San Diego region people are doing inconsistent practices across the region. Jill would like to see a BMP clearinghouse or other mechanism that gives everyone access to the information gained from the special studies in the yellow and green areas of the diagram. Once jurisdictions have access to the information, they must use it unless they can prove they can't.

Alison Witheridge (City of Oceanside) replied that it goes back to prioritization and adaptive management. Not every watershed or jurisdiction will operate the same way. Jill Wittkowski (SD Coastkeeper) disagreed. All jurisdictions should be operating to the standard of MEP; therefore, BMPs should be implemented the same across jurisdictions. Laurie Walsh (RWQCB) clarified that if something is determined to be MEP, then it is upon the jurisdiction to enforce that on all their sites, and on the RWQCB to enforce that on the jurisdictions.

Andre Sonksen (City of San Diego) explained that monitoring is meant to be one small component of the iterative process of the overall stormwater management program. The street sweeping study is a perfect example. Instead of the general SMC questions, the street sweeping pilot program had specific questions and that is where the monitoring kicked in. Andre reiterated that Copermittees would be using the entire chart as one large process, not ignoring portions of the flowchart. He further stated that monitoring does nothing unless the correct questions are answered, followed by changes to programs based on the monitoring results.

VI. Parking Lot Discussion

The group re-visited off-topic items from the previous focused meeting.

- CalGreen/Hydromodification Dedicated Meeting: There will be a dedicated hydromodification meeting. Richard Boon (County of Orange) is taking the lead. CalGreen will not be included in the meeting.
- Legal Issues: Copermittees' counsels are attempting to proceed with a parallel track of meetings with Regional Board Counsel; however, Regional Board Counsel does not see a purpose to meeting at this time and does need more time to respond to the letter from the County of Orange. This will be updated at the next focus meeting.
- Aliso Creek / specific areas of geography / BET and Other Technologies: This topic has to do with to what degree does the new permit structure speak to or promote emerging technologies. This should be covered in a future focused meeting.
- Ninth Circuit Court Decision – The administrative draft permit has two central provisions dealing with compliance: one is compliance with water quality standards, and one is compliance with water quality standards being obtained through the iterative process. The RWQCB is discussing this internally; however, they have had no conversations with legal counsel yet, although it is a legal issue. David Barker (RWQCB) recognized that this is one of the high priority issues that have been raised and will put some thought into how to address it at the next meeting.
- Regional BMP Funding and Implementation: There is concern that the permit as currently written does not encourage regional BMPs although regional BMPs have great promise for improving water quality. This will be covered in the next focused meeting.
- Review time for permit: The deadline for written comments on the administrative draft permit is September 14. In light of the newly added meeting on hydromodification, scheduled for the last week in August, Mike McSweeney (BIA) asked for an extension on the written comment period. Jill Wittkowski (SD Coastkeeper) disagreed that one topic should push the process out additional weeks. RWQCB staff stated there will be no change to the written comment deadline.
- Monitoring Presentation by San Diego County Copermittees: This was provided at today's focused meeting.

VII. Other Topics / Audience Comments

Comment: Claudio Padres (Riverside County Flood Control District) stated that it would be helpful to know the RWQCB's vision for adaptive management to better provide comments on the administrative draft permit.

Response: David Barker (RWQCB) will address this at the beginning of the next focused meeting.

Comment: Colin Kelly (OC Coastkeeper) stated that the handout from the San Diego County Copermittees was useful; however, some advance notice would be helpful in having valuable discussion. Colin asked for distribution ahead of time for the next focused meeting, if possible.

Response: Materials for future meetings will be distributed ahead of time when possible.

Comment: Mo Lahsaie (City of Oceanside) stated that Federal regulation does not take economics into consideration but Porter Cologne does. Since 2008, with the economy going down, the budget in Oceanside is getting leaner every year, not staying the same.

Comment: Richard Gardner (Capistrano Beach) identified himself as an advocate of water quality, stating that he wished the discussion could have gone into more detail on monitoring, including the constituents (nutrients, dissolved oxygen, toxicity). There are narrative ways to look at toxicity and ways of changing water quality without going after numeric standards or TMDLs. Richard further stated that the health of the riverine system needs to be evaluated. In other areas, regulators should be open minded to looking at different criteria for monitoring in different areas. He does not feel this is covered in the permit. Furthermore, treatment plants, sterilization of water, permits that allow that to continue without monitoring requirements; those should be interim as they could impact the way to deal with FEID. This is also not in the permit now and needs to be dealt with.

Comment: Rosanna Lacarra (City of Coronado) shared that in 2001 the City of Coronado had great results with IC/ID. They yielded good results and were able to eliminate transient and persistent discharges. Now the focus should be on revamping the program to re-strategize and continue efforts under the proposed permit.

Comment: Mikhail Ogawa (City of Del Mar) requested that existing development be the first topic at the next focused meeting.

Comment: Karen Holman (Unified Port of San Diego) stated that this process has been a real asset to all those around the table, allowing for communication and valuable discussion prior to formal issuance of the permit. Karen appreciates the open process and correspondence throughout the process with the RWQCB and other stakeholders.

VIII. **Meeting Adjourned**

San Diego RWQCB
Permit Reissuance Focused Meeting

July 25, 2012

Adaptive Management Areas of Permit: Monitoring & Assessment Program (MAP)

Concept: Develop MAP as part of each Water Quality Improvement Plan to provide information needed to answer management questions & support effective adaptive management

MAP Elements:

- Receiving Water Conditions
- MS4 Discharges – Non-stormwater & stormwater
- Sources/Pollutant Generating Activities
- BMP Studies/Program Assessments

