OUT OF BASIN TRANSFER COMMITTEE

MEETING PROCEEDINGS
Wednesday, April 9, 2003

Members Present	**Members Absent**
Kevin Cute	Julia Forgue
Jeff Hershberger	Denise Burgess
Herb Johnston	Ken Burke
Henry Meyer	Paul Corina
Alisa Richardson	Mike Covellone
Katherine Wallace	John Dubois
	Stan Knox
	Pam Marchand
	Ed Szymanski
	John Torgan

Water Resources Board Staff
Kathy Crawley
Connie McGreavey

I. CALL TO ORDER
Chair Kevin Cute called the meeting to order at 1:50 pm.

II. APPROVAL OF MINUTES
Wallace volunteered to take the minutes. The March 12, 2003, minutes were distributed and reviewed by members present at the previous meeting. They were approved after a motion from Meyer seconded by Richardson.

III. ITEMS FOR DISCUSSION
A. Clarification of March 12, 2003, Meeting Proceedings and Minutes

Following the approval of the March 12 minutes McGreavey, who had not been present at the previous meeting, requested clarification on some points regarding the discussion at the previous meeting as noted in the minutes. First, she asked Johnston what he meant when, according to the minutes, he stated that the concept of reasonable use needs to come into play with regards to agricultural water use. Johnston clarified that irrigation could be considered unreasonable when it reduces streamflow to zero. He also noted that withdrawals for public water supplies in addition to agricultural uses only further exacerbate decreases in streamflow. McGreavey also had Cute clarify that when he stated the OOBT Committee would need to investigate thresholds, this was in reference to the magnitude of interbasin transfers. Cute pointed out that other committees, particularly the Streamflow Committee, were considering thresholds and therefore it would not be necessary for the OOBT Committee to repeat the same work.

B. Discussion of Reasonable Use

Crawley stated that the *Regulated Riparian Model Water Code* (Dellapenna, 1997) defined reasonable use as the sustainable use of the resource. However, currently in Rhode Island reasonable use including that by farmers means a use that does not interfere with other farmers' activities. It is not based on the sustainable use of the resource. McGreavey noted that currently agriculture is exempted from water allocation laws. She and Richardson also stated that this continued exemption would be an issue for the lawyers.

Johnston believes that reasonable use should be a function of streamflow, and Meyer added that reasonable use as a function of streamflow would have to apply to all users, withdrawals, and their cumulative impacts. The Committee then discussed areas in need of further stream gauging in order to demonstrate the impacts of withdrawals on streamflow. Meyer noted that the Water Uses Committee was studying areas in need of gages, and Johnston suggested cheaper gauging methods.

C. Discussion of Growth Management Implications of Interbasin Transfer Regulations

Cute mentioned that the Special Area Management (SAM) Plans administered in Rhode Island's coastal zone prohibit interbasin transfers among the separate salt pond watersheds. This measure protects the salt pond ecosystems and limits development that may occur in the region. He asked whether similar interbasin measures should be adopted for all of Washington County in order to limit the growth in an area of the state facing some of the greatest development pressures. Discussion ensued as to which agencies had the appropriate jurisdiction to impose such prohibitions or regulations. Cute noted that CRMC only had authority over the coastal zone. Richardson stated that DEM does not have such an authority currently, and McGreavey added that the WRB lacks the broader environmental authority necessary to impose such measures and suggested a state version of the U.S. National Environmental Policy Act (NEPA) may be an appropriate measure to come out of this process. Crawley stated that some municipalities considered carrying capacity when approving new subdivisions but that the WRB was not involved in the permitting review process of the quantity of withdrawals.. McGreavey noted that interbasin transfer measures could be a permitting or a registration process. Hershberger added that Massachusetts instituted a permitting process for new interbasin transfers, and McGreavey predicted resistance to a new permitting program. She also stated that the *Regulated Riparian Model Water Code* provides the basic premise of maintaining resources while acknowledging that it is not possible to prohibit all interbasin transfers. Some are necessary as emergency interconnections. However, the *Code* does state that interbasin transfers should be a last resort after all other steps are taken to provide water. Johnston suggested a caveat requiring applicants to prove that they had exhausted all other options and to provide documentation and proof that water resources were protected. Ideally a water allocation and interbasin transfer program must be based on the availability of water in various regions, and currently it is not. He added that there will be no more streamflow in certain stressed basins if uncontrolled development continues. Richardson agreed, saying that Fish & Wildlife and water districts were already aware of this.

