

Spokane Valley – Rathdrum Prairie Aquifer Study

Ground-Water Levels in the Spokane Valley-Rathdrum Prairie Aquifer

Presented by

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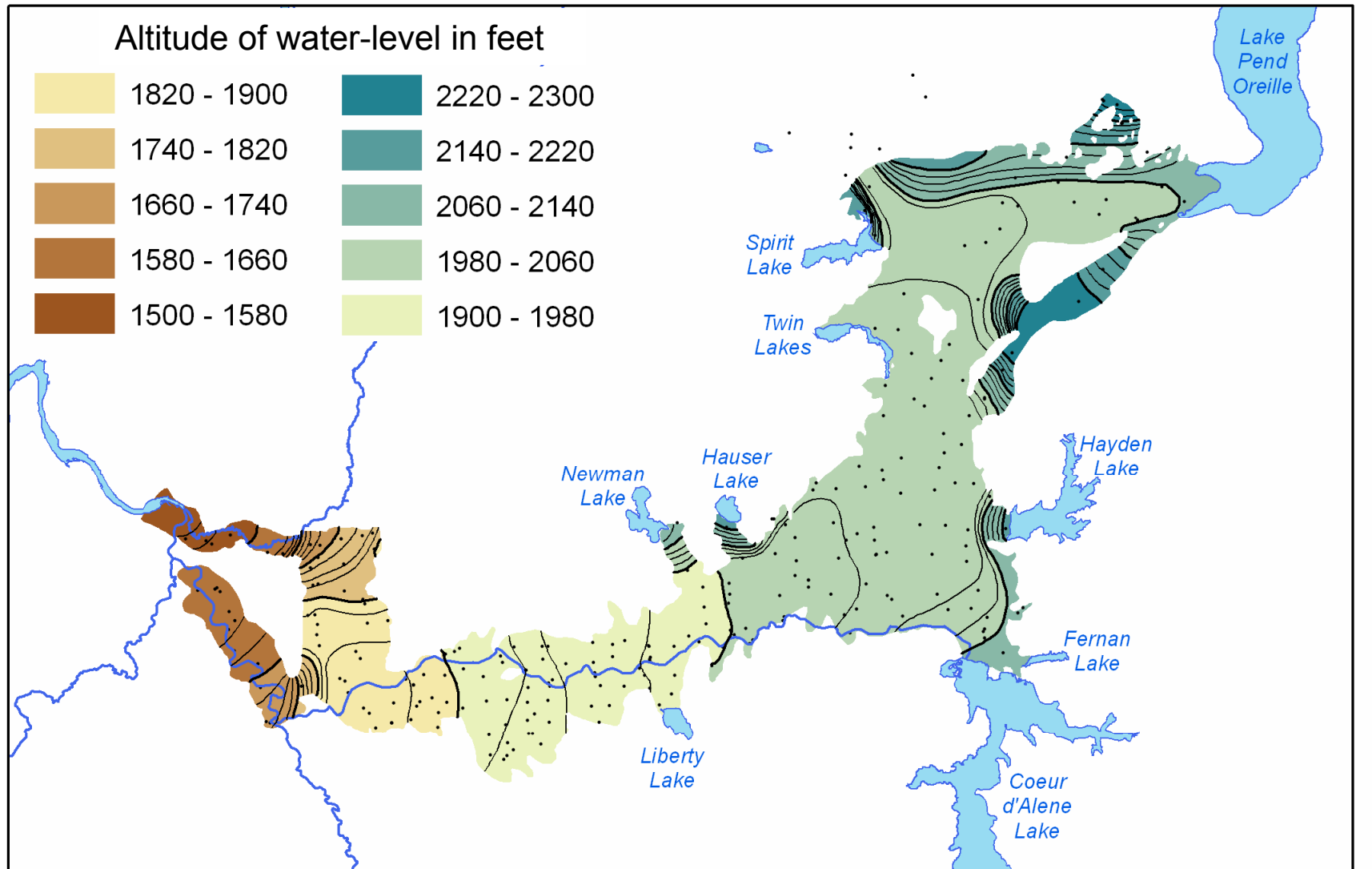
Outline

- Water-level data
- Synoptic water levels Sept 2004, Apr 2006
- Character of water level fluctuation in different parts of the aquifer
- Change in water levels from September 2004 to April 2006
- Conclusions

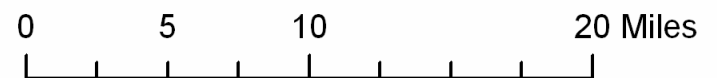
Water-Level Data

- Synoptic water-level measurements in 268 wells during:
 - September 2004
 - April 2006
- Monthly measurements in 56 monitoring wells, from summer 2004 through 2006
- Hourly measurements in 8 monitoring wells
- Historical water-level data in 4 monitoring wells since 1993 and earlier

