

Proposed Change Management Strategy

Committee-Members: the Adaptation Subcommittee intends this draft document to T up a conversation about what adaptation strategy you wish. The actual write-up of your agreement may not resemble this in format (or content) and would certainly be shorter!

1. The Water Supply Augmentation Plan (Plan) is the City Council-adopted plan based on the recommendations made by the Water Supply Advisory Committee (Committee). It includes:
 - a. The **Water Supply Augmentation Plan Elements** recommended by the Water Supply Advisory Committee.
 - b. Agreed-upon goals for yield and storage, as well as the assumptions that underlie these goals,
 - c. An **Adaptive Pathway** to provide a structure within which work on the Elements can be pursued and evaluated. (Figure 2, which will be a real SC graphic with 'element' on it) The Adaptive Pathway lays out the Plan options within which adaptation could happen;
 - d. An **Implementation Strategy** with a plan and schedule,¹
 - e. **Performance targets** (e.g., expected yield) and **performance measures**;
 - f. Key milestones for each Plan Element;
 - g. An agreement about transparency, accountability, roles and responsibilities.
 - h. A Change Management Strategy that will be used to guide adjustments and adaptations within the Plan, as described below.

¹ The Implementation Strategy is based on the WSAC recommended approach to closing the supply-demand gap and includes a plan and schedule for carrying out the work on Plan Elements. Specifically the Implementation Strategy uses Adaptive Pathways to show the relationship between work being done on the various Plan Elements and to identify key points for assessing progress and making decisions if and as needed. Figure 2.

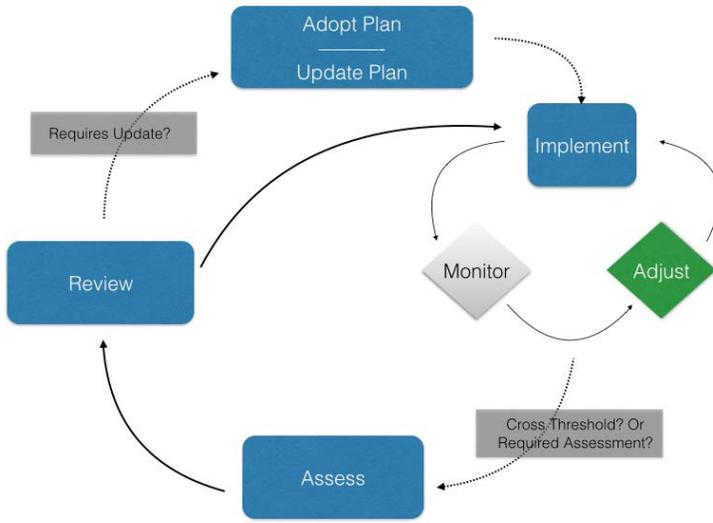


Figure 1. Overview of the Change Management Strategy

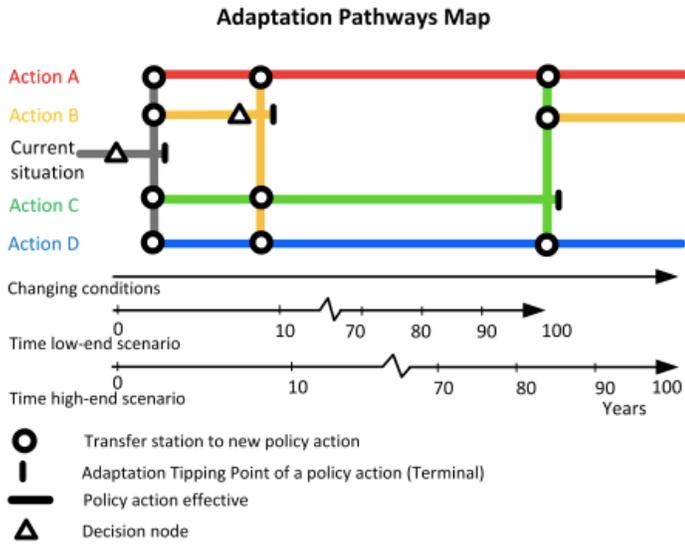


Figure 2. Sample Adaptation Pathway.

