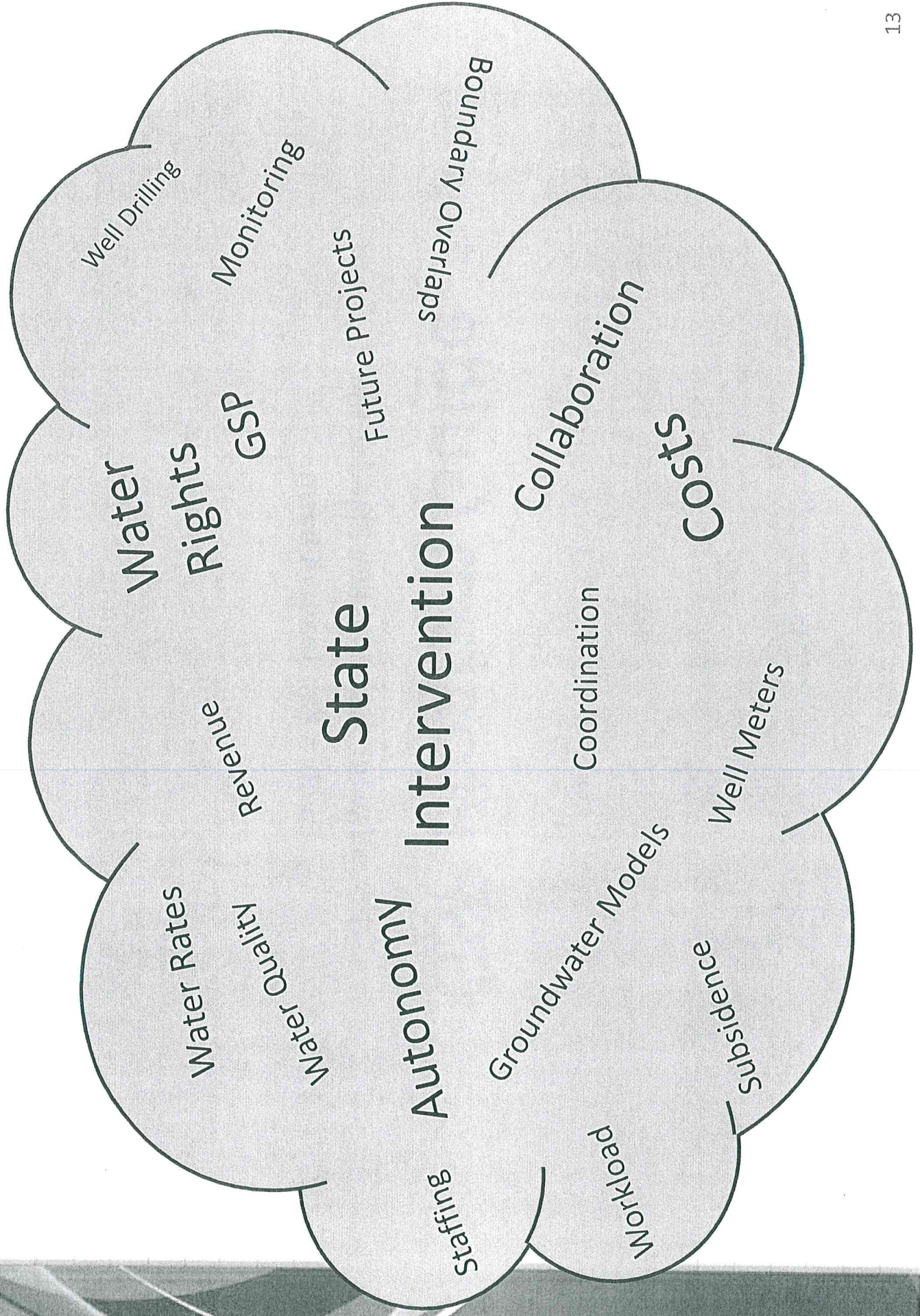




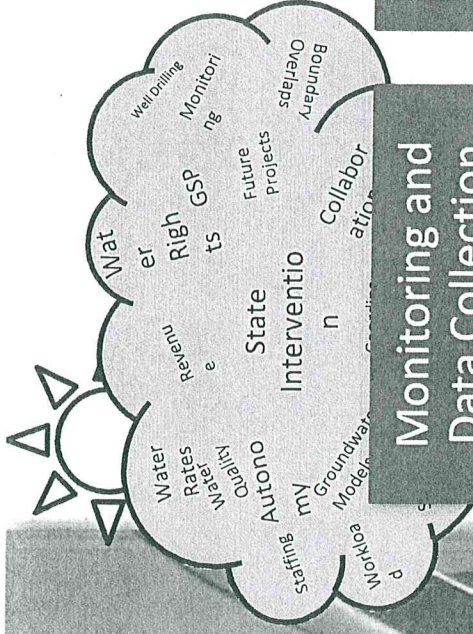
GSP Program Guide

Groundwater Sustainability Plan for the
Eastern San Joaquin Basin

Everyday is a cloudy day with SGMA



Shedding the light on SGMA



Monitoring and Data Collection

- GW Levels
- GW Quality
- GW Production
- Subsidence
- Rainfall
- Reservoir Levels
- River Flows
- Land Use
- Irrigation Methods
- Climate
- Costs

GSP Development

- Sustainability Indicators
- Sustainable Yields
- Groundwater Modeling
- Water Budgets
- Target GW Levels
- Interim Milestones
- GSA
- Coordination
- Costs

Regulatory Reporting

- Municipal GW Production
- Irrigation Demands
- Meters?
- Milestones
- Other Metrics
- Exemptions
- Costs

Projects and Program Actions

- Enforcement
- Reduction of Groundwater Usage
- Conjunctive Use Projects
- Recharge Projects
- Conservation
- Costs

Desired Outcomes for the Presentation

- Understand the layout, organization, and potential uses of the GSP Program Guide
- Provide opinion on local vs. regional responsibility
- Provide opinion of relative cost, labor needs, and duration
- Provide a preliminary schedule for GSP development

Proposed Scope of Work – Task 1

- Task 1: Inventory of future SGMA Regulatory Compliance Program Elements that are required, necessary, and or desired.
- Examples of program elements include monitoring, data collection and data management, regulatory reporting, conjunctive use projects, GSP development.
- Consultants shall evaluate current efforts and consider each task as a potential candidate for the regional group or the individual GSA.

Groundwater Sustainability Plan (GSP)

Administrative Information

Basin Setting

Groundwater Conditions

Water Budget

Sustainable Management Criteria

Projects and Management Actions

Monitoring Networks

Evaluate

- Is the Basin operated sustainably?
- How do you know?

Plan (GSP)

- What will you do to become sustainable?