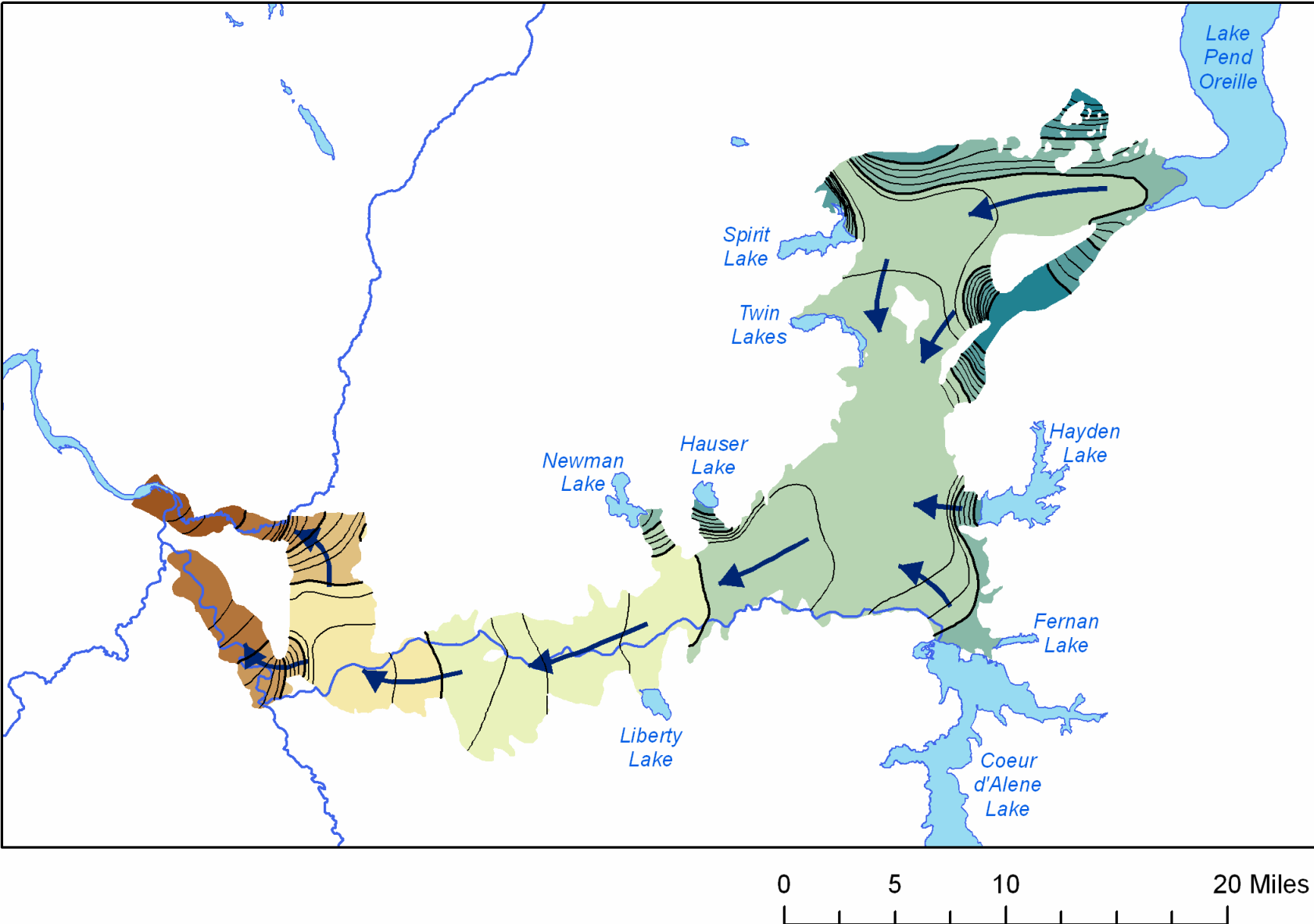
Ground-Water Levels, September 2004



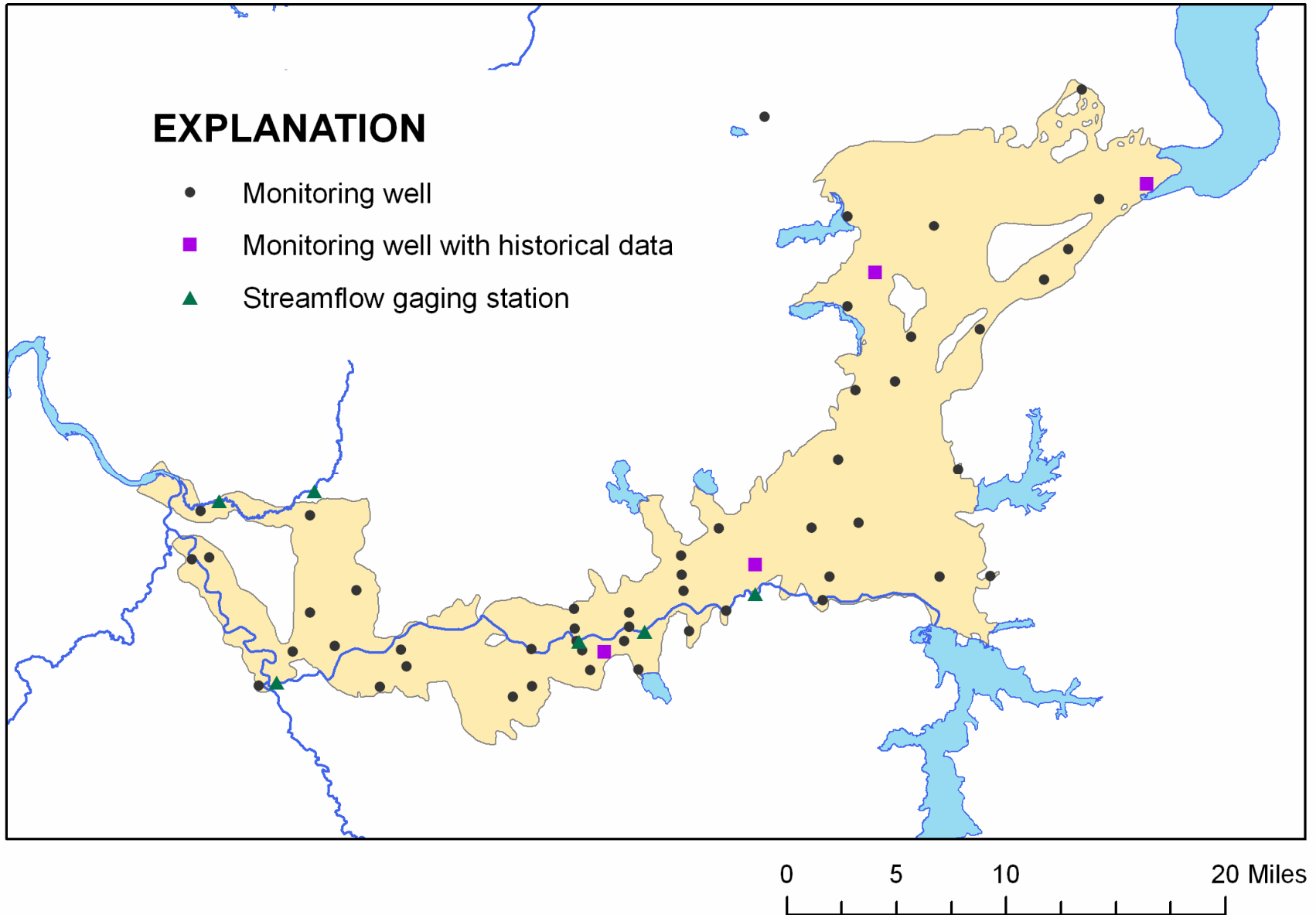
(revised after Campbell, 2005)