2. **Adjustments and Adaptations** are the key categories in the Adaptation Strategy.
- a. An **adjustment** is a change in implementation that helps the plan stay on track. (Figure 3).
 - i. In a continuous feedback loop, Water Department will make adjustments to help achieve (or exceed) performance targets for the various plan elements.
 - ii. In doing so they will use the guidance outlined below.
 - b. An **adaptation** is a shift from an Element or a set of Elements to another Element or set of Elements within the Plan’s Adaptive Pathway (Figure 2). An adaptation may be recommended when certain thresholds are reached.
 - c. A **threshold** is the pre-determined set of information that leads to assessment of the Plan and possible adoption of an adaptation. There are a number of key considerations relating to thresholds.
 - i. A threshold may be reached
 1. Occasionally, based on a single piece of information or as a result of a combination of events.
 2. As a result of movement along a subtle gradient rather than as abrupt changes.
 3. As a combination of performance measures, halfway correct assumptions and a pinch of surprise that together will cause the overall system to cross a threshold.
 - ii. There are hundreds of ways thresholds could be reached (groundwater chemistry, agreements, red tides for Desal, Reuse Regulations, unknown unknowns, and so on), but there is only a limited number of types of thresholds:
 - a. cost
 - b. time
 - c. yield/gap
 - d. public acceptance
 - iii. Once a threshold issue has prompted an assessment, other considerations, such as synergies or corollary benefits, may be taken into consideration.
 - iv. The ultimate Plan could contain many points of consideration and possible path changes, but they boil down to a small number of types of decisions.
 - v. The subcommittee recommends that the Committee write the adaptation strategy in terms of the four types of thresholds and the limited types of decisions, rather than trying to address each possible eventuality, focusing on overall program goals rather than implementation specifics.

Note: the subcommittee has provided a series of templates for making adaptation decisions at these limited types junctures; these will be distributed September 9th .

3. Guidelines and Rules

- a. As the Water Department implements this Plan, the Committee recommends that staff apply the following Committee agreements in making adjustments and recommending adaptations:
 - vi. For Adjustment (defined in section 2):
 - 1. Successfully implement the groundwater restoration strategy because storing winter water in the ground makes the best use of existing resources and also has substantial regional and environmental benefits. When implementing Plan Elements related to groundwater storage, the City will take all reasonable and necessary steps to explore and demonstrate the technical feasibility of these approaches.
 - 2. In addition, due to the strong community interest in and support for this strategy, the City will adopt a practice of “over-communicating” progress, performance and adjustments. (See also section 5.b.4.2.)
 - 3. Where practicable, the City should act to maximize synergies or collateral benefits, including, but not limited to, assisting neighboring communities, reversing or slowing saline intrusion or fishery restoration.
 - vii. For Adaptation (defined in section 2):
 - 1. Prefer groundwater storage strategies. Before making a choice to move away from groundwater storage, explore all reasonable attempts to make the groundwater strategies work.
 - 2. The Committee agrees that, to improve the reliability of Santa Cruz’s supply using groundwater storage, an additional 3 billion gallons of water needs to be stored in regional aquifers in a timely manner. This additional storage, along with other measures outlined in the Plan, would provide water needed to meet a worst year peak season shortage of 1.2 billion gallons.*
 - 3. Cost-effectiveness is an important consideration in making pathway changes. In considering cost, the Committee recommends that a threshold cost metric be created based on the annualized cost per million gallons of yield.*
 - 4. System robustness, resilience and adaptive flexibility are important values.
 - 5. Where practicable, the City should act to maximize synergies or collateral benefits, including assisting neighboring communities, reversing or slowing saline intrusion or fishery restoration.

b. In addition to this Guidance, Appendix A provides considerations to be applied when making an adaptation decision. (**Coming September 9th, along with more detailed units for cost and yield thresholds per subsections 3 and 4 above.*)

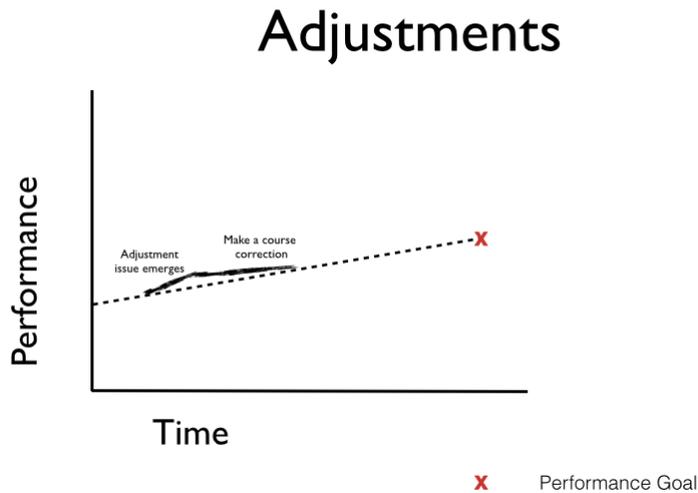


Figure 3. Making Adjustments to “Stay on the performance line”