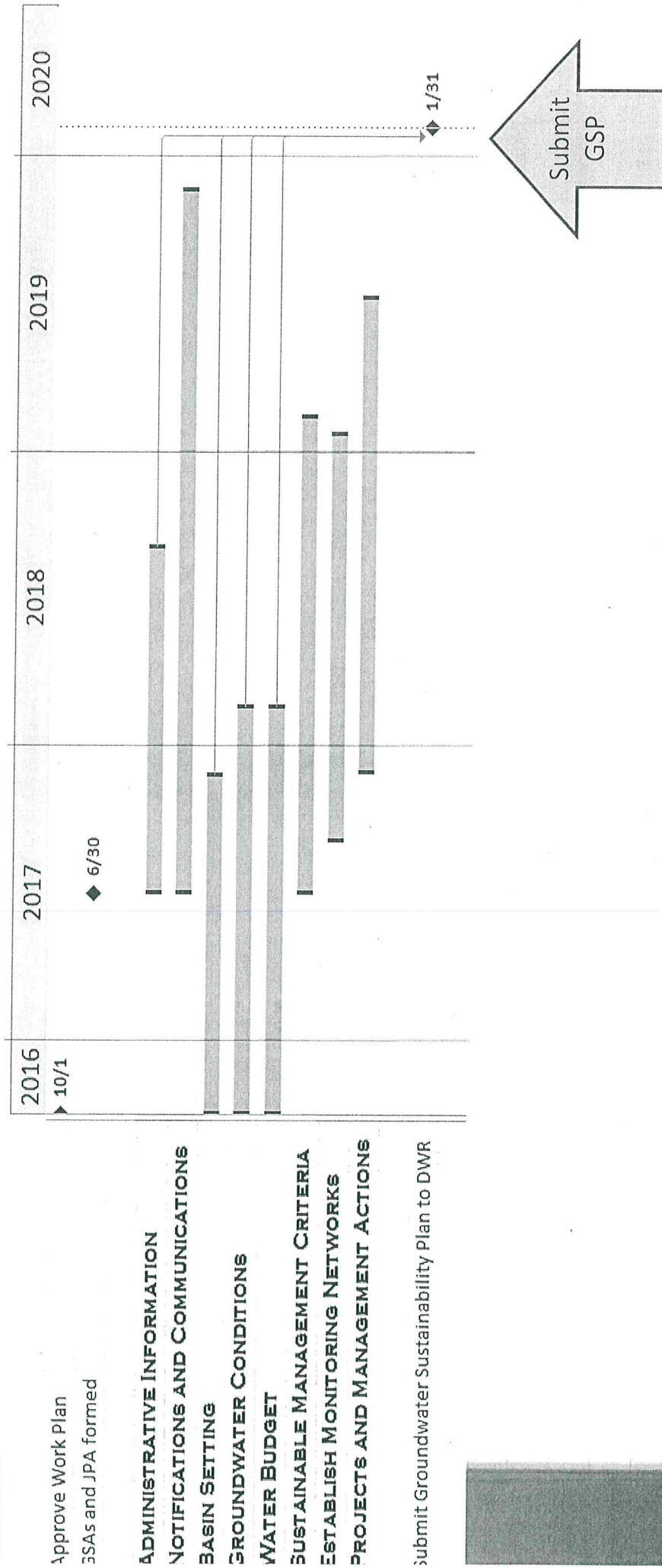
Implement

- Actions
- Projects

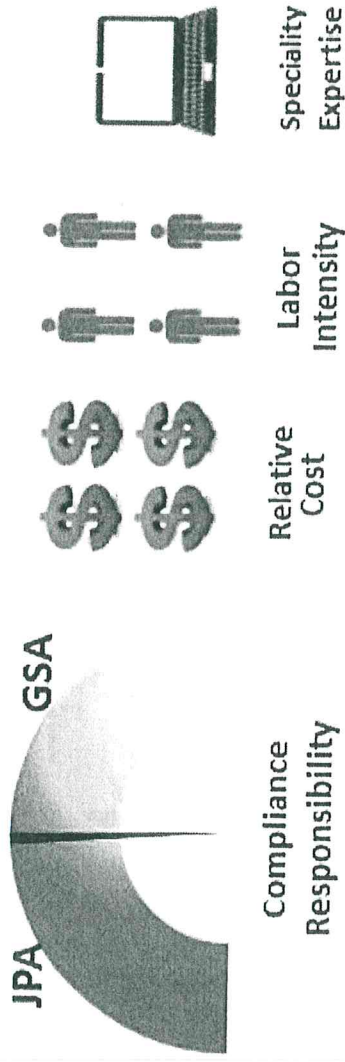
Re-Evaluate

- How do you know these solutions will work?

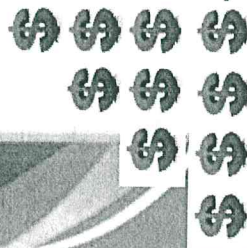
Overview Schedule



Dashboard Key



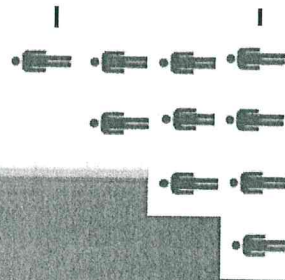
less expensive



more expensive



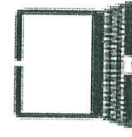
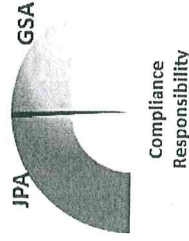
low labor needs