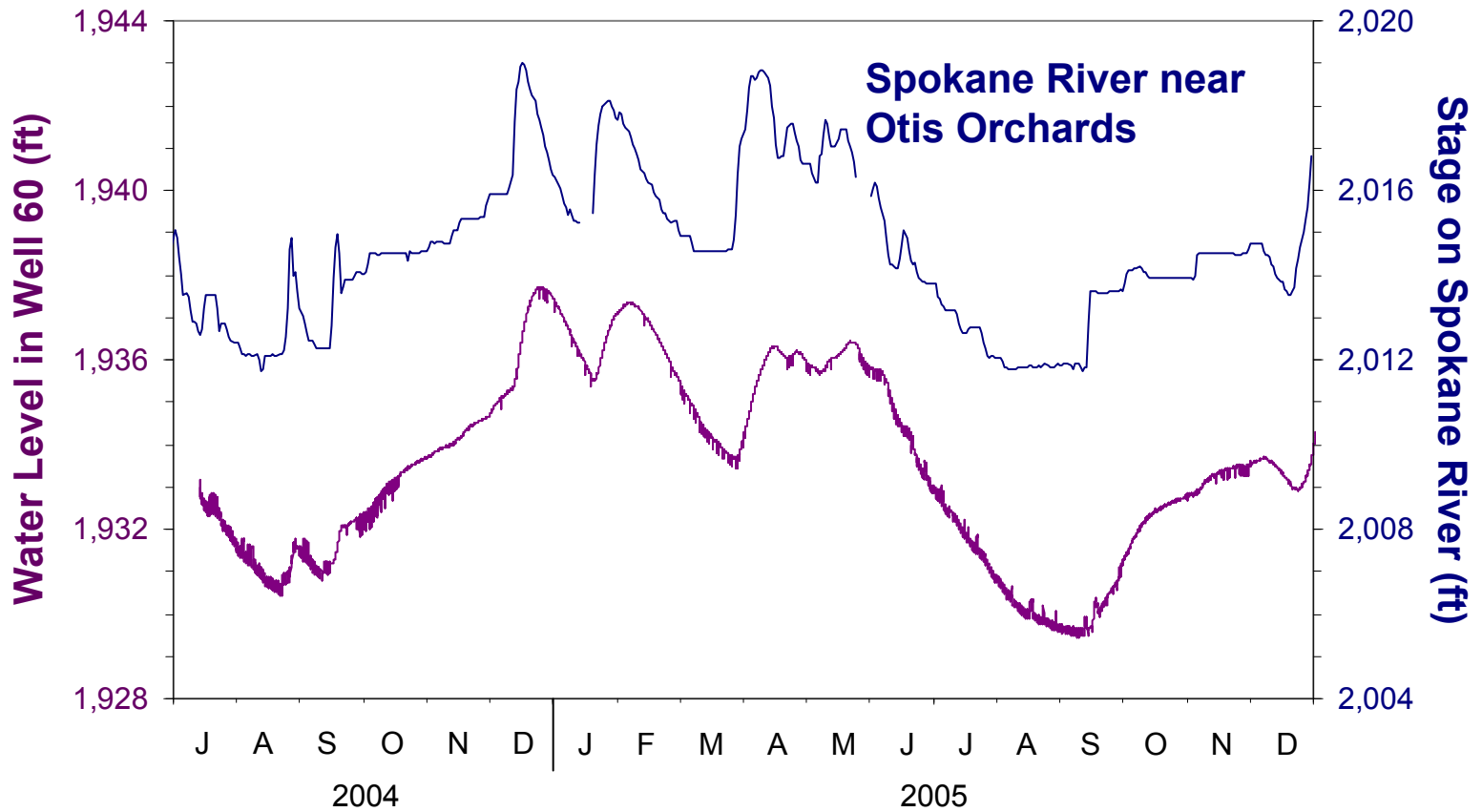


Generalized Direction of Ground-Water Flow

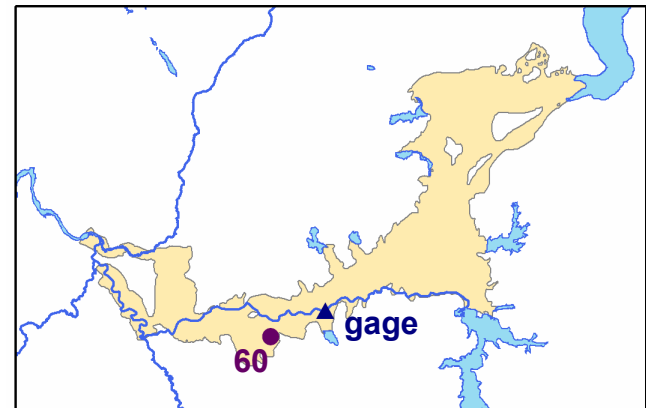


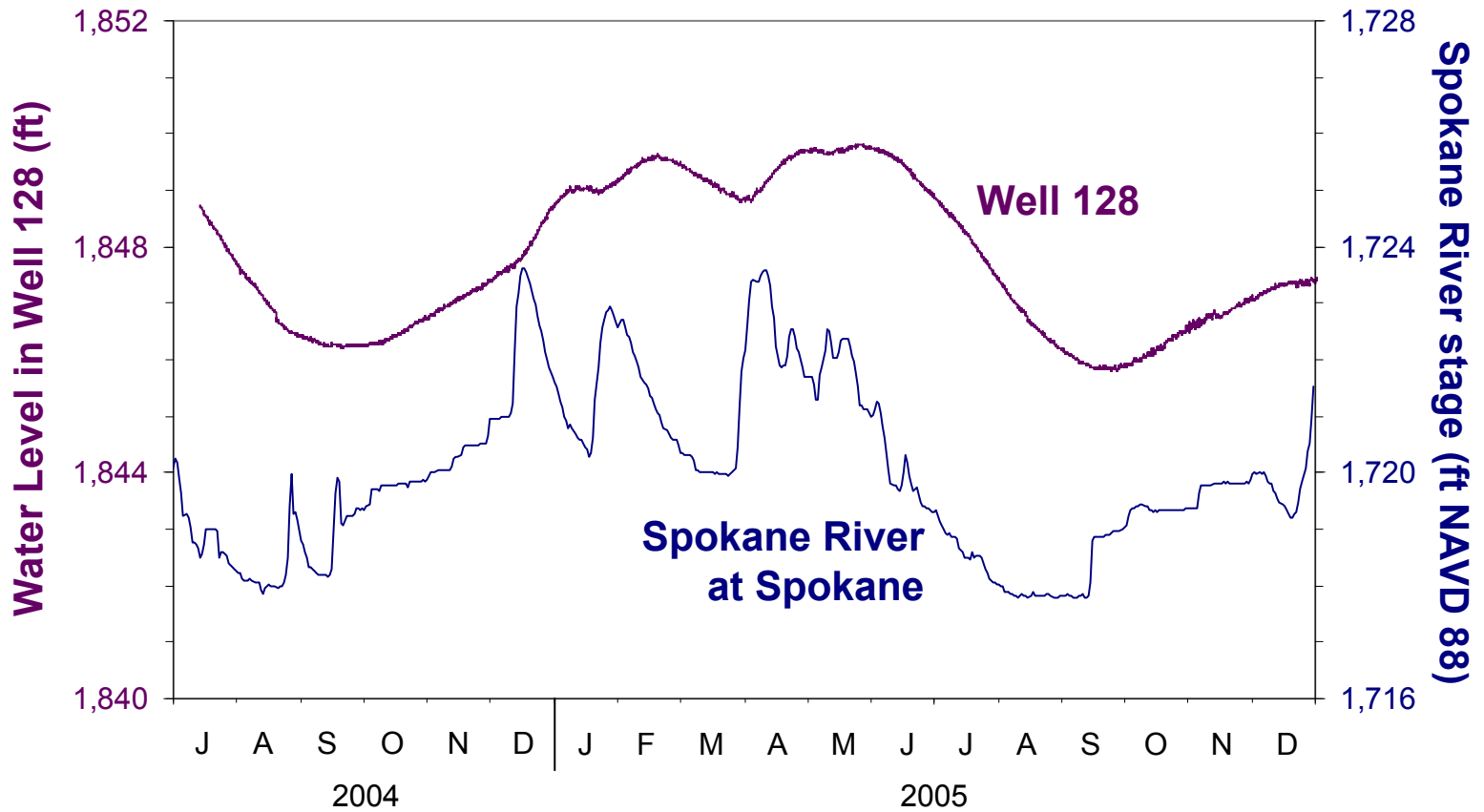
Monitoring-Well Network