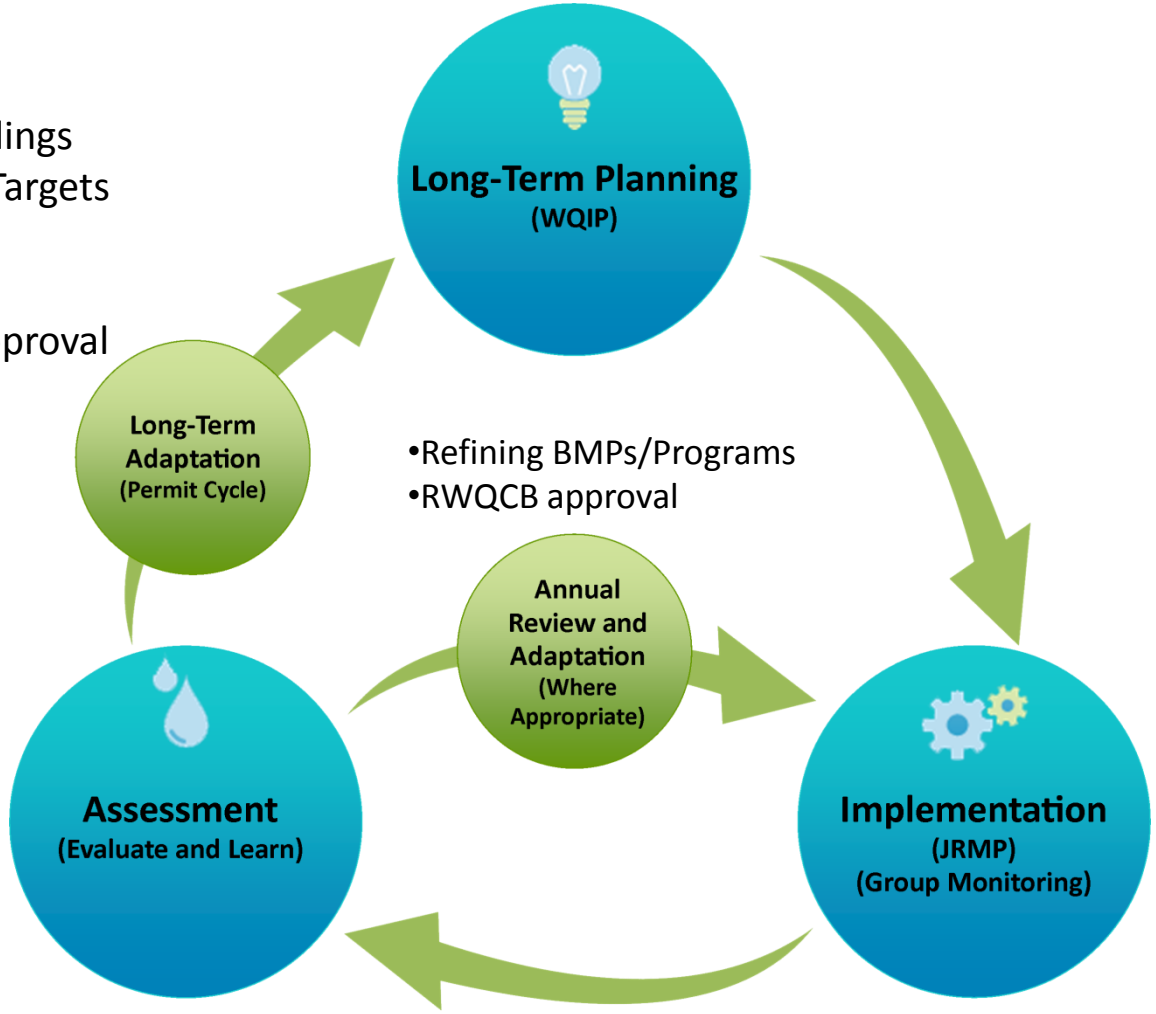
Example: Increase efficiencies in IDDE Programs with observational methods (or other strategies); monitoring includes activities beyond water quality sampling

Action Items:

- Structure initial requirements according to above in Section II.D.
- Coordinate Prov. II.D requirements with Section II.B. language requiring a strategic monitoring & assessment program as a part of the WQIPs.

Adaptive Management Areas of Permit: Long-Term vs. Annual Processes

- Data / Findings
- Priorities/Targets
- Strategies
- Schedules
- RWQCB approval



- Refining BMPs/Programs
- RWQCB approval

Implementation

Assess Receiving Water Conditions/ Priorities

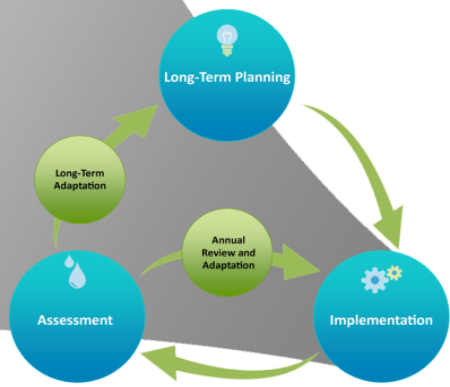
Evaluate MS4 Discharges (Cause/ Contribute?)

Identify and Prioritize Sources

Perform BMP/ Special Studies

Analyze/ Interpret Data; Inform WQIP

Implement WQIP



Alternate Provision II.D Rationale

- More effective & efficient use of resources to maximize benefit
- Support **Adaptive Management** needs
- **Question-Driven** Monitoring Approach Design based on Assessment Questions
- Based on 15-20 years of **experience**
- **Monitoring = more than water sampling**
- Ultimately support **WQIP priorities** (strategic, prioritized monitoring approach)

Purpose & Phasing of Alternate Provision II.D

Purpose:

Provide program managers with needed information to support effective adaptive management

Phasing:

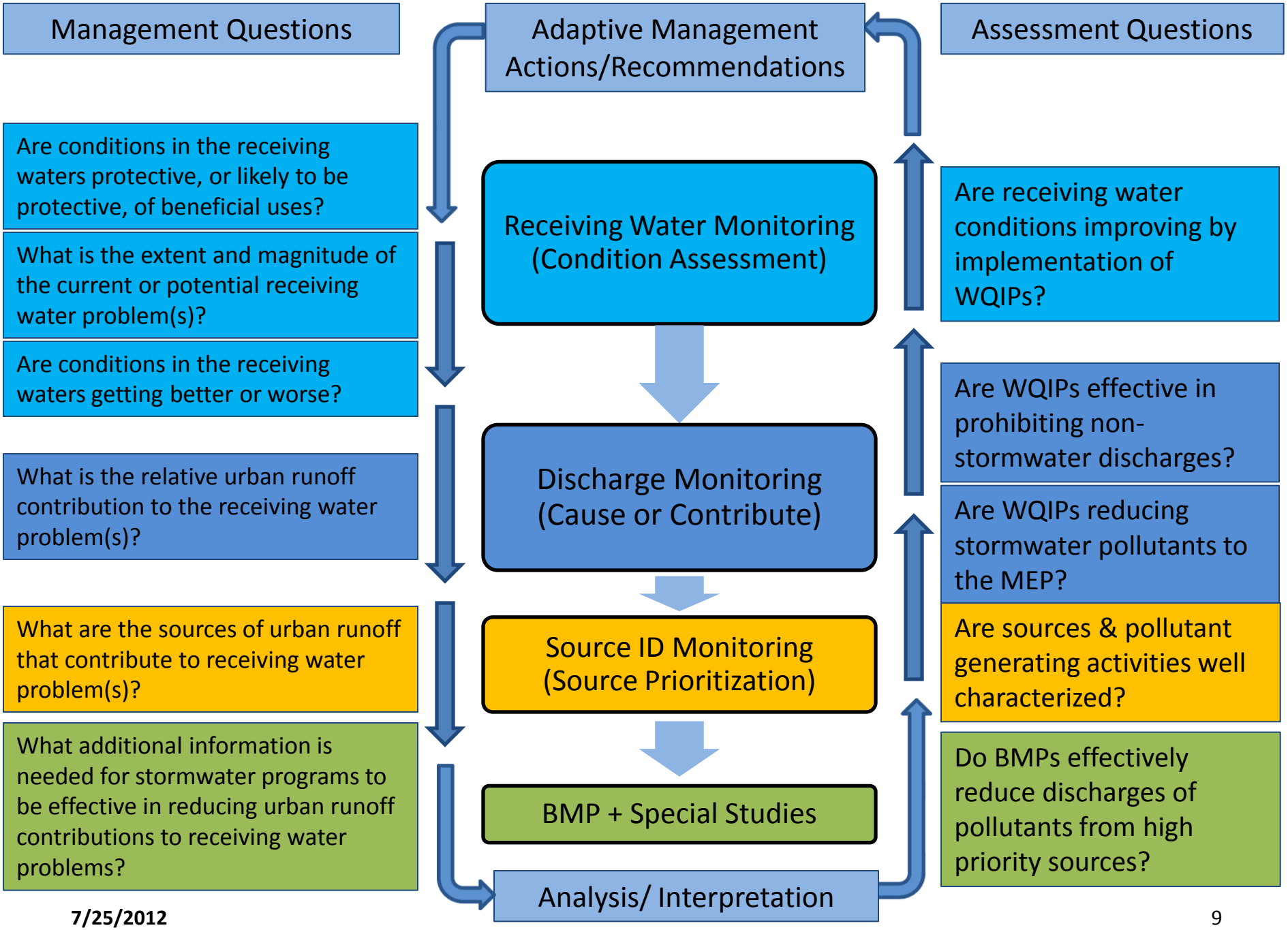
- **Pre WQIP (transitional period)** – Proposed Alternate to Provision II.D
- **Post WQIP** – Develop Monitoring & Assessment Program (MAP) to support WQIP priorities