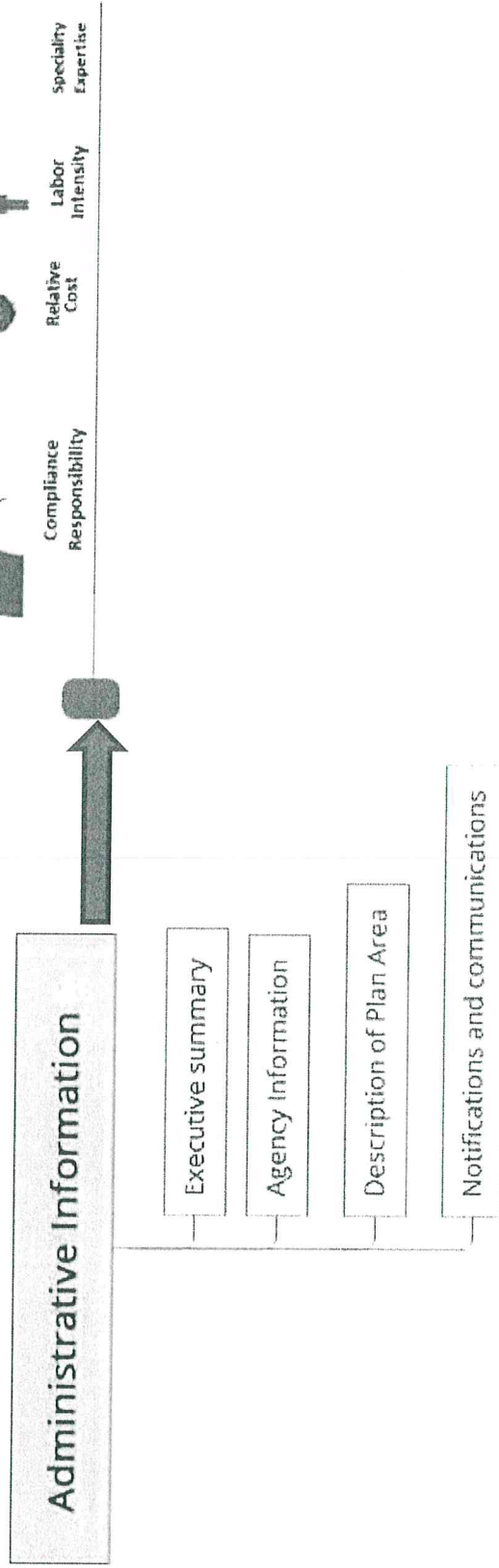
extensive labor needs

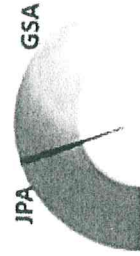


Suggested Regional (JPA) vs. Local (GSA) Responsibility

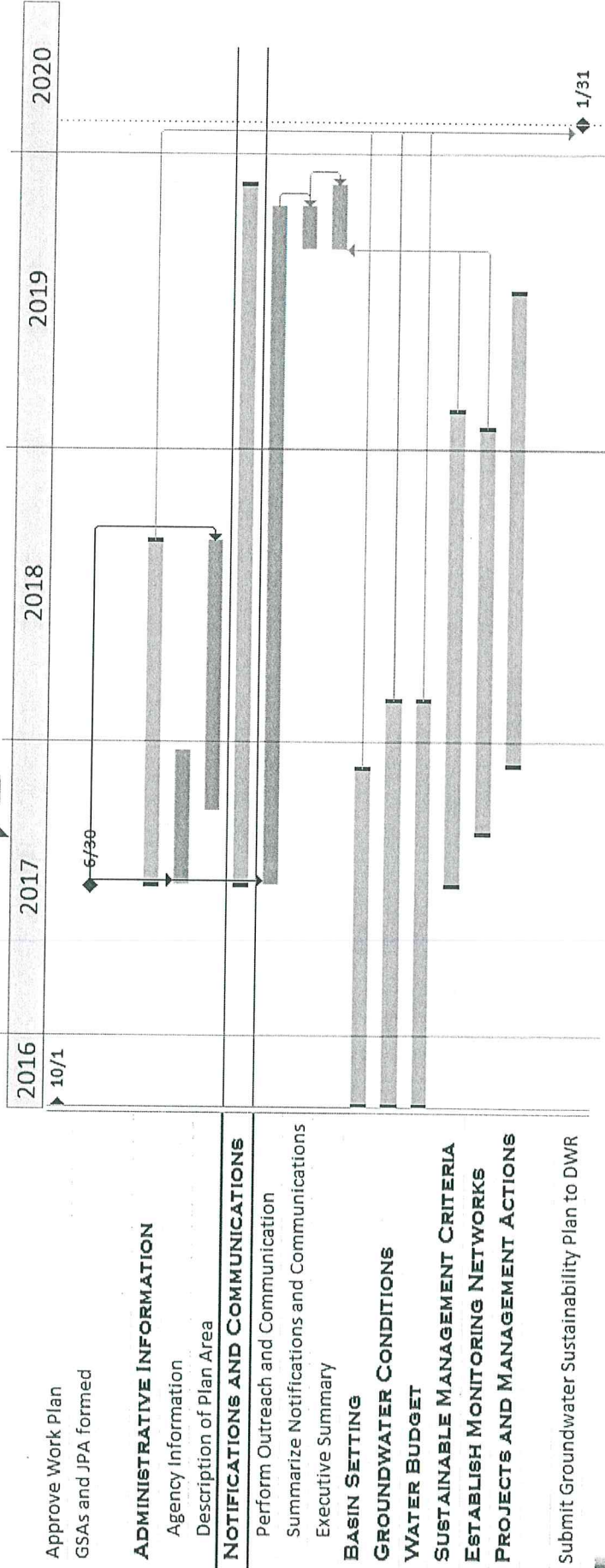


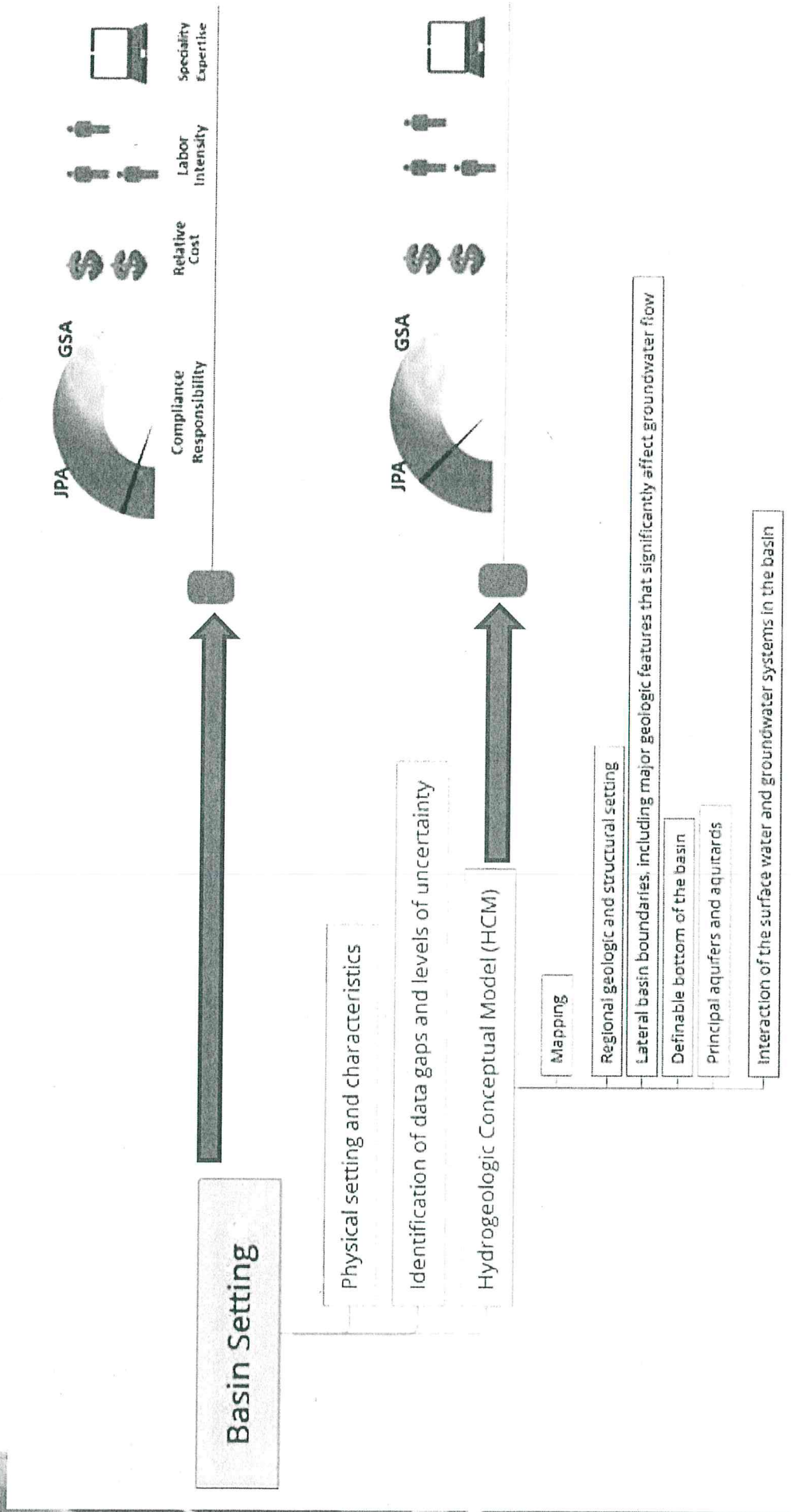
Specialty Expertise Needed



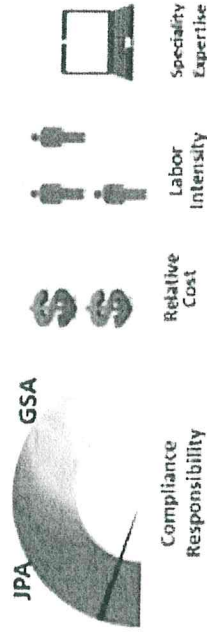


Administrative Information





Basin Setting



Approve Work Plan
GSAs and JPA formed

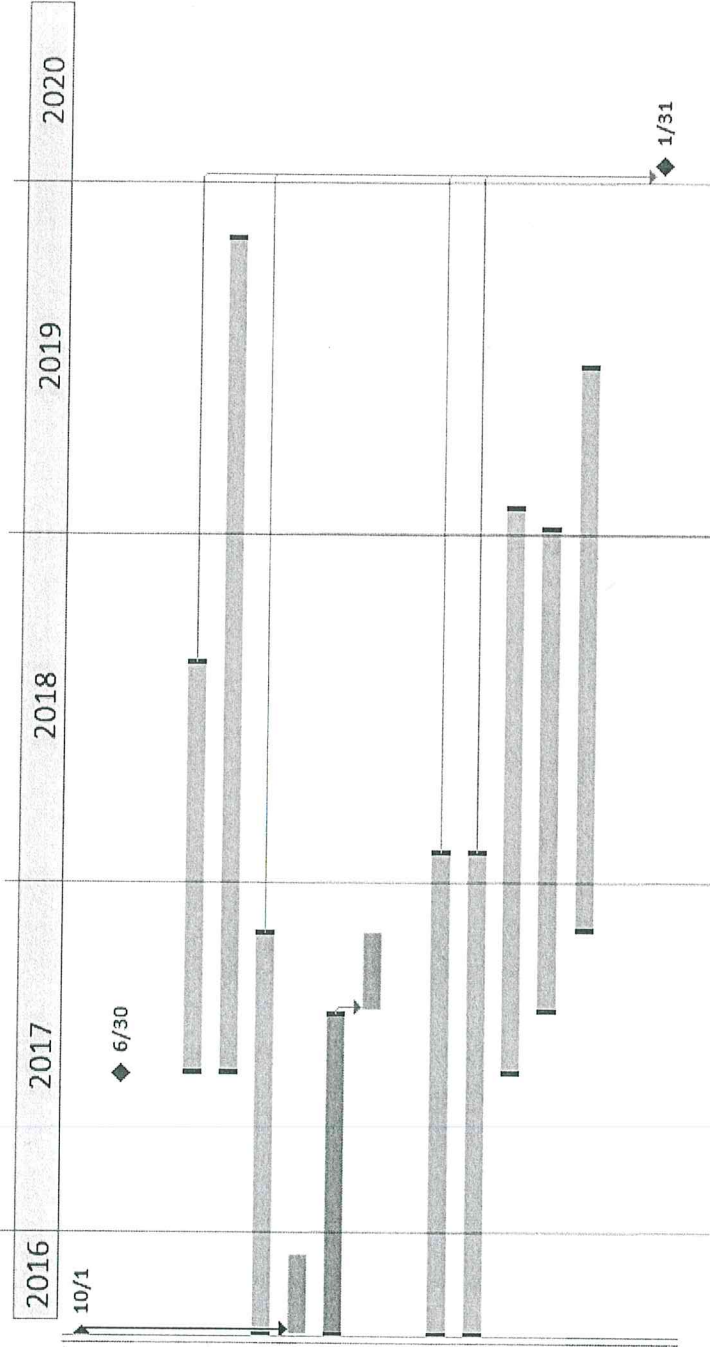