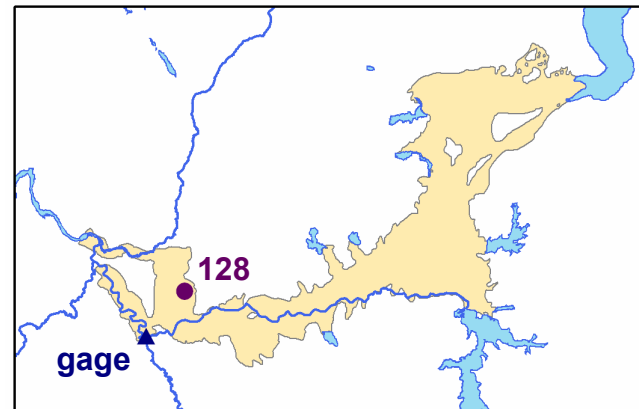


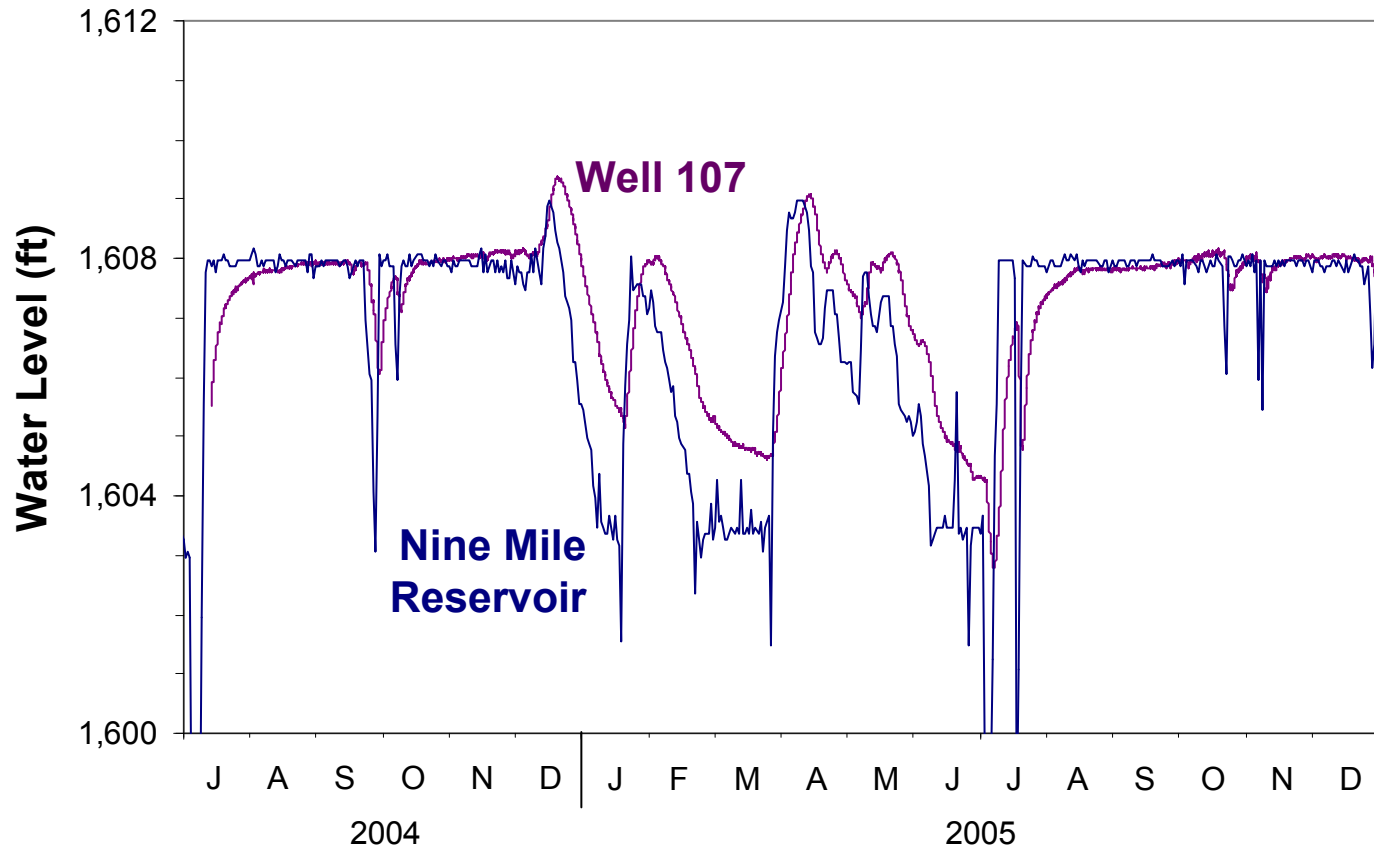
In Spokane Valley, ground-water levels are controlled by stage on the Spokane River.



