



## MEMORANDUM

TO: SLDMWA Board of Directors, Alternates

FROM: Scott Petersen, Water Policy Director

DATE: April 4, 2019

RE: Board of Directors to Consider Adopting Support Position on S.B. 487 (Caballero) – Department of Water Resources: aerial snow survey

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### Bill Summary

Would require the Department of Water Resources' (DWR) California snow survey program to conduct aerial surveys of the snowpack in the Trinity Alps and Sierra Nevada mountains, including hydrologic areas that drain or supply water to certain major reservoirs and lakes. The bill would require DWR to collect the aerial survey data up to 10 times annually in each hydrologic area and to summarize and make publicly available the data obtained and digital products used to produce runoff forecasts, as specified.

### Background

In 1929, the California Legislature first authorized the then Department of Public Works to “make snow surveys and to gather and correlate information for the purpose of acquiring data necessary to an annual forecast of seasonal water crop and to do all or any of such work either independently or in cooperation with one or more persons, firms, association, corporations, or other agencies, including county, state, and federal agencies.” (Stat. 1929, Ch. 702) (This authorization is now found in Water Code §228.)

Ninety years later, DWR is still conducting snow surveys, using largely the same snow sampling techniques. However, the effort has expanded greatly over that in 1929. Today, more than 50 state, national, and private agencies pool their efforts in collecting California snow data. Over three hundred snow courses are sampled each winter, with some of the original courses still in use.

One challenge with the snow survey data is that they measure snow water content at specific points in the mountains, and because of topology, staffing needs, etc., it is just not practical to have as complete a sample as one would like. Data on high elevation sites are particularly sparse.

Beginning in 2013, DWR, NASA, and others, began partnering on a project to use aerial surveys to develop much more complete information on the snow pack. The Airborne Snow

Observatory (ASO) uses light-detection and ranging lasers, more commonly known as lidar, to measure the depth of the snow while a spectrometer maps the area it covers. The spectrometer measures the snow's "albedo," or reflective quality, which indicates how much sunlight it absorbs and helps determine how quickly it will turn to water. With these data, much more accurate runoff projections can be made. The ASO has been surveying the Tuolumne, Merced, San Joaquin, Kings, and Kaweah basins. Funding for this program ends after the 2019 snow season.

## Benefit of Act

*Value of Forecasting Runoff.* According to DWR's Cooperative Snow Survey website, (<http://cdec.water.ca.gov/snow/>), "[h]ow 'wet' or 'dry' a year is predicted to be has many impacts. Public utilities need to determine what percentage of their electric energy generation will be hydro power. Good water years enable the utilities to use more hydro power and, consequently, save oil. Conversely, in a dry year, the utilities must depend more on steam generation and therefore use more oil, coal, and atomic fuel. Agricultural interests use the information to determine crop planting patterns, ground water pumping needs, and irrigation schedules. Operators of flood control projects determine how much water can safely be stored in a reservoir while reserving space for predicted inflows. Municipalities use the information to evaluate their water supply and determine whether (in a dry year) water rationing maybe needed."

*Better Measurement Should Lead to More Accurate Results.* Even with all the snow surveys across the state supplemented with data from satellites and "snow pillows", the current approach requires much statistical inference with sometimes uncertain results. According to one study, the predictions are off by 18 percent at least half the time. By measuring snow depth for the entire basin and the snow's albedo, runoff forecasts should be significantly improved.

*Continuous Appropriation.* This bill would continuously appropriate \$150 million from the General Fund to DWR to fund the aerial survey. Typically, the Legislature avoids continuously appropriating funds, as the appropriation process is one of the key checks the legislature has on the executive branch. This issue will likely be discussed more fully in the Appropriations Committee.

## Stakeholder Positions

### Organizations in Support

Friant Water Authority (Co-Sponsor) , Turlock Irrigation District (Co-Sponsor), Association of California Water Agencies, California Municipal Utilities Association, Kaweah-Delta Water Conservation District, Kern-Tulare Water District, Kings River Water Association, Linsay-Strathmore Irrigation District, Mammoth Community Water District, Modesto Irrigation District, Northern California Water Association, San Francisco Public Utilities Commission, South Valley Water Association, Tulare Irrigation District

## Organizations in Opposition

None

## Recommendation

Staff recommends to the Board of Directors the adoption of a support position for the Department of Water Resources: aerial snow survey, S.B. 487.



## MEMORANDUM

TO: SLDMWA Board of Directors, Alternates

FROM: Scott Petersen, Water Policy Director

DATE: April 4, 2019

RE: Board of Directors to Consider Adopting Support Position on A.J.R. 8 (Quirk) – Invasive Species: federal Nutria Eradication and Control Act of 2003

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### Bill Summary

Would urge the United States Congress to specifically add California to the Nutria Eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the state implement a nutria eradication program.

### Background

The federal Nutria Eradication and Control Act of 2003 authorizes the Secretary of the Interior, subject to the availability of appropriations, to provide financial assistance to the State of Maryland and the State of Louisiana for a program to implement measures to eradicate or control nutria and restore marshland damaged by nutria. Under the federal act, the federal share of the costs of the program is prohibited from exceeding 75% of the total costs of the program.

This measure would urge the United States Congress to specifically add California to the Nutria Eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the state implement a nutria eradication program.

### Benefit of Act

The bill would put the State of California on record as requesting federal funds for nutria eradication, which significantly impacts the San Joaquin Valley and have been seen around San Luis & Delta-Mendota Water Authority facilities.

### Recommendation

Staff recommends to the Board of Directors the adoption of a support position for the Invasive Species: federal Nutria Eradication and Control Act of 2003, A.J.R. 8.