ADMINISTRATIVE INFORMATION NOTIFICATIONS AND COMMUNICATIONS BASIN SETTING

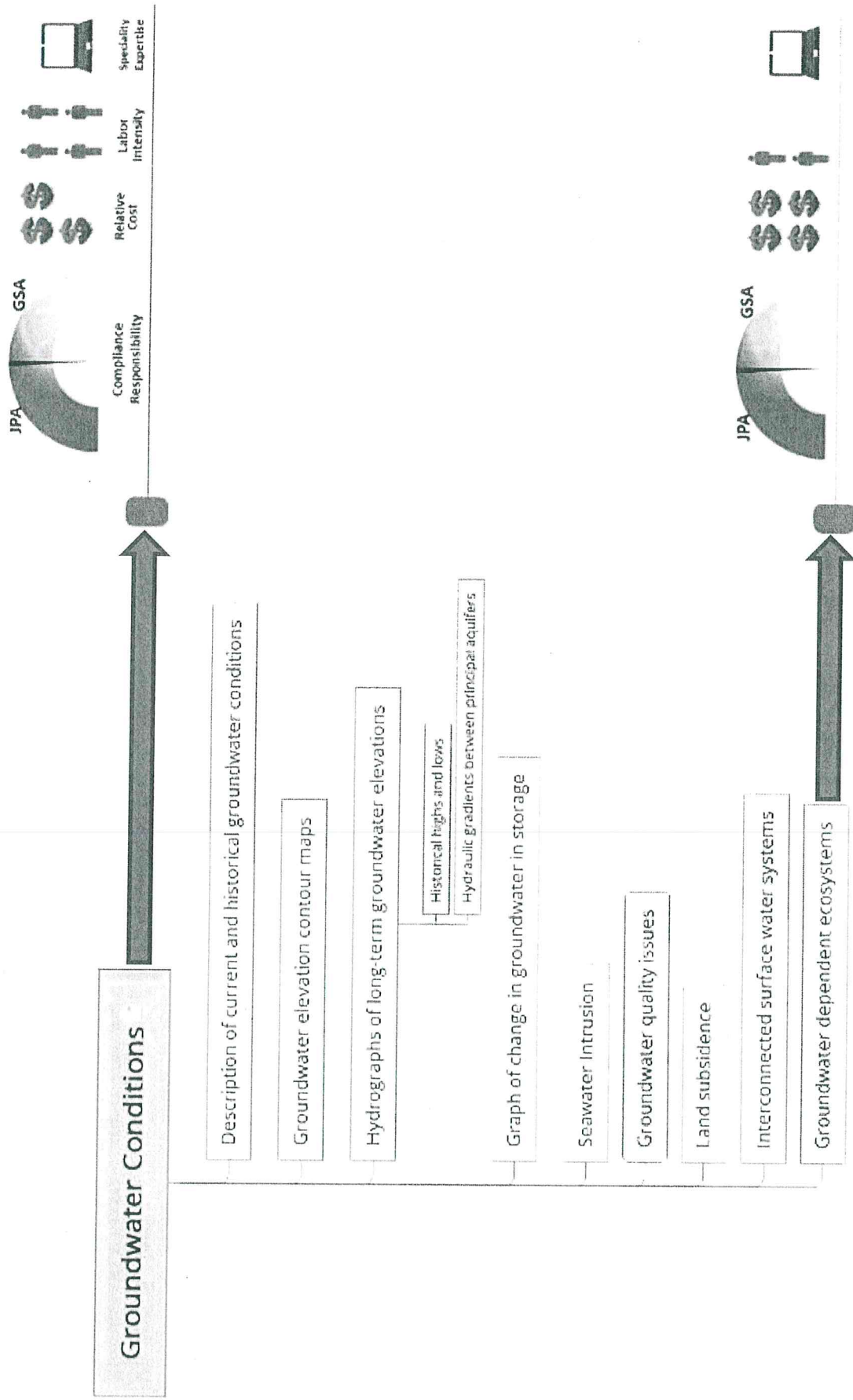
- Physical Setting and Characteristics
- Hydrogeologic Conceptual Model
- Identification of Data Gaps and Uncertainty

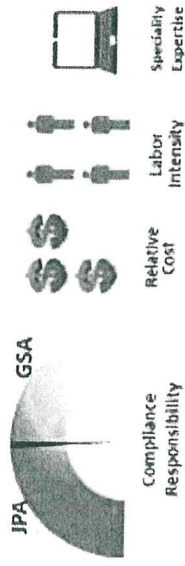
GROUNDWATER CONDITIONS WATER BUDGET

SUSTAINABLE MANAGEMENT CRITERIA ESTABLISH MONITORING NETWORKS PROJECTS AND MANAGEMENT ACTIONS

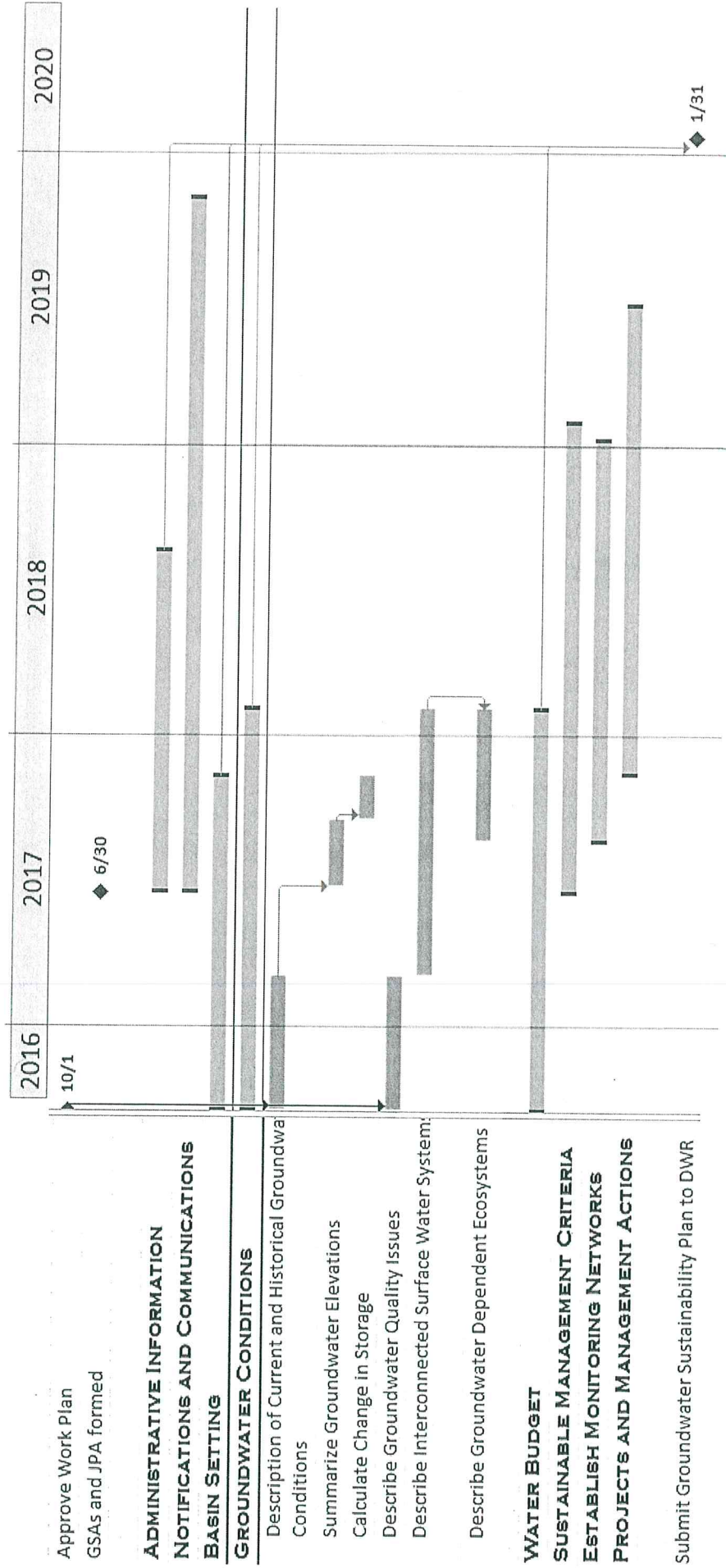
Submit Groundwater Sustainability Plan to DWR