Scientific Basis of Question-Driven Approach

- A Framework for Monitoring & Assessment in the San Diego Region (SDRWQCB, 2012)
- Southern California Stormwater Monitoring Coalition's Model Monitoring Program (SMC, 2004)
- SWAMP Assessment Framework (SWAMP, 2010)
- Elements of a State Water Monitoring and Assessment Program (EPA, 2003)

Key Proposed Changes

- Jurisdictional Non-stormwater Monitoring **(D.1.a)** - Instead of extensive MS4 outfall chemical testing, reduce persistent flows that threaten receiving water quality & eliminate IC/IDs.
- Jurisdictional Stormwater Monitoring **(D.1.b)** - Instead of extensive MS4 outfall chemical monitoring, monitor homogeneous land uses as input to model.
- Jurisdictional Boundary Monitoring **(D.1.a(2))** - Insufficient technical power to differentiate small changes in upstream & downstream water quality due to the inherent variability of water quality data; Determine receiving water monitoring in MAP.
- Bacteria TMDL Monitoring **(Att. E)** – Instead of extensive prescriptive monitoring, rely on monitoring plans prepared as part of the current implementation planning process due to RWQCB October 2012.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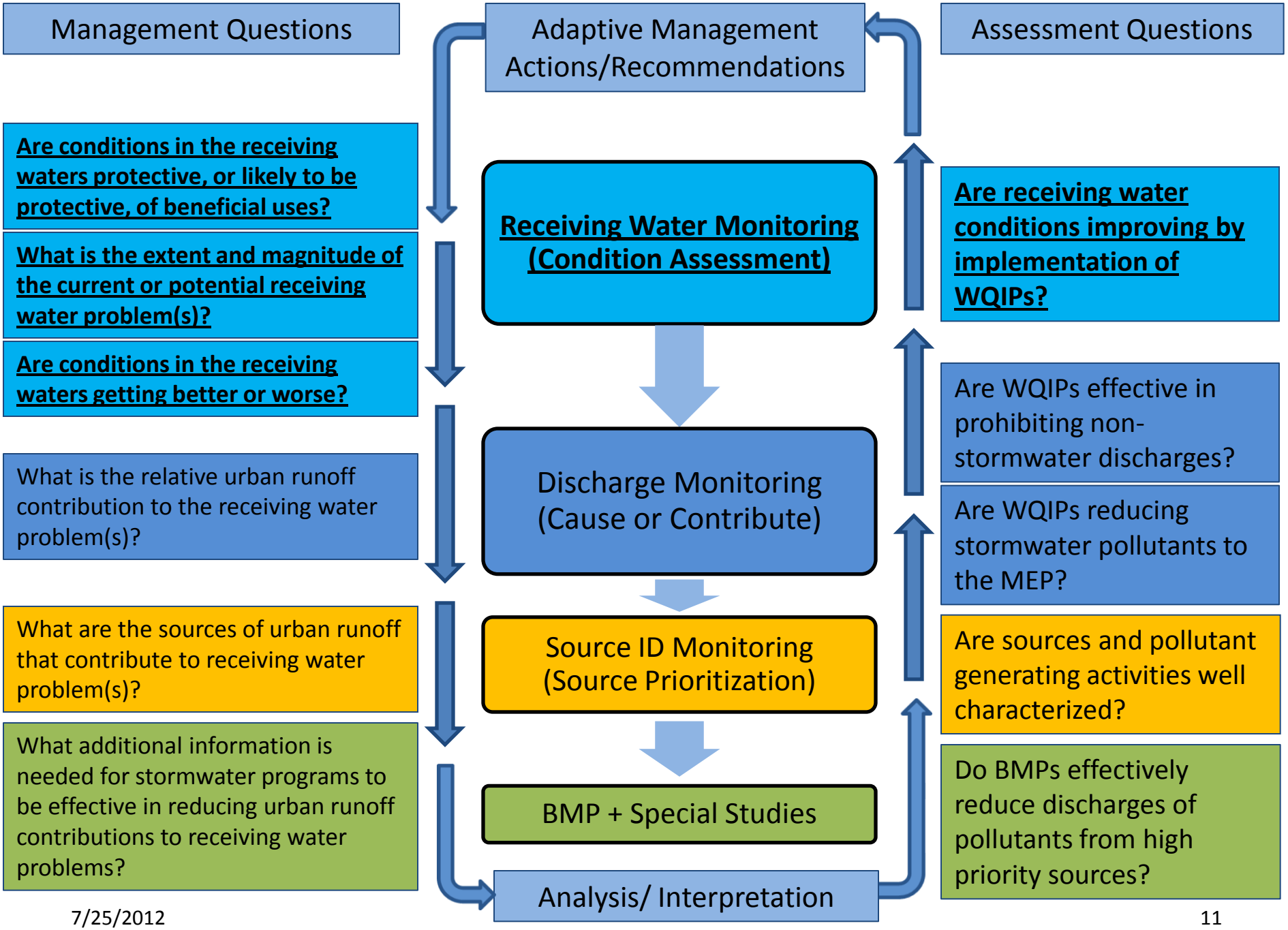
Assessment Questions
Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?
What is the extent and magnitude of the current or potential receiving water problem(s)?
Are conditions in the receiving waters getting better or worse?
Receiving Water Monitoring (Condition Assessment)
Are receiving water conditions improving by implementation of WQIPs?
What is the relative urban runoff contribution to the receiving water problem(s)?
Discharge Monitoring (Cause or Contribute)
Are WQIPs effective in prohibiting non-stormwater discharges?
Are WQIPs reducing stormwater pollutants to the MEP?
What are the sources of urban runoff that contribute to receiving water problem(s)?
Source ID Monitoring (Source Prioritization)
Are sources & pollutant generating activities well characterized?
What additional information is needed for stormwater programs to be effective in reducing urban runoff contributions to receiving water problems?
BMP + Special Studies
Do BMPs effectively reduce discharges of pollutants from high priority sources?
Analysis/ Interpretation

