

LIST OF FIGURES

Figure No.	Title	Page No.
1.1	Gujarat River Map	3
2.1	Conditions Typical of Highly Stratified Estuary	14
2.2	Conditions Typical of Partially Mixed Estuary	14
2.3	Conditions Typical of Well - Mixed Estuary	15
3.1	Location Map of Mahi Estuarine Area in Country, State and District	32
3.2	Location Map of Study Area	33
3.3	Plan Showing the Rivers of Mahi Basin	36
3.4	A Map of Mahi River with Locations of Collector Wells	41
3.5	Soil Map of Study Area from Gujarat Soil Map by National Bureau of Soil Survey and Land Use Planning (ICAR) Nagpur	49
4.1 (a)	Cross section of an aquifer containing a stream	73
4.1 (b)	Conceptual representation of stream-aquifer interconnection in simulation	73
4.2	Idealization of streambed conductance in an individual cell	74
4.3	Locations of Arcs of River for Conductance	75
4.4	Finite-Difference Grid With (A) Plan View And (B) Cross-Section View.	80
4.5	Top Elevation TIN	83
4.6	Fence Diagram of Study Area	84
4.7	Solids of Study Area	85
4.8	Three Locations of Longitudinal Section	86
4.9	Longitudinal Section Along Right Bank (Section A-A')	86
4.10	Longitudinal Section Along Mahi River (Section B-B')	87
4.11	Longitudinal Section Along Left Bank (Section C-C')	87
4.12	Recharge Zones of Study Area	88
4.13	Zones of Study Area for Horizontal Permeability/Specific Yield	89
4.14	Location of River Mahi	90
4.15	3D Grid of Study Area	91

Figure No.	Title	Page No.
4.16	Starting Heads (Pre Monsoon 1997)	91
4.17	Location of Boundary points on the Study Area	92
5.1	Comparisons of Computed and Observed Groundwater Heads (m) Under Calibration.	106
5.2	Temporal Variation of Groundwater Table Elevation at Wells KR-25 and BD-05 Under Calibration	107
5.3	Comparison of computed and observed groundwater heads (m) under validation.	111
5.4	Temporal variation of groundwater table elevation at wells KR-25 and BD-05 under validation.	111
5.5	Locations of Imaginary Observation Wells for Sindhrot and Badalpur Weir	114
5.6	Water Mound Development for Sindhrot Weir at Section 1-1 on Date 14/6/2005	120
5.7	Water Mound Development for Sindhrot Weir at Section 1-1 on Date 15/10/2005	120
5.8	Water Mound Development for Sindhrot Weir at Section 1-1 on Date 16/6/2006	121
5.9	Water Mound Development for Sindhrot Weir at Section 1-1 on Date 16/10/2006	121
5.10	Water Mound Development for Sindhrot Weir at Section 1-1 on Date 15/7/2007	122
5.11	Water Mound Development for Badalpur Weir at Section 2-2 on Date 14/6/2005	122
5.12	Water Mound Development for Badalpur Weir at Section 2-2 on Date 15/10/2005	123
5.13	Water Mound Development for Badalpur Weir at Section 2-2 on Date 16/6/2006	123
5.14	Water Mound Development for Badalpur Weir at Section 2-2 on Date 16/10/2006	124

Figure No.	Title	Page No.
5.15	Water Mound Development for Badalpur Weir at Section 2-2 on Date 15/6/2007	124
5.16	Temporal variation of groundwater table elevation at well A under predictive simulation	125
5.17	Temporal variation of groundwater table elevation at well B under predictive simulation	125
5.18	Temporal variation of groundwater table elevation at well C under predictive simulation	126
5.19	Temporal variation of groundwater table elevation at well D under predictive simulation	126
5.20	Temporal variation of groundwater table elevation at well E under predictive simulation	127
5.21	Temporal variation of groundwater table elevation at well F under predictive simulation	127
5.22	Temporal variation of groundwater table elevation at well M under predictive simulation	128
5.23	Temporal variation of groundwater table elevation at well N under predictive simulation	128
5.24	Temporal variation of groundwater table elevation at well O under predictive simulation	129
5.25	Temporal variation of groundwater table elevation at well P under predictive simulation	129
5.26	Temporal variation of groundwater table elevation at well Q under predictive simulation	130
5.27	Temporal variation of groundwater table elevation at well R under predictive simulation	130
5.28	Predicted Water table Contours without Weir 16/10/2006 (12.00 AM)	134
5.29	Predicted Water table Contours without Weir 15/06/2007 (12.00 AM)	134

Figure No.	Title	Page No.
5.30	Predicted Water table Contours with Sindhrot Weir 16/10/2006 (12.00 AM)	135
5.31	Predicted Water table Contours with Sindhrot Weir 15/06/2007 (12.00 AM)	135
5.32	Predicted Water table Contours with Sindhrot & Badalpur Weir 16/10/2006 (12.00 AM)	136
5.33	Predicted Water table Contours with Sindhrot & Badalpur Weir 15/06/2007 (12.00 AM)	136
6.1	Locations of Wells for Water Samples	158