Performance Projections Updated

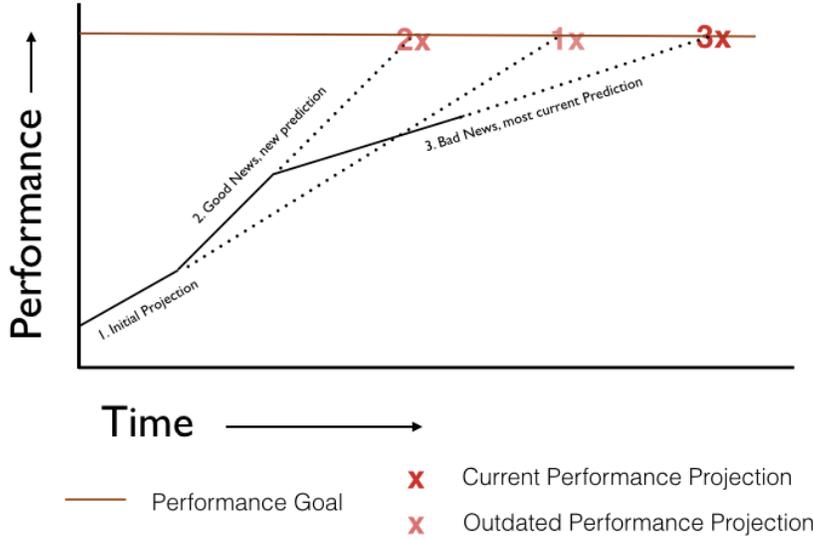


Figure 4. As Information Comes in, Performance Projections can Look Brighter or More Gloomy

4. **Feedback.** The sources of information and potential prompts for adjustment or adaptation are:
 - b. **Performance Measures** are developed and used to analyze how well individual Plan Elements are tracking against Performance Targets. As work on implementing the Plan Elements goes forward, tracking performance will generate information that will be used in several ways:
 - i. Greater understanding about the system from management activities, technical work, pilot testing and modeling results.
 - ii. Ongoing cycles of monitoring and adjusting help the Department to keep the Elements ‘on the performance line’ and also to determine when and how adjustments affect overall goals.
 - iii. In general, ongoing feedback and correction within a set of Elements relates to **adjustment**, not adaptation. However, a gap between original performance targets and revised performance predictions could trigger an assessment and an eventual adaptation within the Plan. (Figure 4.)
 - c. An **assumption** may be proven wrong, and this likewise may be significant enough to require assessment.
 - i. Many assumptions have to do with start-up such as “agreements can be secured,” “regulations will be available.”
 - ii. Other assumptions have to do with overall ability of Plan Elements to meet performance targets.
 - iii. Other assumptions have to do with Plan goals; as more is learned about initial analyses related to demand, climate change and systems improvements, assumptions may need to be revised. (Figure 5.)
 - iv. Changes to assumptions could require adjustments or lead to adaptation changes, taking into consideration many types of information (Figure 6).
 - d. **Surprises** such as earthquakes or wildfire could disrupt the plan. (Surprises are low probability/high consequence events.)