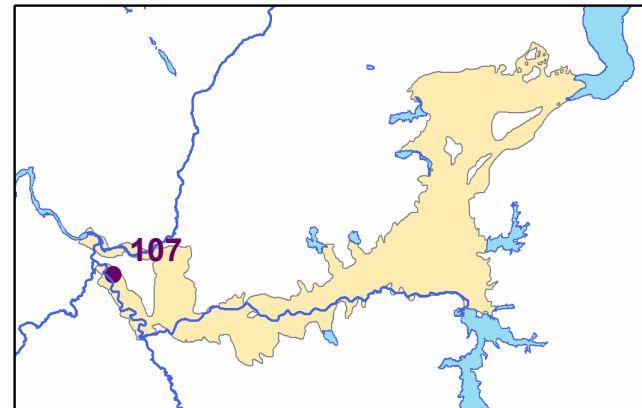


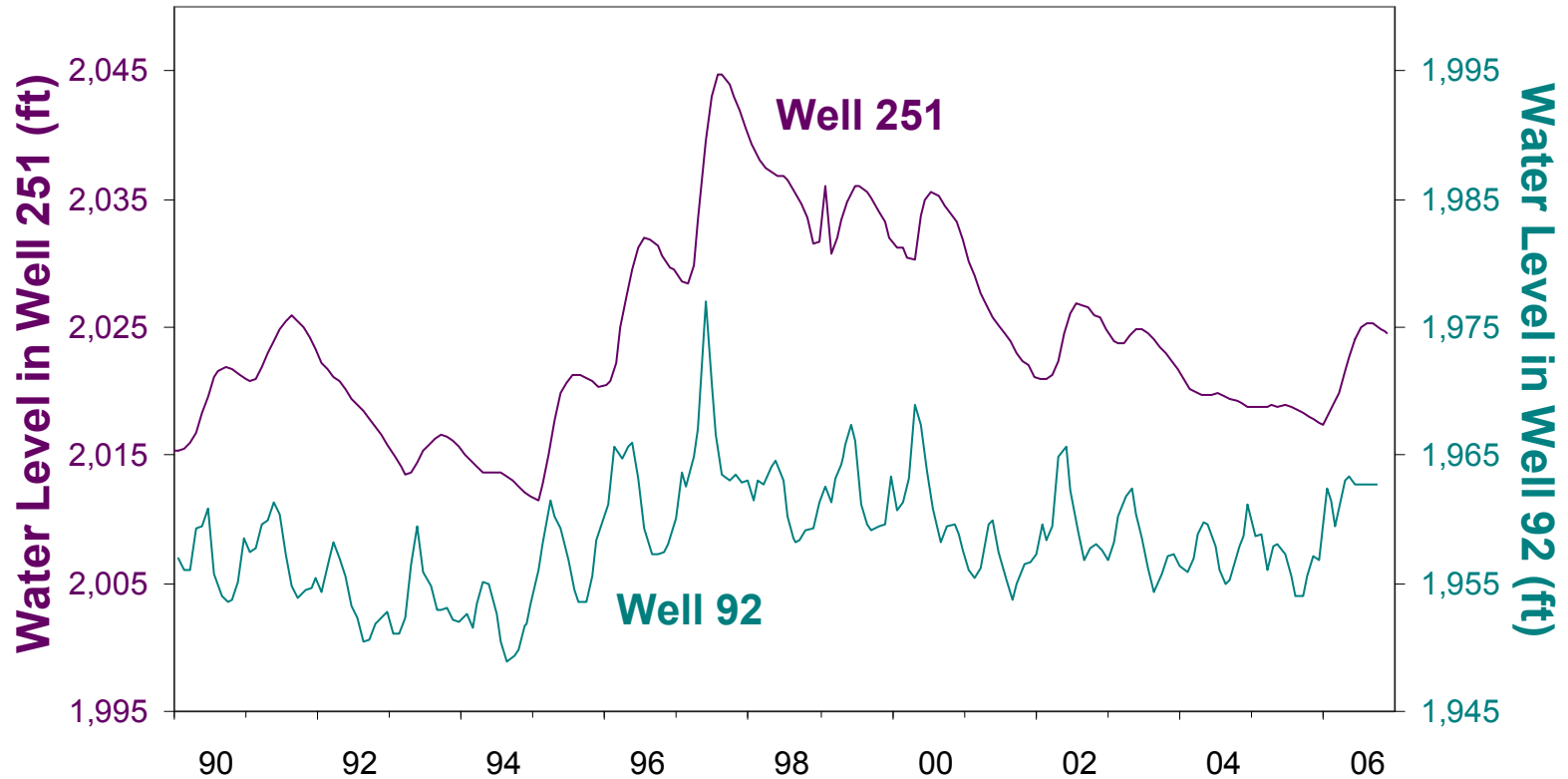
In Hillyard Trough, ground-water level fluctuations are less dynamic than those in Spokane Valley.





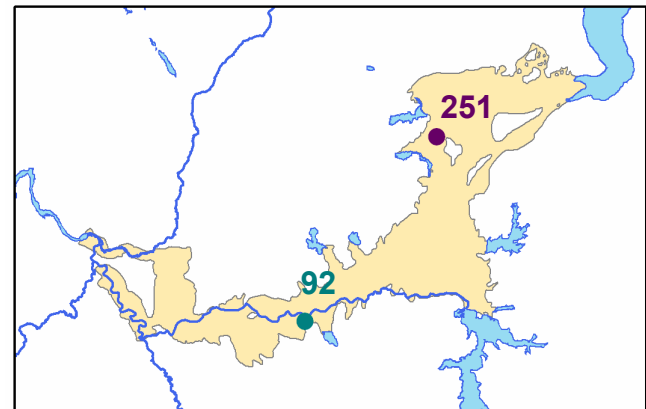
In the northern part of Western Arm, ground-water levels are controlled by the level of Nine Mile Reservoir.