Receiving Water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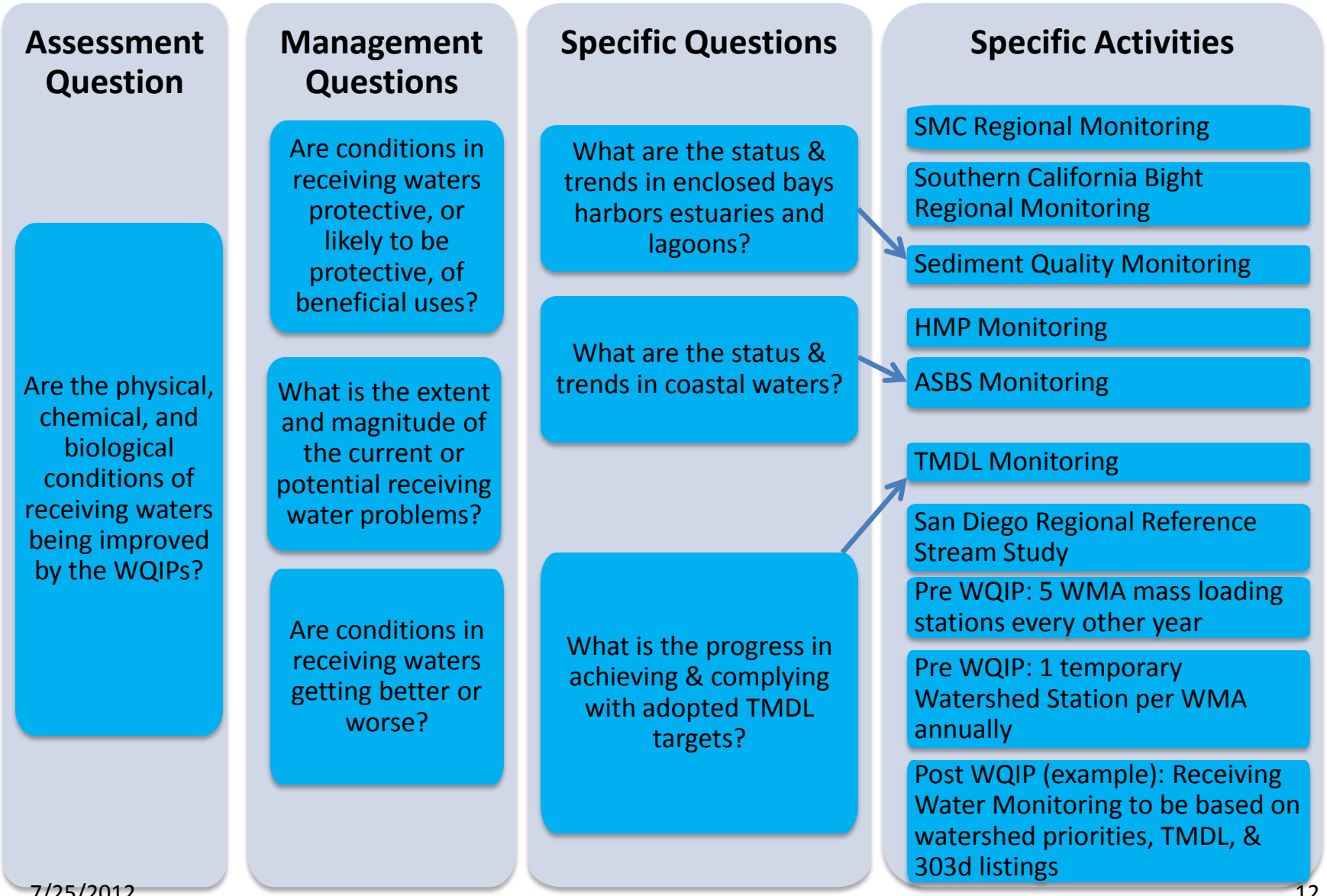
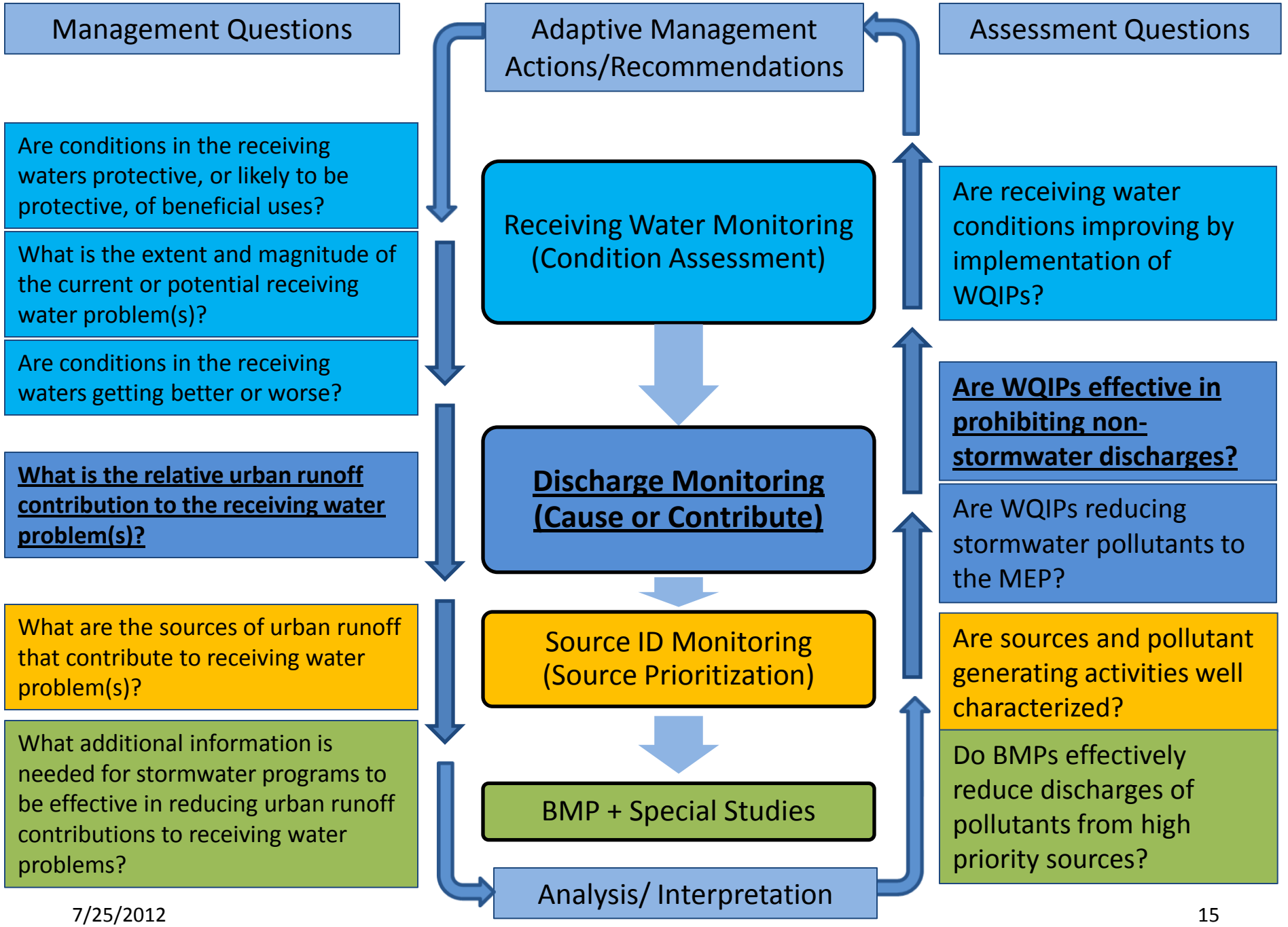


