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## FISCAL IMPACT REPORT

**SPONSOR** Papen & Martinez, RS      **ORIGINAL DATE** 01/29/14  
**LAST UPDATED** 01/30/14      **HB** \_\_\_\_\_

**SHORT TITLE** NMSU Water Resources Research Institute      **SB** 179

**ANALYST** Hartzler-Toon

### APPROPRIATION (dollars in thousands)

Appropriation		Recurring or Nonrecurring	Fund Affected
FY14	FY15		
	\$2,000.0	Recurring	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

### ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY14	FY15	FY16	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
<b>Total</b>		\$2,000.0	\$2,000.0	\$4,000.0	Recurring	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

Duplicates Appropriation in the General Appropriation Act: New Mexico State University, Water Resources Research Institute

Duplicates HB 25, New Mexico State University Water Resources Research Institute

Relates to Appropriation in the General Appropriation Act:

- Office of State Engineer
- Interstate Stream Commission
- Public Education Department, Early College High Schools

### SOURCES OF INFORMATION

LFC Files

#### Responses Received From

New Mexico State University (NMSU)

Office of State Engineer (OSE)

### SUMMARY

#### Synopsis of Bill

Senate Bill 179 appropriates \$2 million from the general fund to NMSU to support the operations of the Water Resources Research Institute (WRRI). The funds are nonreverting.

**FISCAL IMPLICATIONS**

The appropriation of \$2 million contained in this bill is a recurring expense to the general fund. Any unexpended or unencumbered balance remaining at the end of FY15 shall not revert to the general fund.

In FY14, the WRRRI received a general fund appropriation of \$216 thousand to conduct research and award grants to faculty and student researchers. For FY15, NMSU requested an increase of \$350 thousand, for a total general fund appropriation of \$566 thousand, or an increase of 148 percent over the FY14 funding level.

For FY15, the LFC recommended a FY15 general fund appropriation of \$317.2 thousand, a \$101 thousand or 47 percent increase over FY14. The increase included sufficient funding for the 0.75 percent increase to the education retirement fund pursuant to Section 22-11-21 NMSA 1978. The increase also would fund additional faculty research seed grants and student water research grants.

The Executive recommended \$2.2 million for FY15, a more than 900 percent increase for the program. NMSU’s initial request for an additional \$350 thousand included funding for 1 FTE, \$200 thousand more for research grants, and \$70 thousand for a hydrologic data system. The Executive’s recommendation would include

(in thousands)	Recommendation Line-Item	Description
\$800.0	State Water Budget	Develop annual, statewide water assessment of surface water, groundwater, soil water, precipitation, and evapotranspiration; involve key water researchers, agencies, stakeholders
\$450.0	Research Advisory Framework to Coordinate Long-term Water Research	Establish a framework or “center” of researchers who can work with researchers, industry, and water management agencies to apply research-based solutions to regional and basinwide issues.
\$300.0	Center for Water Excellence, that includes	
	• \$150.0 thousand – Water New Mexico Prize	Prize for high schools, universities, and NM researchers; evolves into international prize
	• \$150.0 thousand – Early College High School (ECHS)/“NM Water Preparatory Institute”	ECHS offer a water-focused STEM program to train leaders and support water sustainability
\$100.0	Faculty – Regional Water Budget Scientist	FTE to analyze data; assist urban, environmental, industry, and other leaders. Position includes \$300 thousand in matching federal funds.
\$100.0	Water Policy and Research Applications Scientist	FTE will apply water research to solve drought and water scarcity problems, leading to new data-drive policy directives.
\$120.0	Faculty Water Research Seed Grants	Fund 4 projects, with grants to NMSU, UNM, and NM Tech faculty.
\$60.0	Student Water Research Grants	Fund 12 grants for students at NMSU, NM Tech, UNM, ENMU, NMHU, WNMU, Diné College, and NNMC
\$70.0	Hydrologic Data Acquisition and Synthesis	Fund purchase, process, synthesize, and deliver data for use by researchers and the public. System will lead to new data streams that use remotely-sensed satellite data for monitoring state’s water status.
<b>\$2,000.0</b>	<b>Total</b>	

In sum, NMSU states that the additional \$2 million in funding will

- 1) support New Mexico faculty in conducting critical water research that will help solve the state's water problems, thereby impacting every sector of the state's economy,
- 2) train water scientists, technicians, and managers of the future by graduating students primarily in the STEM fields and providing New Mexico a well-educated work force in water-related fields,
- 3) coordinate water research and applications as well as data acquisition, synthesis, and delivery to users throughout the state, and
- 4) help provide a sustainable water future for New Mexico.