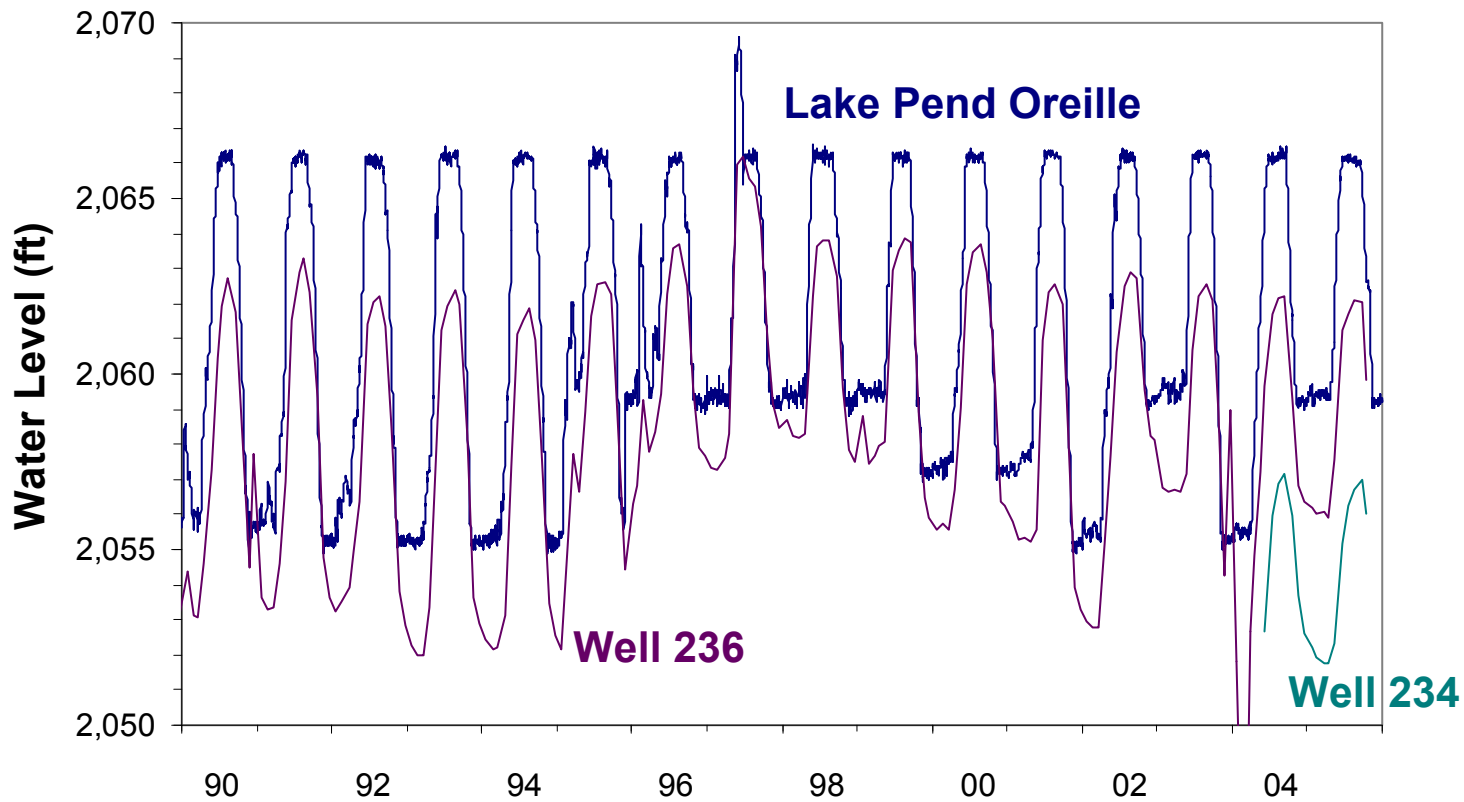




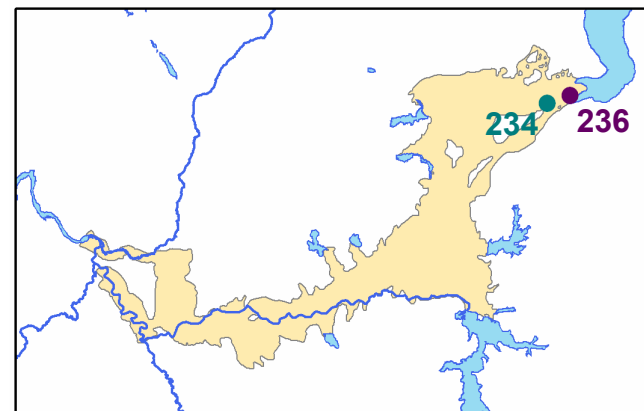
Ground-water levels in northern Rathdrum Prairie (well 251) are controlled by infiltration from precipitation.