Alternate Provision II.D: Receiving Waters Element

Purpose	Assess Conditions of Receiving Waters, Extent/Magnitude, Trends
Methods	• Stormwater Monitoring Coalition (creeks) • Bight (estuaries, coastal waters) • Sediment Quality Monitoring (estuaries) • TMDL Monitoring (creeks/beaches) • Areas of Special Biological Significance • Mass Loading Stations • Temporary Watershed Stations • Third Party Data
Rationale & Benefits	• Broad Spatial and Temporal Coverage • Integrates existing programs • Preserves long -term trend assessments • Supports assessment-driven, adaptive management approach

Discharge Monitoring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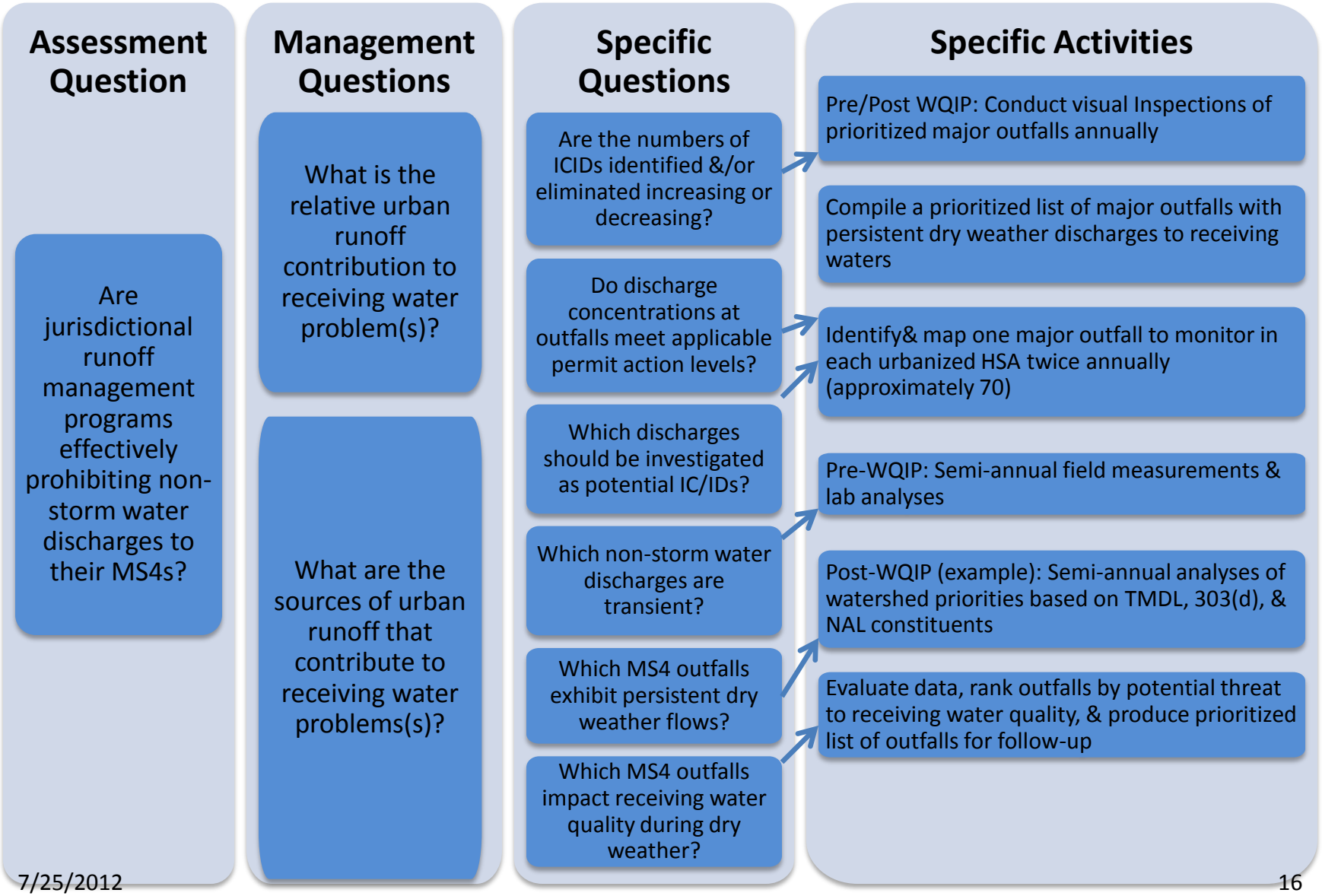
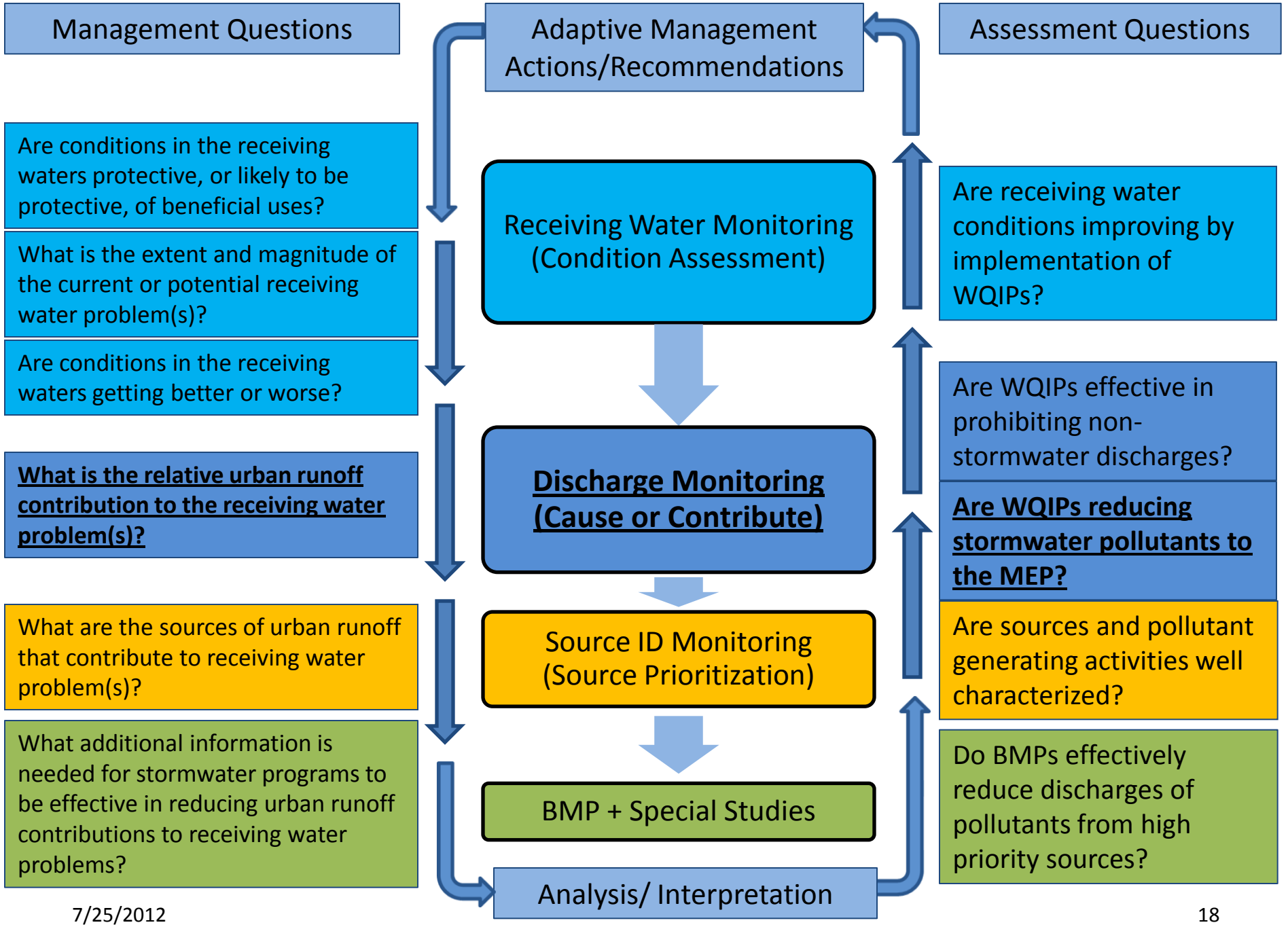
Non-Stormwater Discharge Monitoring