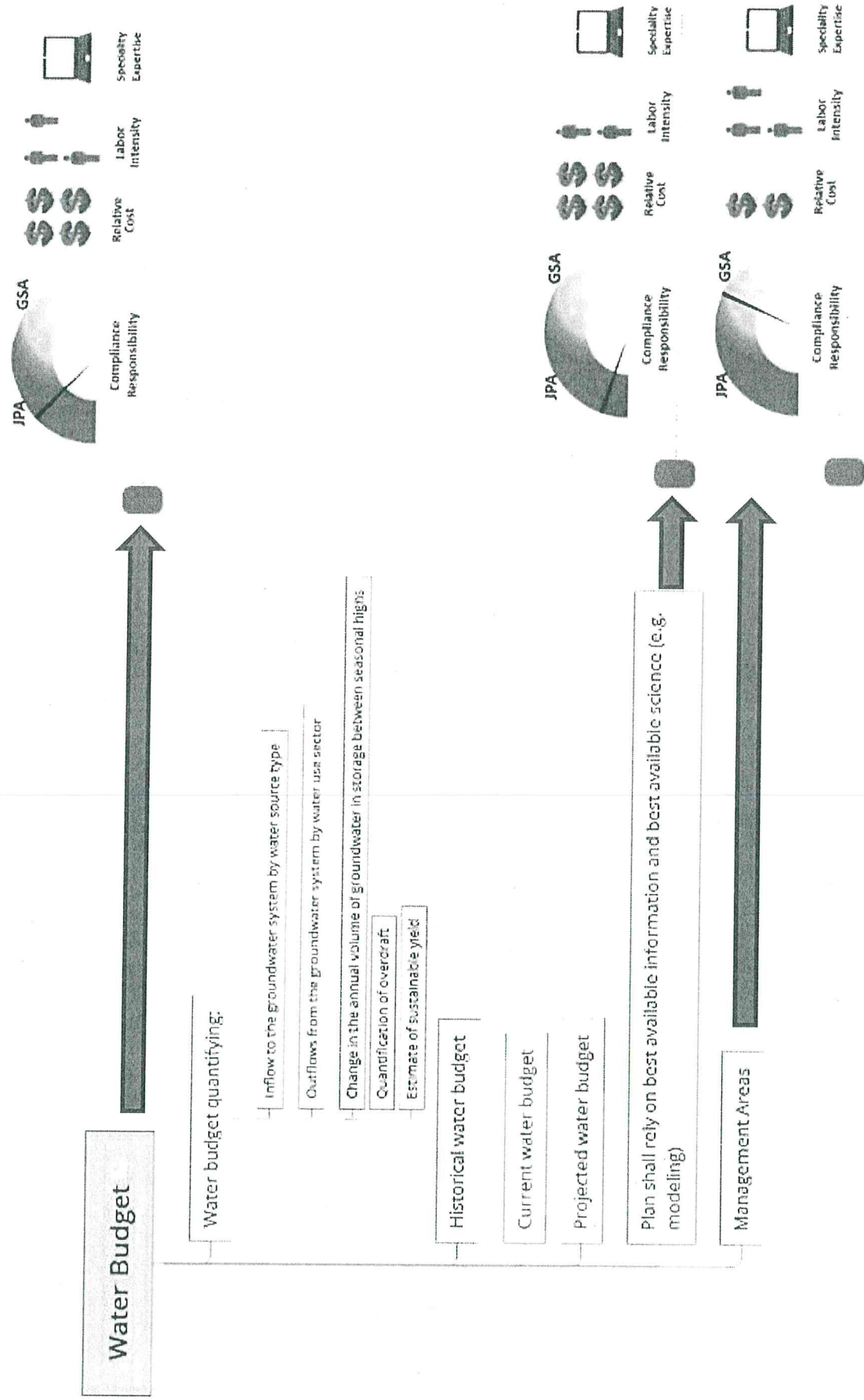


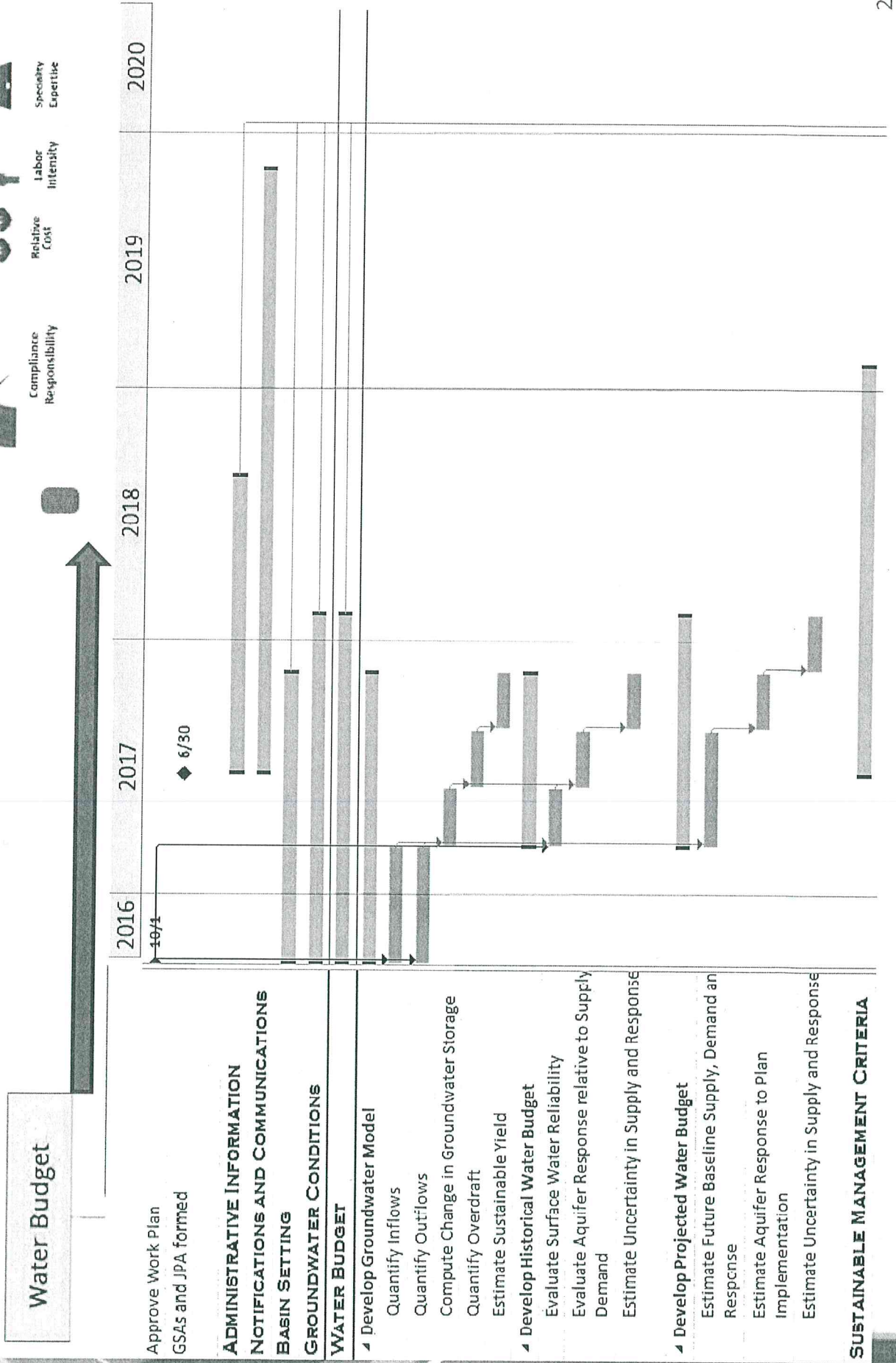




Groundwater Conditions







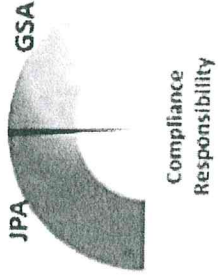
Sustainable Management Criteria

Sustainability Goal

Undesirable Results

Minimum Thresholds

Measurable Objectives



Relative
Cost



Labor
Intensity










Speciality
Expertise

Key SGMA Definitions

“Sustainable yield” means the maximum quantity of water – calculated over a base period representative of long-term conditions in the basin and including any temporary surplus – that can be withdrawn annually from a groundwater supply without causing an undesirable result.