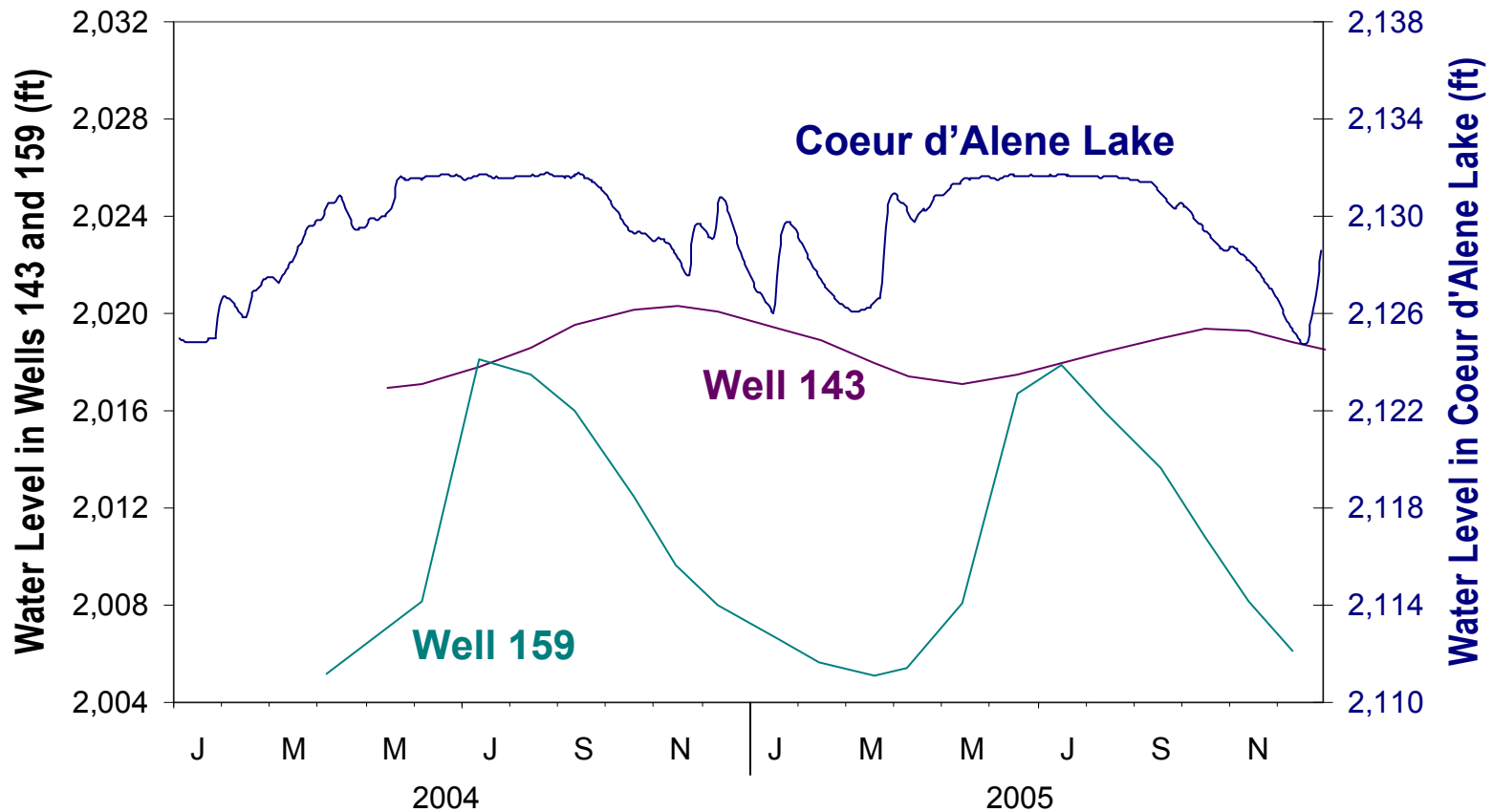
Ground-water levels in Spokane Valley (well 92) are controlled by stage on the Spokane River.



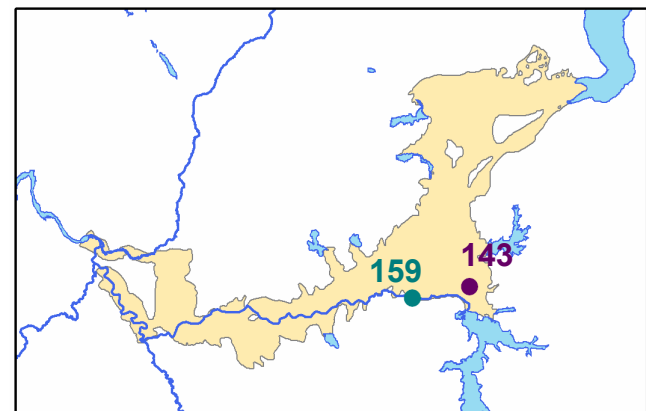


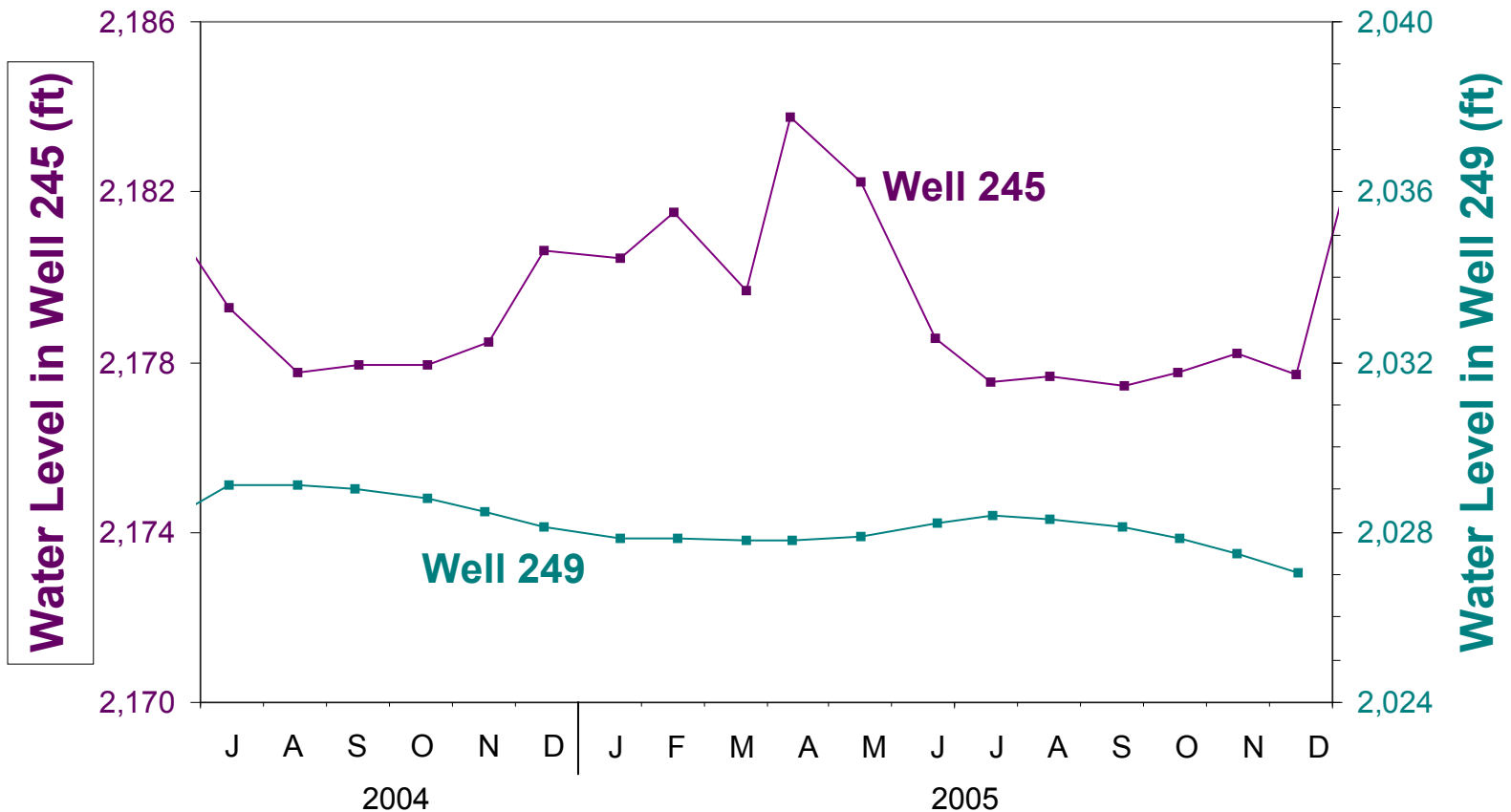
In the vicinity of Lake Pend Oreille, ground-water levels are controlled by lake level.