Alternate Provision II.D: Discharge Element – Non-Stormwater

Purpose	Address effective prohibition of non-stormwater discharges
Methods	**Transient Flow Programs (IDDE)** • Source identification: existing development inspections • MS4 system programs: patrols, complaint response, MS4 cleaning • Outfall program: visual inspections for transient flows & prioritization, investigations **Persistent Flow Programs** • Current MS4 outfall program to completion • Prioritized monitoring at one outfall per urbanized HSA (NALs)
Rationale & Benefits	• Broad spatial & temporal coverage • Supports assessment-driven, adaptive management approach • Distinction between persistent & transient flows focuses resources on eliminating &/or controlling high priority threats to receiving waters quality • Utilizing other elements of the stormwater programs (inspections, complaint calls) & third party information will efficiently & effectively assist jurisdictions in eliminating non-storm water discharges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Analysis/ Interpretation

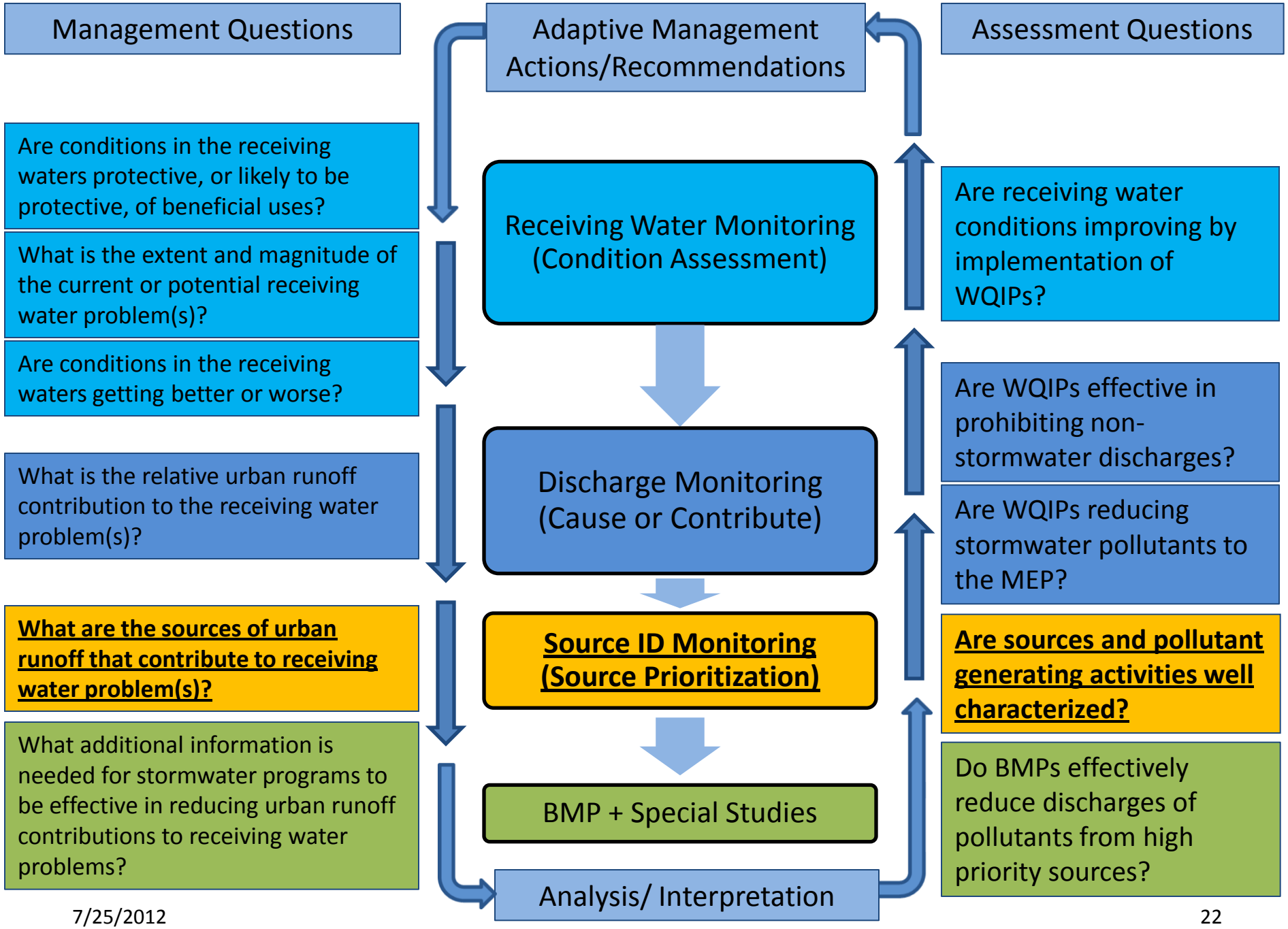
Storm Water Discharge Monitoring

Assessment Question	Management Questions	Specific Questions	Specific Activities
Are jurisdictional runoff management programs reducing pollutants in storm water to the MEP?	What is the relative urban runoff contribution to receiving water problem(s)?	Do discharge concentrations & loads from MS4 outfalls meet applicable permit action levels?	**Pre-WQIP**: perform storm water discharge monitoring during two wet weather events annually: (a) Complete the MS4 outfall monitoring program (b) Narrative descriptions & field measurements (c) three monitoring stations at representative major outfalls per WMA
		How do representative MS4 outfall discharge concentrations, loads, & flows change over time?	
	What are the sources of urban runoff that contribute to receiving water problem(s)?	Which MS4 outfalls impact receiving water quality during wet weather?	**Post-WQIP (example)**: perform storm water discharge monitoring based on representative outfalls (a) Develop & implement a monitoring frequency appropriate to characterize pollutant discharges from outfalls in each WMA (b) analyze parameters identified as watershed priorities, TMDLs, SALs, 303d