“Sustainable groundwater management” means “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.”

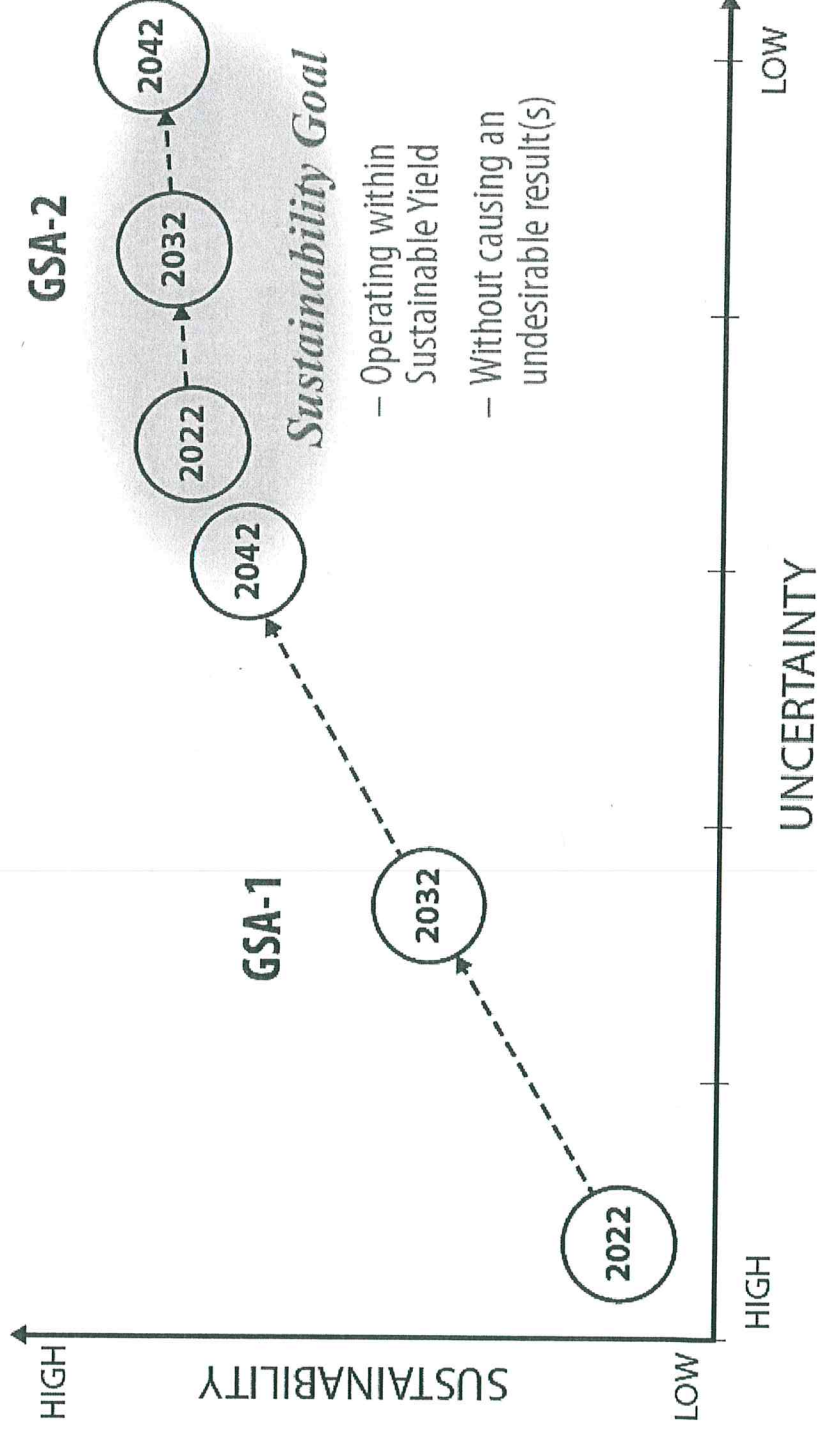
“Undesirable result” means any of the following effects caused by groundwater conditions occurring throughout the basin:

 Undesirable Results			
	Lowering GW Levels		Degraded Quality
	Reduction of Storage		Land Subsidence
	Seawater Intrusion		Surface Water Depletion

Sustainable Management Criteria -1

Sustainability Goal

- Culminates in the absence of undesirable results within 20 years of applicable statutory deadline
- Plan shall describe sustainability goal, including
 - Information from basin setting
 - Measures to ensure operations within sustainable yield
 - Explanation for achieving goal within 20 years of Plan implementation