The group noted that any interbasin transfer regulation would have to include a significance threshold. Johnston added that it was necessary to provide a clear definition of a basin and what constituted an interbasin transfer. Crawley suggested that thresholds should vary based on the size and location of the basin of origin, and Richardson suggested basing thresholds on percentage of streamflow. McGreavey described various interbasin transfer thresholds in other states. In Massachusetts, a significant transfer is any withdrawal transferring greater than 1 million gallons per day out of basin. Ohio regulations base minimum significance thresholds on the percentage of streamflow that is withdrawn from the basin. South Carolina sets maximum allowable thresholds based on the percentage of streamflow. Johnston noted that it is more difficult to maintain sustainable groundwater withdrawals than surface water withdrawals because groundwater is necessary to maintain streamflow. Meyer added that the combined turf and municipal withdrawals had a more dramatic impact on areas without surface reservoirs. Richardson stated that it is DEM's opinion that interbasin transfers from groundwater sources such as those occurring in the Pawcatuck Basin are an environmental problem whereas withdrawals and transfers from surface basins such as the Scituate Reservoir system are not as serious an issue. She therefore felt that surface and groundwater interbasin transfers ought to be regulated differently.

Meyer brought up the necessity of considering the next step to developing interbasin transfer measures. He pointed out that the courts would need a definitive standard in order to demonstrate why interbasin transfers should be treated differently across various basins. Standards must be applied equitably throughout the state. He added that it is currently difficult for water districts to deny providing new water supplies to developments in areas that have approved ISDS or municipal wastewater treatment. However, ISDS and sewering permits fail to consider issues of water quantity. Richardson concurred, adding that the local Facilities Plans do not include water quantity criteria and this needs to be better incorporated in the State Guide Plan.

Meyer voiced that individual sewage disposal systems (ISDS) should be encouraged. However, they needed to be evaluated regionally and not just individually in order to better understand the impacts of a group of septic systems on groundwater resources. Crawley noted that improvements in ISDS technology made areas previously constrained by soil type or high water tables buildable, thus increasing development in some areas. Hershberger mentioned that Massachusetts attempted to control this at the local level. He also noted "smart developments" including onsite wastewater treatment. Richardson stated that one consequence of interbasin transfer regulations could be the proliferation of package plants. This could lead to new regulatory issues associated with enforcing multiple operators. Meyer added that towns may hesitate to assume the responsibility for the operation of package plants in order to save on capital expenditures. Therefore package plants may be managed individually or by homeowners' associations, and this may not be the best long-term management solution.

Cute summarized the interbasin transfer regulation discussion by stating that the Out-of-Basin Transfer Committee recommends to the entire Water Allocation Program the prohibition of interbasin transfers as an enforceable regulation to limit growth. These

measures would be similar to those already imposed by the SAM Plans. It would treat regions as ecosystems and give the state authority over local controls in order to protect these ecosystems. These interbasin transfer regulations would be applied to basins that are either stressed or facing significant development pressures.

D. Interstate Transfer Issues in Westerly

This topic was postponed until the next meeting because of the absence of Chris Duhamel who was meant to lead the discussion.

E. Summary of Water Use and Water Transfers in the Chipuxet Subbasin

Meyer presented the records that he had assembled of withdrawals from the Chipuxet aquifer from 1954 to present by the Kingston Water District. He also showed monthly production figures for the past 10 years and the distribution of water sales per household throughout the water district. The Kingston Water District's historical pumping data demonstrate a significant increase in withdrawals of approximately 20-fold since the 1970s. Meyer noted that United Water Rhode Island and other water districts in the area would have experienced changes within the same order of magnitude because development has mushroomed in Washington County. He added that domestic per capita daily water use varied largely according to the age of the dwelling and the age of the inhabitant. Newer residences tended to have higher water consumption because of more recent landscaping requiring greater irrigation. Further, elderly residents tend to use on average less water per capita. Nevertheless, even among the highest water users consumption has decreased over the last fifteen years. Meyer will continue to analyze annual trends in consumption within the Kingston Water District. At this time he was restricted because withdrawals are recorded by the calendar year and consumption is billed by the fiscal year. Cute concurred that this discussion could continue at the next meeting.