Alternate Provision II.D: Discharge Element – Stormwater

Purpose	Address stormwater pollutant reduction to the MEP
Methods	• Complete the current MS4 outfall program • Monitoring at three major outfalls per WMA per year to facilitate modeling based on land use characteristics • Utilize Stormwater Action Levels for prioritization
Rationale & Benefits	• Broad spatial & temporal coverage • Supports assessment-driven, adaptive management approach • Flexibility in site selection will focus resources on the highest watershed priorities, whether it be for representative drainage area data or homogeneous land-use based data.

Source/Stressor Identification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Analysis/ Interpretation

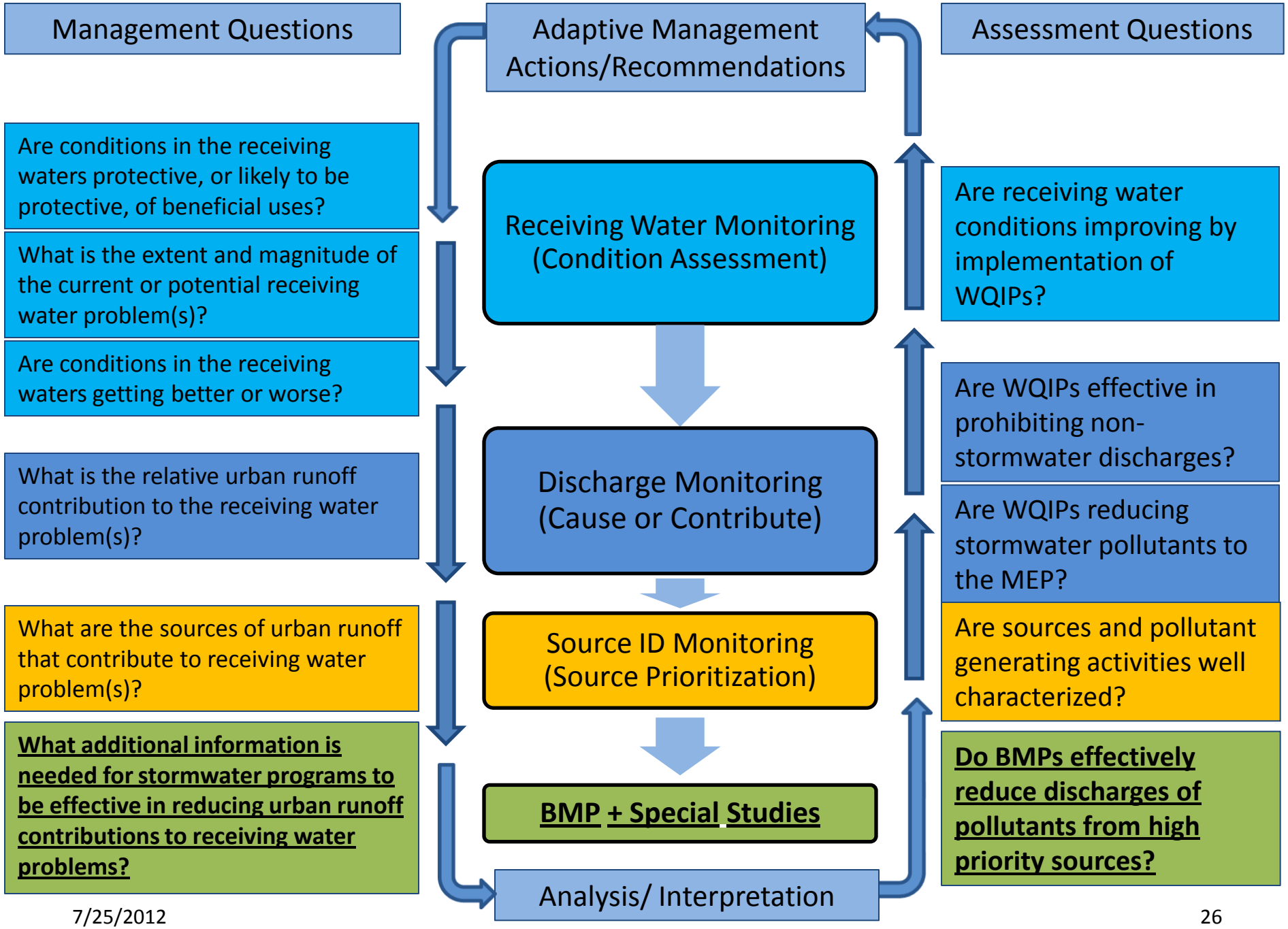
Source/Stressor Identification Monitoring

Assessment Question	Management Question	Specific Questions	Specific Activities
Are sources & pollutant generating activities well characterized?	What are the sources of urban runoff that contribute to receiving water problems?	What are the land use sources contributing to the receiving water problems identified in the WQIP? What are the relative loadings of sources contributing to the receiving water problems identified in the WQIP? What are the specific pollutant generating activities (PGAs) contributing to the receiving water problems?	**Constituent-specific source ID** Conduct source/stressor identification studies to address program management needs related to watershed priorities. **Step 1**: Compile known information on priority constituent(s). **Step 2**: Identify data gaps based on information compiled in Step 1 **Step 3**: Based on information compiled in Step 1, develop a source inventory & a prioritization scheme within the watershed for potential follow-up action **Step 4**: Develop a prioritized list of sources for the priority constituent(s) & deliver to the staff responsible for implementing WQIPs **Pre-WQIP**: Continue source identification studies pertaining to compliance with TMDLs & development of the CLRP as applicable **Post-WQIP (example)**: Conduct PGA investigations for nutrients as part of the MAP for watersheds where WQIPs identified nutrients as a high priority.