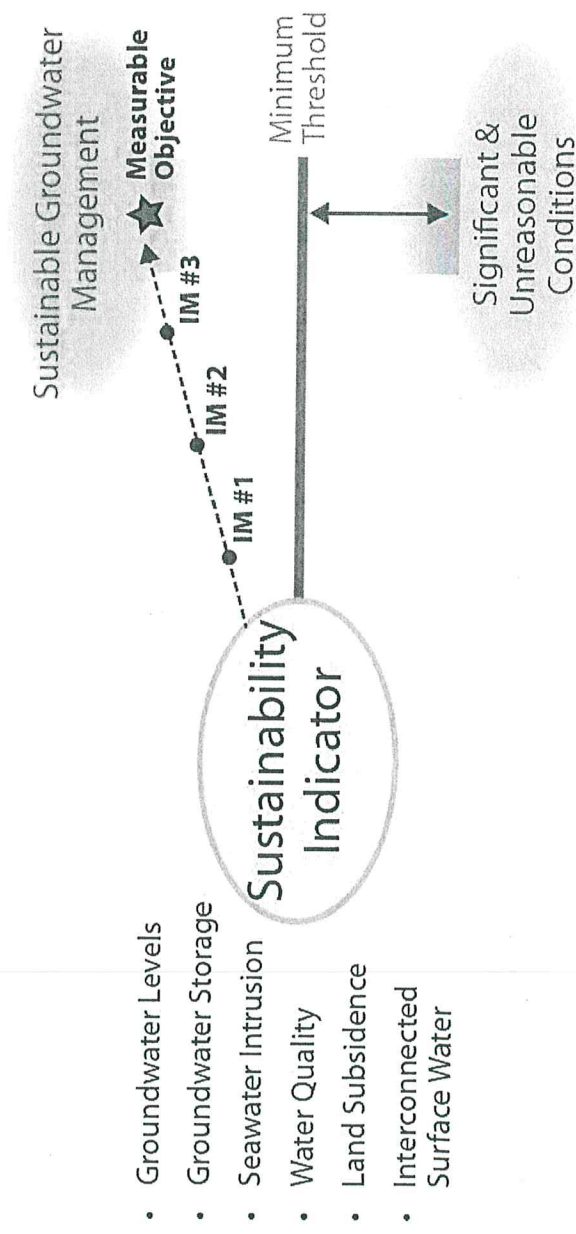
Sustainable Management Criteria -2

Minimum Thresholds

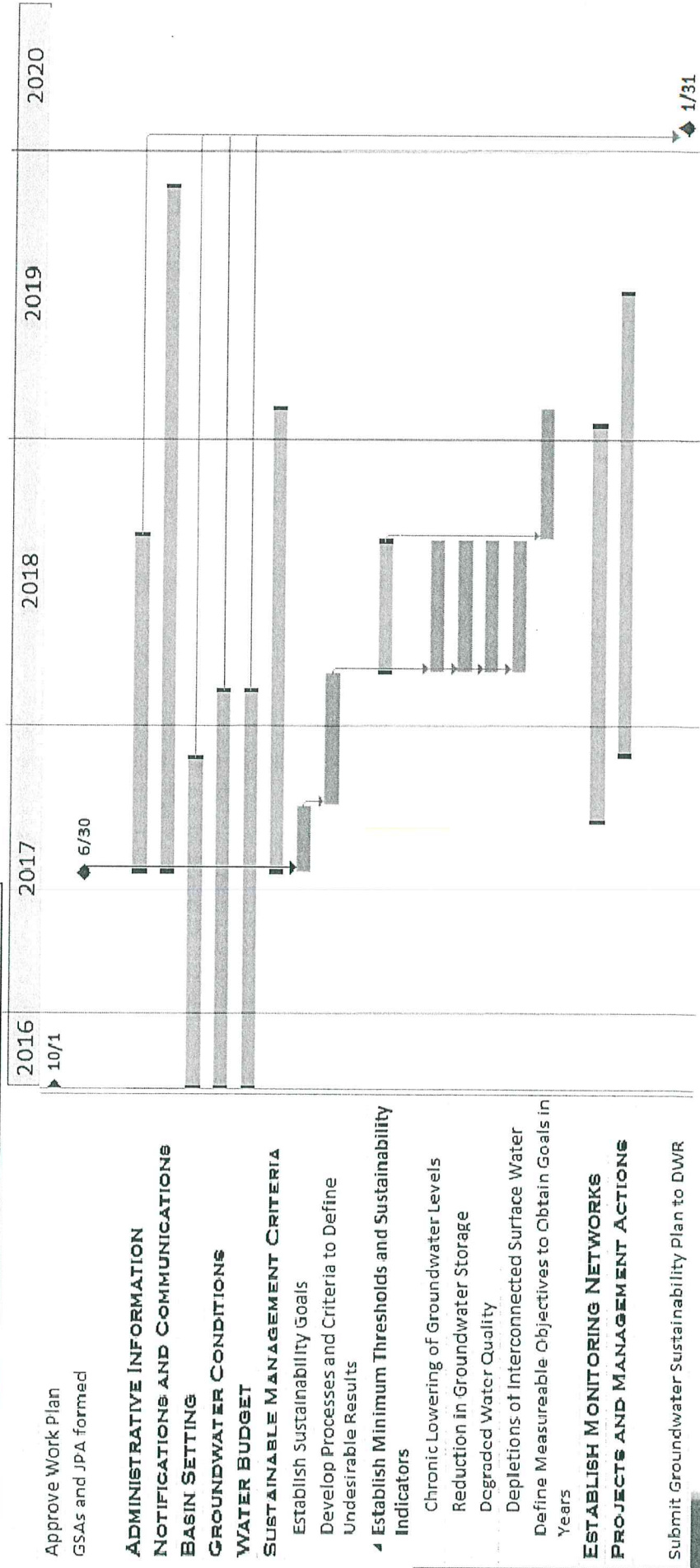
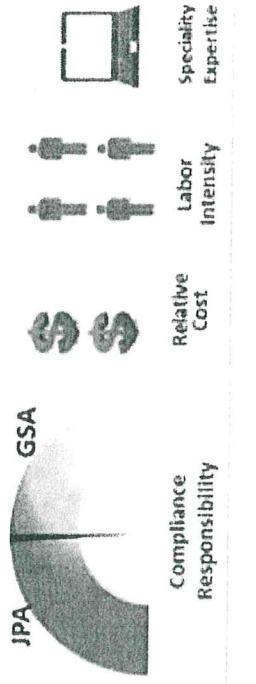
- Sustainability indicators for 6 undesirable results
- Representative minimum threshold for groundwater elevation may serve multiple sustainability indicators
- Minimum thresholds are not required for unlikely sustainability indicators

Measurable Objectives

- Establish measurable objectives to achieve the sustainability goal within 20 years of Plan implementation, including interim milestones at 5-year intervals
- Quantitative values using the same metrics and monitoring sites as minimum thresholds
- Provide reasonable margin of operational flexibility under adverse conditions, considering historical water budgets, seasonal and long-term trends and periods of drought and uncertainty
- Representative measurable objectives for groundwater elevation may serve multiple sustainability indicators

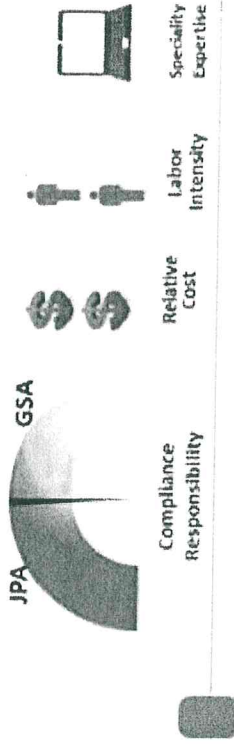


Sustainable Management Criteria

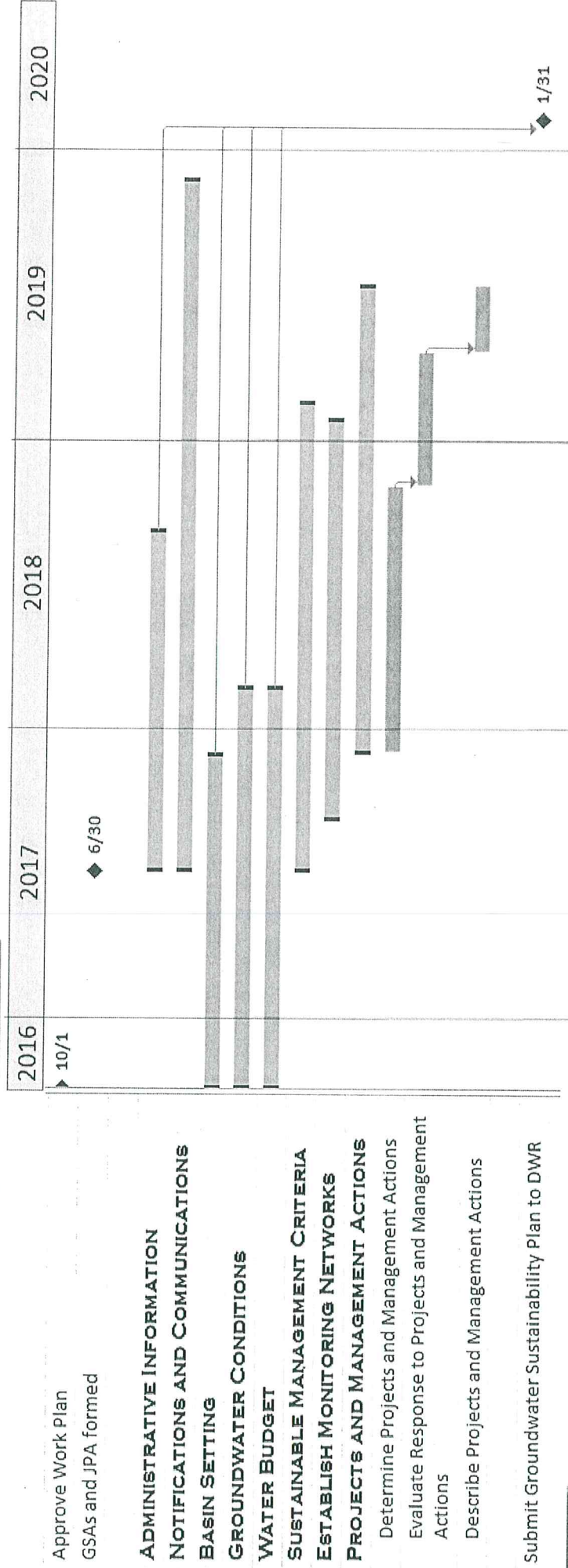
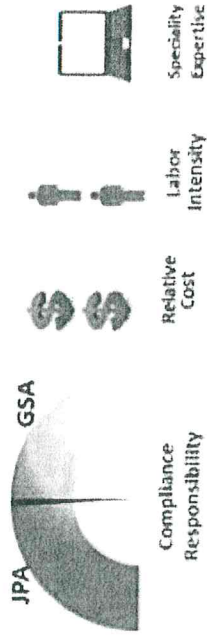