## **SIGNIFICANT ISSUES**

The OSE states

[WRRI] was created in 1963 to support water resource research to improve the state's water management. With the severe drought conditions that continue to prevail in New Mexico, management of water resources becomes more critical. The WRRI has an aggressive plan to develop a statewide water budget, assess brackish groundwater, research fracking extraction techniques, and examine desalination technologies. Appropriation of \$2 million will help support these efforts to improve water sustainability in New Mexico.

NMSU also notes that

For New Mexico to thrive in the coming years, and for the well-being of every citizen of New Mexico, it is critical that the state's water needs are met. Every sector of our economy, including jobs, education, culture, and health relies on available and good quality water. Now more than ever, solving problems associated with the scarcity of water throughout the state of New Mexico requires an intense research effort by the state's very capable university faculty. For the past five decades, the WRRI has been at the forefront in assisting university researchers study of the state's pressing water issues. WRRI expansion funding will help to meet new water challenges by expanding the statewide mandate and broadening water research opportunities throughout New Mexico.

## **PERFORMANCE IMPLICATIONS**

The bill does not include performance measures. While WRRI completes performance reports annually as part of the HED's budget process for research and public service projects, very few of the existing metrics would apply to the line-items listed above.

Given the broad objectives of the recommendation, it may be appropriate for WRRI to work with end-users of the research and products listed to define performance metrics. In addition, since projects may require collaborative efforts, timelines for completing projects should be articulated. While the appropriations in SB 179 are nonreverting, the state should still expect a reasonable timeline to evaluate whether funds are being spent and spent effectively.

NMSU suggests a performance measure to gauge the productivity of faculty and student grants includes securing additional funding.

It is unclear whether the acquisition of the hydrologic data system must subscribe to state procedures for information technology purchases and usability.

It is unclear what performance measures should be applied to the ECHS/water preparatory institute.

A performance measurement should be developed to determine whether or how the Water New Mexico Prize benefits the state.

## **ADMINISTRATIVE IMPLICATIONS**

While WRRRI currently receives state and other funding, the scope of the appropriation significantly expands the institute's current efforts. It is anticipated that additional agreements may be necessary for data sharing and access.

## **DUPLICATION**

SB 179 duplicates the WRRRI's current appropriation in the General Appropriations Act.

## **OTHER SUBSTANTIVE ISSUES**

WRRRI is a statewide institute serving all of New Mexico's universities and many other institutions in the state. The program expansion may help better address the state's water challenges, particularly those due to persistent drought and water scarcity. WRRRI has consistently coordinated statewide research efforts and supported all levels of postsecondary study.

In addition to serving as leader in western water research, WRRRI has provided technical assistance to state policy makers to design water rights laws that set the standard for protecting and managing scarce water resources. Water managers and users throughout the state use WRRRI for objective, timely scientific information, and new technologies for water management. Examples of WRRRI-sponsored research that have influenced state policy include

- salinity research findings that influenced legal discussions;
- multi-partner coordination of the Brackish Groundwater National Desalination Research Facility resulted in state-of-the-art desalination projects and demonstration; and
- a pending patent for a low-energy, low-cost desalination system particularly useful in rural areas.

## **WHAT WILL BE THE CONSEQUENCES OF NOT ENACTING THIS BILL**

Between FY10 and FY12, WRRRI experienced lower general fund support, resulting in a reduction in staff, funding fewer faculty and student research projects, limiting the institute's information dissemination program, and restricting the GIS laboratory and reference room operations. NMSU states that the university will continue to seek additional funding to help WRRRI resume its former full suite of programs to meet New Mexico water challenges.

**POSSIBLE QUESTIONS**

Do any of the line-items duplicate existing projects and expertise at state agencies?

How will state and local agencies and tribal nations participate in, influence, and access WRRI's efforts and final products, particularly the development of a statewide water budget and hydrologic data center? How will these studies be used to develop a statewide water plan?

THT/ds