Updated Assumptions About External Factors

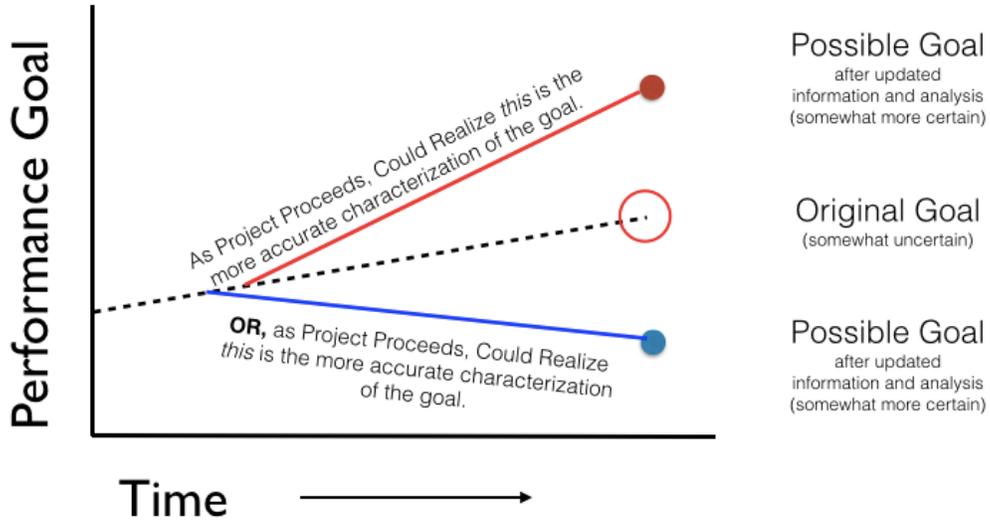


Figure 5. Periodically, the Adaptation Strategy Requires Updating the Plan Goals

5. Assessments, Reviews and Update to Plan

a. Procedural Steps

- i.** An **assessment** is performed by the Water Department and includes updated information and a recommendation about whether a change to the Plan is needed.
- ii.** The Water Department submits a report to the Water Commission for its **Review**. If the Commission concurs with a change recommendation, this will then be forwarded to the Council for its consideration.
- iii.** If the Council so chooses, the Plan will be **updated**.

b. Information

- iv.** The Water Department will report to the Water Commission and the City Council
 - 1. As required by the plan. [at ‘triangles’]
 - 2. Informally at each Water Commission meeting, providing specific information about work in progress, successes and failures, and challenges and opportunities.
 - 3. Formally and annually to the Water Commission and the City Council in the winter of each year during the budget cycle, including
 - a. Performance
 - b. Significant adjustments
 - 4. As part of the Water Commission’s and City Council’s review of an updated Urban Water Management Plan, including
 - c. Performance
 - d. Significant adjustments
 - e. Updated Plan Goals and Assumptions (including demand, climate change, systems improvements etc.)
 - 5. If the Water Department recommends an adaptation, such a report must contain a synthesis of each Plan Element’s performance against targets and measures and an evaluation of whether circumstances related to the performance of individual Plan Elements have changed so completely that it is time to consider making a change.

When Goals and Performance Predictions Both Change

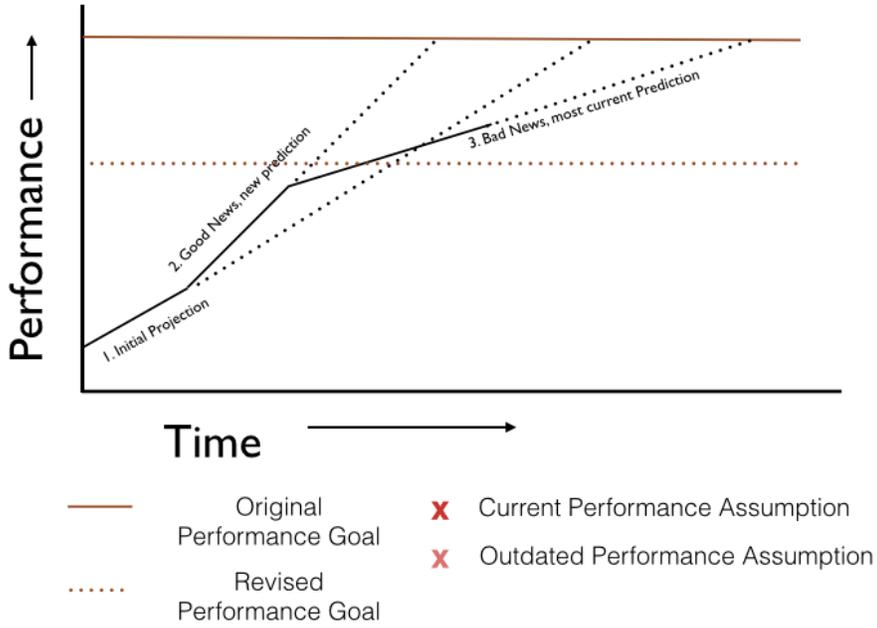


Figure 6. Adaptation May Involve Assessment of Changes to Goals as well as Performance Targets

Appendix A. Considerations

To be sent September 9th.