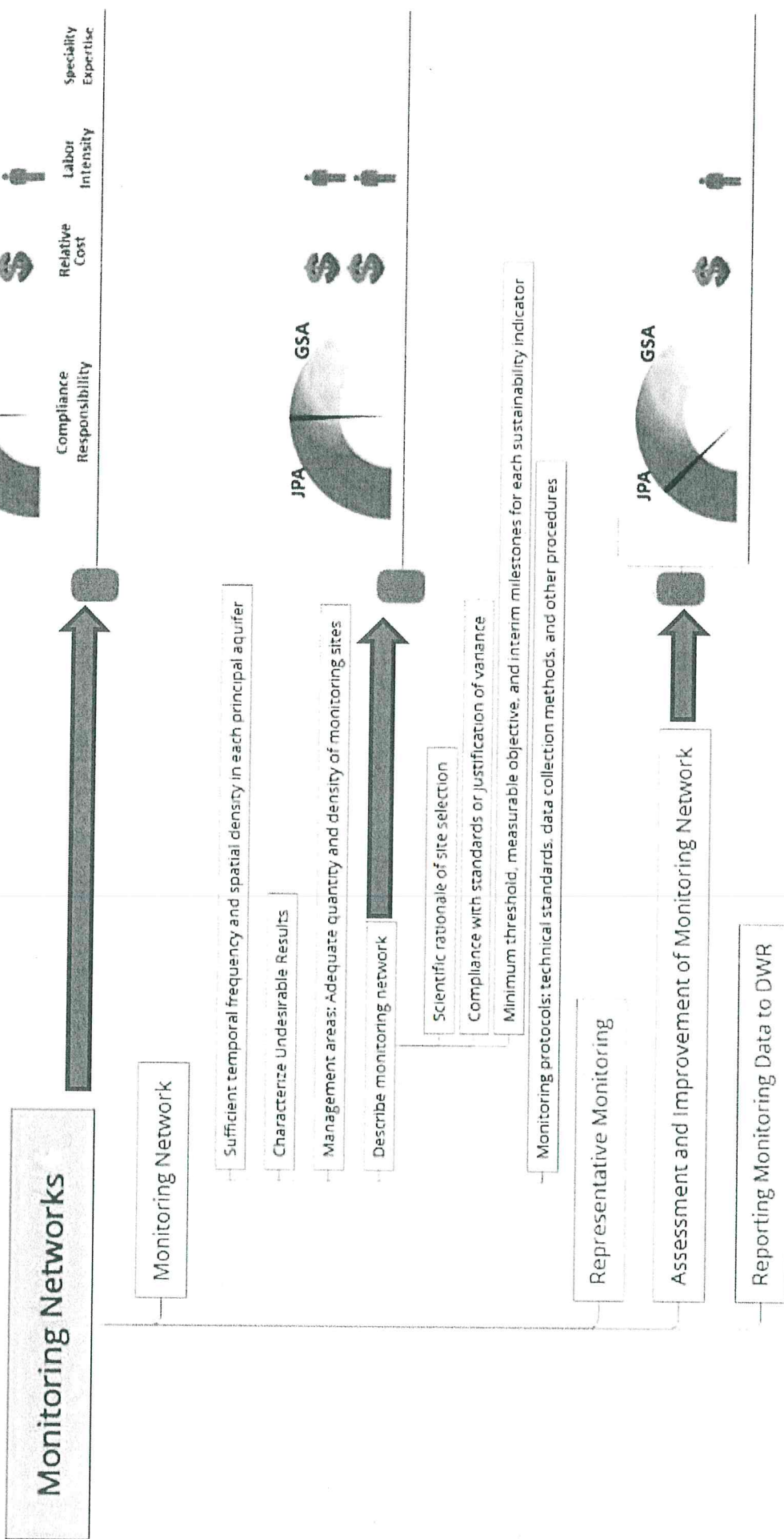
Projects and Management Actions

Description of the projects and management actions the Agency has determined will achieve the sustainability goal for the basin



Projects and Management Actions





Monitoring Networks

Approve Work Plan

GSA and JPA formed

ADMINISTRATIVE INFORMATION
NOTIFICATIONS AND COMMUNICATIONS

BASIN SETTING

GROUNDWATER CONDITIONS

WATER BUDGET

SUSTAINABLE MANAGEMENT CRITERIA

ESTABLISH MONITORING NETWORKS

Describe Monitoring Networks

Describe Density and Frequency

Describe Scientific Rationale

Describe Monitoring Protocols

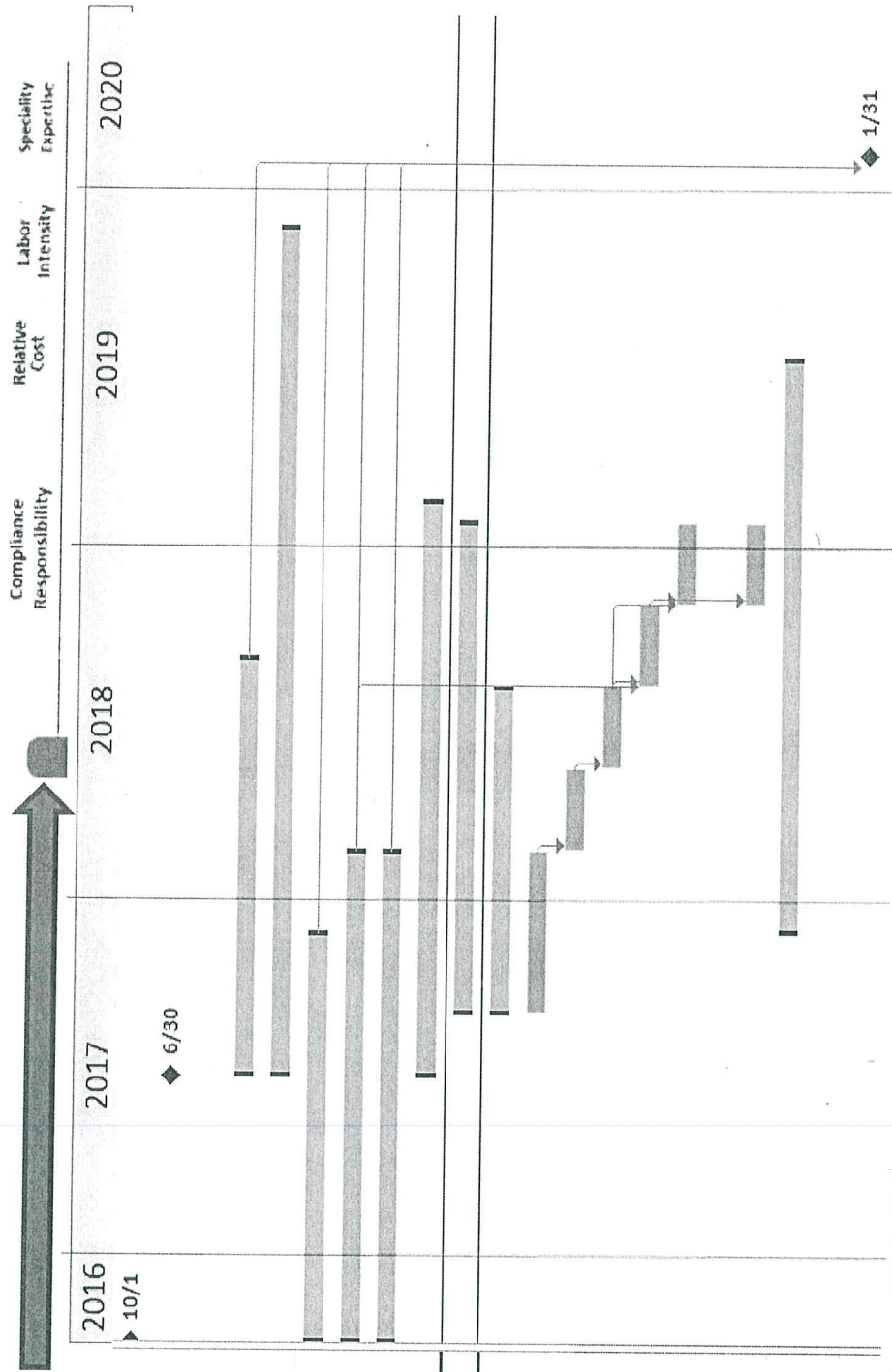
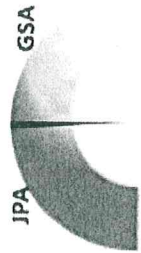
Describe Representative Monitoring

Assessment and Improvement of Monitoring Networks

Report Monitoring Data to DWR

PROJECTS AND MANAGEMENT ACTIONS

Submit Groundwater Sustainability Plan to DWR



GSP Program Guide Integrated Schedule

- Critical Path to GSP
- Must understand basin as a system to determine solutions and evaluate solution set.
- Tasks beyond 2020:
 - Monitoring
 - Annual Reporting
 - 5-year GSP Updates
 - Project Implementation