Alternate Provision II.D Source/Stressor Identification Element

Purpose	Identify & Prioritize Pollutant Sources & Pollutant Generating Activities (PGAs)
Methods	• Pollutant-Specific Source Inventories • Source/PGA Studies • Prioritization of Sources for Follow-up
Rationale & Benefits	• Responsive to Program Management needs • Provides programs with information to verify, quantify, & prioritize sources • Provides links between sources, activities & effects on runoff quantity & quality

BMPs & Special Studies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BMP + Special Studies
Do BMPs effectively reduce discharges of pollutants from high priority sources?
Analysis/ Interpretation

Special Studies – BMP, Programmatic, & Water Quality

Assessment Question

Do BMPs effectively reduce discharges of pollutants from high priority sources?

Management Question

Are stormwater program BMPs effective in reducing urban runoff contributions to receiving water problems?

Are pollutant sources being effectively addressed to reduce urban runoff contributions to receiving water problems?

Specific Questions

Specific questions developed to address information needs identified in Source/Stressor Identification studies.

Example: Are sources from outside of the MS4 (e.g., natural sources) contributing to receiving water problems?

Specific Activities

Examples of Special Studies

- Assess background concentrations of contaminants in San Diego reference streams
- Evaluate the effectiveness of enhancing outreach & education (i.e., residential BMP rebate programs, over-irrigation enforcement, rainwater harvesting, turf conversion)
- Evaluate the effectiveness of catch basin inlet cleaning
- Evaluate the effectiveness of residential & commercial area patrolling (commercial patrolling may include inspections)
- Evaluate the effectiveness of targeted aggressive street sweeping
- Evaluate the effectiveness of watershed-based inspections

Alternate Provision II.D
BMPs & Special Studies

Purpose	• Support effective adaptive management • Assess BMP effectiveness • Perform scientific investigations to address data gaps
Methods	• Pilot BMP Studies • Source ID Special Studies • Water Quality Studies
Rationale & Benefits	• Answers questions related to program & BMP effectiveness • Addresses data gaps to allow more effective program implementation • Provides scientifically valid information related to regulatory principles

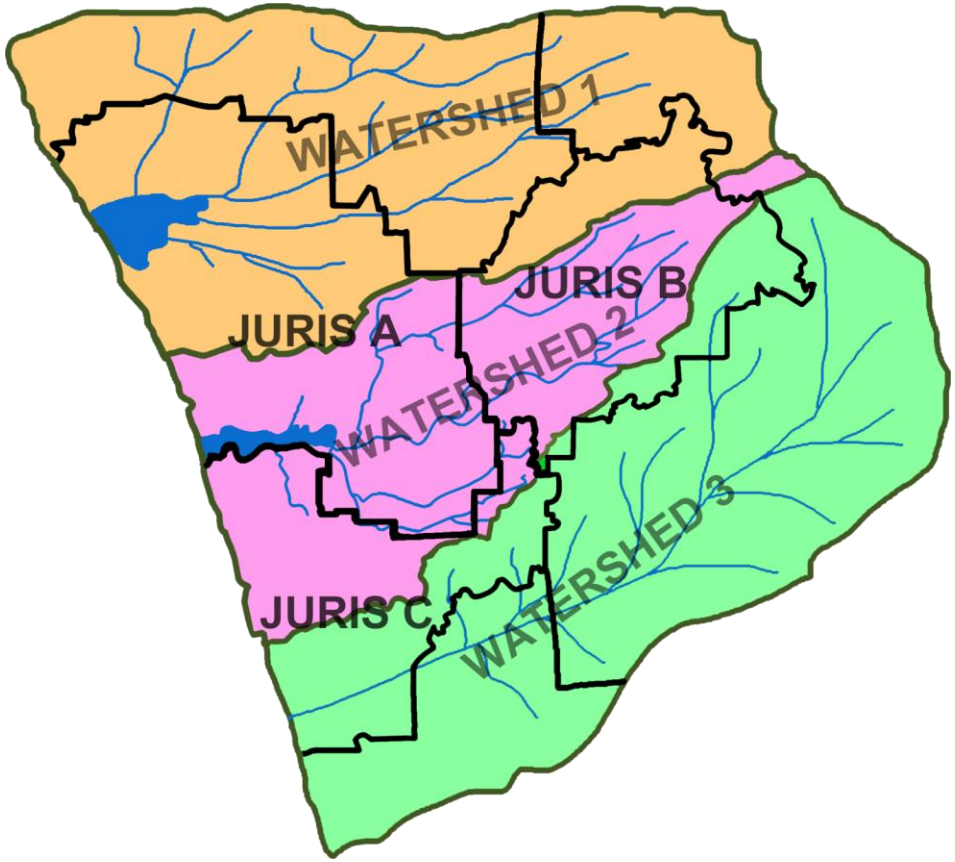
Developing Monitoring & Assessment Programs (MAPs) for Each WQIP

STRATEGIC MONITORING APPROACH:

1. Establish stormwater management priorities specific for each WMA ("Watershed Priorities") as part of WQIP development.
2. Compile existing monitoring data & assess available information for receiving waters, MS4 discharges, & sources or stressors within the watershed.
3. Identify regulatory & non-regulatory drivers that apply to water quality monitoring within the watershed, & list all associated monitoring responsibilities assigned to the Copermittees.
4. Evaluate the watershed priorities in context of available monitoring data & existing monitoring responsibilities, & develop specific management questions for each priority issue.
5. Establish metrics & identify assessments that should be performed to supply information needed to address the management questions.
6. Identify elements of a watershed-based monitoring program needed to address the watershed management questions & perform the necessary assessments.
7. Develop detailed monitoring plan to address the identified monitoring needs, coordinated with other ongoing monitoring in the watershed.

Proposed Provision II.D
Development of MAP Components

- HYPOTHETICAL WATERSHED EXAMPLE



Proposed Provision II.D
WQIP/MAP - Stormwater Discharge Example

- Example WQIP priorities
  - TMDLs: bacteria
  - 303(d) Listings: copper & nutrients
- Likely Assessment question:
  - Are jurisdictional runoff management programs reducing pollutants in storm water to the maximum extent practical?
- Management question:
  - What are the sources of urban runoff that contribute to receiving water problem(s)?

WQIP MAP Example: Stormwater Discharge Monitoring

- Develop Specific questions using available information:
  - MS4s are known sources of bacteria & copper
  - MS4s are less well known as sources of nutrients
  - Loadings from land uses are not well quantified to support planning of wet weather management actions or evaluate their effectiveness
- Specific question
  - *What are the representative MS4 outfall discharge concentrations, loads, & flows?*

WQIP MAP Example: Stormwater Discharge Monitoring

- Approach to answer specific question is to support model development/ calibration/ validation
- Number of sites based on appropriate land use characterization for modeling
  - Characterize individual land uses (i.e., residential) or refine categories of land uses (i.e., SFR & HDR)
- Frequency = 2 storms/year (composite)
- Constituents = bacteria, copper, nutrients, & special study needs
- Duration = at least one adaptive management planning cycle to allow for:
  - Minimum data requirement for adequate characterization
  - Data usability to update management actions for WQIP

Next Steps

- Alternate Provision II.D will be provided
- Technical Memo with Support/Rationale for Alternate Provision II.D

QUESTIONS?