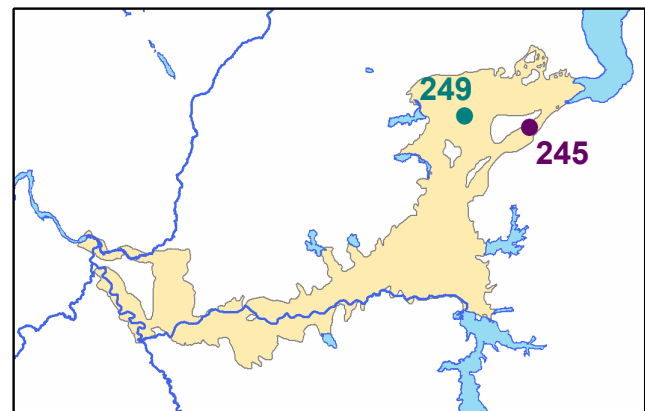


In the vicinity of Coeur d'Alene Lake, ground-water levels do not show a clear relation to lake level (and the arm of the Spokane River above Post Falls Dam).

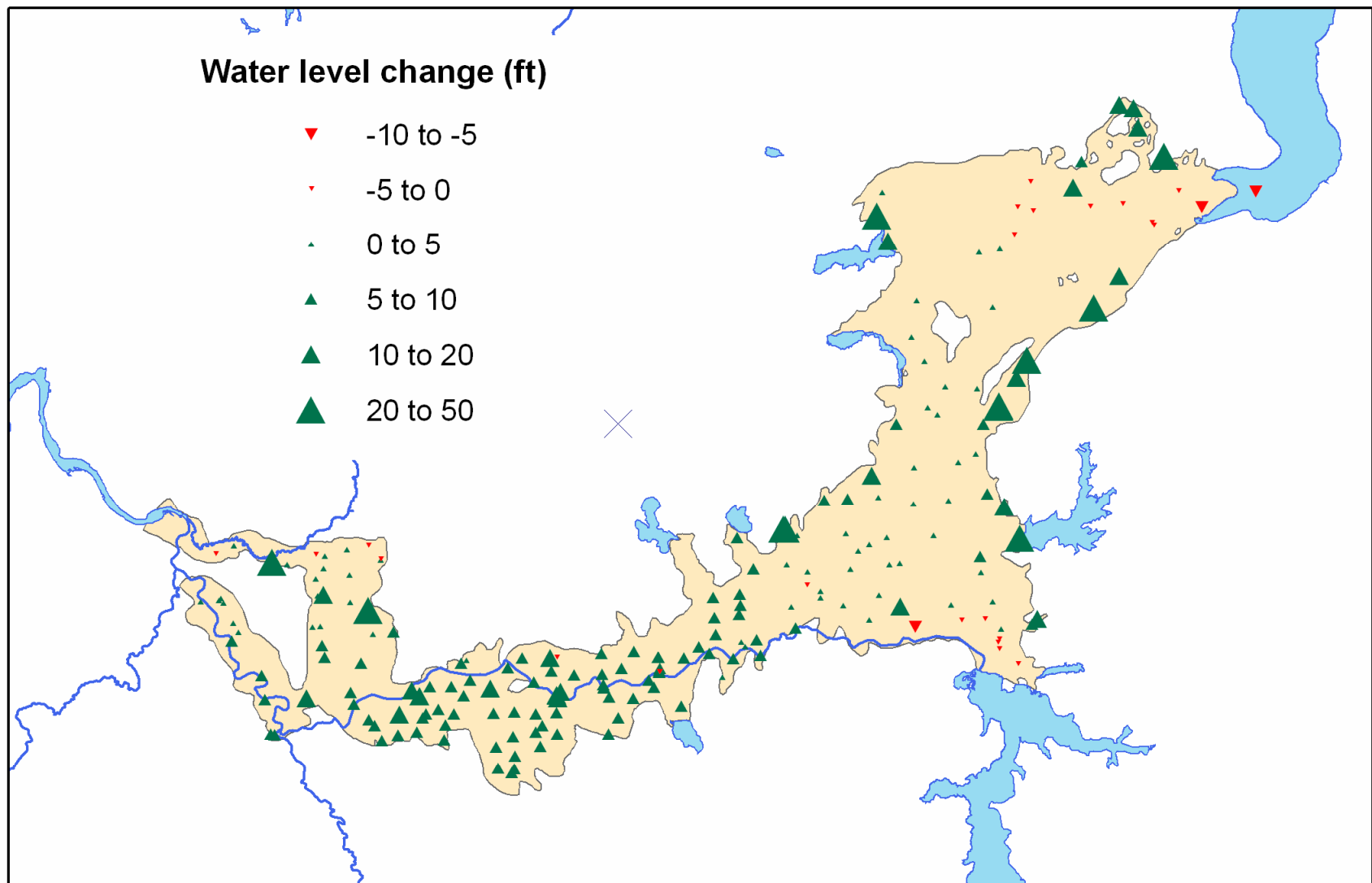




Ground-water levels along the perimeter of the aquifer are influenced by runoff from surrounding uplands and are not indicative of ground-water levels in the main part of the aquifer.



Water-level change from September 2004 to April 2006



Conclusions

- Generalized direction of ground-water flow is consistent with conceptualizations from previous investigations.
- Ground-water fluctuations are characteristic of different parts of the aquifer.
- Water-level differences between September 2004 and April 2006 support conceptualization of ground-water flow.