

LEGEND

X	Elements required to be included in a GWMP
X	Elements that may be reviewed prior to approval by the State Engineer

State	Legal Requirements		System Knowledge								Metrics/Setting Goals							
	GWMP Description	Relevant Citation	Conceptual model of aquifer	Aquifer characteristics	Total supply	Recharge	Demand	Water quality	Groundwater and surface water interactions	Climate conditions	Well locations, well spacing, pumping allocations	Safe/sustainable yield	Groundwater levels or groundwater quantity	Groundwater quality	Reduction in storage	Land subsidence	Negative impacts on surface water resources	Seawater intrusion
Alabama	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Alaska	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Arizona	Top-down: GWMPs are developed at the state level by the Arizona Department of Water Resources for five Active Management Areas (AMAs). Plans are developed every 10 years over the course of a 50 year planning period. Each new plan must be more rigorous than the last in terms of proposing new conservation and management requirements for agricultural, residential, and industrial use.	Arizona Revised Statutes, Title 45, Chapter 2, Article 9									✓	✓						
Arkansas	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
California	Bottom-up, mandatory: Groundwater Sustainability Plans (GSPs) are required to be developed by Groundwater Sustainability Agencies (GSAs) in designated basins. This planning is new under the Sustainable Groundwater Management Act.	California Code of Regulations, Title 23, Division 2, Chapter 1.5, Subchapter 2.	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
Colorado	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Connecticut	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Delaware	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Florida	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Georgia	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Hawaii	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Idaho	Bottom-up, mandatory: GWMPs related to groundwater quantity are required to be developed in areas that have been designated as "critical groundwater areas" by the Department of Water Resources. Local advisory committees then are responsible for developing the plans.	Idaho Statutes, Title 42, Chapter 2, Section 42-233a																

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Idaho	Bottom-up, voluntary: GWMPs related to groundwater quality are voluntarily developed at the local level, typically by a stakeholder group put together by the Department of Environmental Quality. The stakeholder groups are formed after the DEQ identifies high levels of nitrates in an area. Development and implementation of a GWMP by the stakeholder group is completely voluntary.	https://www.deq.idaho.gov/water-quality/groundwater/management-plans/							✓									
Illinois	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Indiana	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Iowa	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Kansas	Bottom-up, mandatory: The state has designated five separate Groundwater Management Districts (GMD) each of which is required to develop a GWMP. GMDs are located in areas of the state that rely on withdrawals from the Ogallala aquifer, and the rest of the state is covered by the Water Appropriation Act.	Kansas Statutes Annotated, Chapter 82a, Article 10, Section 1041									✓	✓						
Kentucky	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Louisiana	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Maine	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Maryland	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Massachusetts	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Michigan	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Minnesota	Top-down: GWMPs are developed by the Department of Natural Resources with the assistance of a local project advisory team. Three plans have been developed as pilot plans to better understand groundwater management and how plans can be developed and implemented in other parts of the state.	Minnesota Statutes, Chapter 103G, Section 103G.287, Subdivision 4																

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Mississippi	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Missouri	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Montana	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Nebraska	Bottom-up, mandatory: GWMPs are required by the state and developed by 23 separate Natural Resource Districts. There are no update requirements; any plan updates are determined on a district by district basis.	Nebraska Revised Statutes, Chapter 46, Section 709				✓	✓			✓		✓	✓					
Nevada	Bottom-up, voluntary: Once the State Engineer has designated a basin as a "critical management area," local groups can develop and submit GWMPs to the state engineer for approval. If a GWMP is not approved within 10 years of the CMA designation, then withdrawals in the basin must conform to priority water rights.	Nevada Revised Statutes Chapter 534, Section 037		✓				✓			✓							
New Hampshire	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
New Jersey	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
New Mexico	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
New York	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
North Carolina	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
North Dakota	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Ohio	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																
Oklahoma	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans)	N/A																

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Oregon	Bottom-up, mandatory: Development of groundwater action plans is required in areas designated as a Groundwater Management Areas (GWMAs) by the state. Areas are designated as GWMAs when there is widespread contamination in a basin. The local committees and interested parties work with state agencies and develop the content of the action plan.	Oregon Revised Statutes, Chapter 468B, Section 468B.180																
Pennsylvania	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																
Rhode Island	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																
South Carolina	Bottom-up, mandatory: GWMPs are required to be developed in areas where excessive groundwater withdrawal may affect natural resources or public health. GWMPs can be developed either by the state alone or by the state in conjunction with local governing bodies and groundwater users.	South Carolina Code of Laws, Title 49, Chapter 5		✓	✓						✓							
South Dakota	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																
Tennessee	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																
Texas	Bottom-up, mandatory: GWMPs are required by the state and developed by Groundwater Conservation Districts. Each district must develop Desired Future Conditions (DFCs) for their system based on extensive modeling efforts.	Texas Water Code, Title 2, Subtitle E, Chapter 36, Section 36.1071	✓		✓	✓			✓		✓	✓	✓			✓	✓	
Utah	Top-down: GWMPs are developed and implemented by the State Engineer for 13 critical management areas, defined as areas that consistently exceed safe yield. The objective of developing a management plan is to limit groundwater withdrawals to safe yield.	Utah Code, Title 73, Chapter 5, Section 15		✓				✓	✓		✓	✓						
Vermont	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																
Virginia	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																
Washington	Bottom-up, mandatory: GWMPs are required by the state and developed by local groundwater user groups/government in cooperation with the department. Most plans are no longer in use. New plans have not been developed due to EPA designating areas as sole source aquifers, which are subject to different regulations.	Washington State Legislature, Title 173, Chapter 173-100, Section 173-100-100		✓				✓					✓	✓				
West Virginia	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																

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Wisconsin	Bottom-up, voluntary: GWMPs may be voluntarily by the county, which is authorized to produce plans through planning and zoning laws set forth in the state statutes.	Wisconsin State Legislature, Chapter 59, Subchapter VII, Section 59.69																
Wyoming	Formal groundwater plans are not used. Groundwater may be addressed through other water resources planning documents (state water plan, integrated management plans, or basin management plans).	N/A																