Meyer also discussed transfers of water by the Kingston Water District out of the Chipuxet subbasin. Approximately 1/3 of water pumped by the District is consumed and recharged in the subbasin. An additional 1/3 of the total water pumped is consumed within the Chipuxet subbasin but transferred out of the subbasin through the municipal sewer system. The final third of the water is consumed beyond the subbasin boundaries. Meyer added that discussion must include how to realistically recharge these withdrawals back into the subbasin. He also stated that the largest interbasin transfer considerations in the Chipuxet subbasin involved managing the exports of water by sewer systems, public supply systems, and irrigators. Together, these withdrawals were creating an increase in interbasin transfers. Richardson asked whether the goal would be to recover water or merely stem the tide of increasing interbasin transfers.

F. Definitions for "Basin" and "Interbasin Transfer"

Johnston presented his revised definitions of "basin" and "interbasin transfer" that he had distributed to the Committee since the last meeting. He suggested adopting the following definition of a water basin: "an area of land from which all waters drain, on the surface or beneath the ground, to a common point or altitude." Johnston stated that he added "altitude" to this definition in order to incorporate subsurface drainage to coastal areas.

Altitudes are those defined by the USGS National Geodetic Vertical Datum (1929). He preferred this definition because it overcame the issue of scale since it would be scaleable to different scenarios. It is legally defendable although in the future it will be possible to further specify whether this definition uses HUC-10 or HUC-12 boundaries as delineated by the Natural Resources Conservation Service. Crawley stated that there is some disagreement regarding the exact HUC-10 and HUC-12 boundaries as is apparent in the draft Pawcatuck Water Use and Availability study. Richardson noted that it is necessary to clarify whether the definition is referring to ground or surface water basins, adding that in some portions of the state these boundaries differ. Johnston concurred, suggesting that groundwater basins should be applied to groundwater withdrawals and surface water boundaries should be applied to surface water withdrawals. He added that groundwater basin divides are not completely delineated throughout Rhode Island and are subject to change as pumping rates increase and that further studies are necessary. Meyer noted that groundwater divides were not known prior to the initiation of groundwater pumping. Cute added that the CRMC is requesting federal funding in its current budget to further delineate groundwater basins in the coastal zone. The Committee agreed to adopt this definition of water basin and replace the previous definition from February, noting that the definition would be more specific when written into regulations.

Johnston proposed the following definition of out-of-basin conveyance: "any conveyance of water, including wastewater, by any means regardless of the quantity involved, out of a water basin." The Committee agreed to adopt this definition and thus replace the February interbasin transfer definition.

G. Regulator Perspective of Interstate Agreements with Connecticut and Massachusetts
Cute did not research interstate agreements with Massachusetts. However, he did speak with Elizabeth Mapier, a Senior Environmental Analyst with the Inland Water Division of the Connecticut Water Bureau. She noted specific provisions in the Connecticut codes regarding interbasin transfers but did not know of anything about interstate agreements. Cute said that he would research this issue further and distribute his email from Mapier to the Committee. The Committee agreed to review this and the *State of Georgia Final Report of the Joint Comprehensive Water Plan Study Committee* (August 2002) as it applied to interbasin transfers and interstate agreements.

IV. ITEMS FOR ACTION

Crawley stated that the two tasks of the Out-of-Basin Transfer Committee were (1) to provide definitions of key terms and (2) to determine thresholds to which these definitions should be applied. She noted that the Water Allocation Program Development process should be completed by December 18, 2003. Therefore committees are beginning to outline their preliminary findings and recommendations for further research in order to prepare their final committee reports. McGreavey noted that the Out-of-Basin Transfer Committee is scheduled to present to the entire group in August.

A. The Committee as a whole will review the draft Pawcatuck Water Use and

Availability study and the *State of Georgia Final Report of the Joint Comprehensive Water Plan Study Committee* (August 2002). Hershberger and Richardson will look at the numbers and methodologies provided in the draft report in order to determine next steps for the Committee.

B. Meyer will continue his analysis of water consumption and interbasin transfers within the Kingston Water District.

C. Johnston will finalize his water basin and out-of-basin conveyance definitions so that they may be included as deliverables.

D. Cute will continue researching interstate agreements.

E. Hershberger and Johnston will continue to review the *Regulated Riparian Model Water Code* and its application in other states.

F. Hershberger will incorporate Meyer's Kingston Water District consumption numbers into the GIS maps of the subbasin.

G. Richardson will evaluate land use upstream of the Chipuxet River streamflow gage.

H. Crawley and Cute will continue the discussion of the applicability of the CRMC's interbasin transfer policies to elsewhere in Rhode Island.

V. OTHER BUSINESS

The next meeting was scheduled for Wednesday, May 14. The location is to be determined.

Respectfully submitted,

KatherineWallace	Kevin Cute
Brown University	RI Coastal Resources Management Council