PIMA COUNTY LOCAL DROUGHT IMPACT GROUP
Wednesday, July 13, 2022
2:30 – 4 pm
Via Microsoft TEAMS
RECAP

Attendance: Kathy Chavez (Pima County Office of Sustainability and Conservation), Némesis Ortiz-Declet (Arizona Department of Water Resources), Linda Mayro (Pima County Office of Sustainability), Erin Boyle (National Weather Service), Mitch Basefsky (Central Arizona Project), Jessica Rodriguez (Tucson Water), Arturo Gabaldón (Community Water Company of Green Valley), Scott Perkins (Flowing Wells Irrigation District), Cathy Kuefler (Avra Valley Co-Op), Lee Comrie (Pima Association of Governments), Justyn Dillingham (Pima County Communications Office), Marie Light (Pima County Department of Environmental Quality), Mark Johnson (Tortolita Alliance) Amanda Webb and Sami Hammer (Office of Sustainability and Conservation), Joseph Tabor (Pima County), Catlow Shipek (Watershed Management Group), George Frisvold (University of Arizona), Dara Duffy (Green Valley DWID)

1. Welcome & Introductions – Kathy Chavez, OSC, welcomed attendees and announced them.

2. Review May 11 LDIG meeting - Kathy Chavez, OSC
    a. ADWR reviewed short term and long term status
    b. Monsoon Fire Regime: Wildfire in the Sky Islands
    c. Review of Drought Stages and Updates

3. Arizona Department of Water Resources Updates - Némesis Ortiz-Declet, ADWR
    a. Short-term Drought status: Review of the past five months short term drought maps, January through May. April and May were the driest on record and short term drought increased during this time. No measurable precipitation across most of the state. Northern and western counties worsened as well as Santa Cruz and Cochise County. While June is usually the driest period, there have been some rain events and a slight decrease in drought in the southeast.
    b. Long-term Drought status: ADWR issued the January-March long-term status in July. Long-term conditions improved in the central and southeast portions of the state with more Moderate drought in the April-June report based on the SPEI. La Nina phase continues into the winter, weakening and then strengthening for a drier than normal fall and winter.
    c. ADWR updates: Joint Colorado River Shortage Briefing, Drought Learning Network, GWAICC meeting and MTC meeting reviewed.
    d. Monitoring Technical Committee met on July 6. Presentations included updates on short- and long-term drought status, on the ground drought observations, USGS Streamflow Data, and agency updates. The next meeting is tentatively scheduled for October 5.
    e. Overview of Community Water System Dashboard includes system water supplies and drought stages. Contact at ADWR is Catherine Riedel.

4. Economic Impact of Drought on Agriculture and Recreation – Dr. George Frisvold, UA
    a. Quantitative analysis of the different aspects of drought, multi-state collaboration coordinated by NIDIS.
    b. Includes drought effects on crop insurance indemnities and payments, economic losses from same, statewide impact of agricultural drought effects on national and state parks visitation and economic impact and costs of wildfire.
    c. Review of Arizona agriculture; concentration of irrigated cropland in west and central reliant on surface water and CAP and governed by AMA. Compared to livestock production reliant on unirrigated forage in north and south east. In central Arizona crop production supports feedlots and dairies.

d. Case studies;
    i. Top causes of agricultural loss – 1) Livestock forage loss (Rainfall Index Pasture, Rangeland and Forage Program, RI-PRF), and 2) Failure of Irrigation (FIS) program.
    ii. Drought is significant factor in predicting FIS loss but relevance of drought dependent on factors such as geography and temporal scope.
    iii. Economic multiplier effects impact non-agricultural industry.
    iv. Additional time in drought reduces forage availability resulting in lost grazing days.
e. Out of Arizona crop insurance indemnity, only less than 1 percent related to drought directly. Almost all crops irrigated are not impacted by drought unless there is Failure of Irrigation Supply, an indemnified cause of loss.
f. Given the large percentage of irrigation, Area Plan Crops (livestock forage) under the RI-PRF dominate insurance indemnities. FIS loss is second.
g. Decline of Gila River and San Carlos reservoir tied to FIS loss in Graham and Pinal Counties with levels so low cannot deliver water. Cotton production is prevented from even planting, loss of acres, whereas in the mid-West drought impacts crop yields and not planted acres. Result of hydrological drought and reservoir decline.
h. Drought doesn't affect livestock production using irrigated hay. Production of forage affected by different drought.
i. Drought impacts on SW Tribal economies: $1.8 million loss to Tohono O'odham cattle sector, $89,000 loss to hay sector. Losses to cattle sector are 20 times larger than to hay sector
j. Magnitude of impacts review, 2-6 million pounds in forage loss. Ranchers avoid culling and purchase feed but feed can be impacted by inter-state drought by rising corn, feed price.
k. Drought doesn't impact irrigated farmers, impacts ranchers. If irrigation district doesn't get surface water, least valuable crop is fallowed.
l. Tier 1 shortage impact in Pinal County equates to $80 million gross revenue reduction, 209-448 jobs.
m. Recreational impacts; separate analyses to Arizona's National Recreation Areas, Arizona's National Parks and Arizona State Parks. Looked at short term and long term drought. Effect of short term is positive for visitation and shifts to negative during long term drought. Rain diminishes activity in the near term but long term drought leads to increased impacts like fires and decreased visits. Measured the financial loss to Pima County from visitor spending.
n. Mild temperatures increase visits, as things warm depends on baseline. Low desert parks already hot, warmer winter in colder parks increase visits.
o. Negative recreation economic impacts range from $10's of millions of lost output and jobs.
p. Wildfire impacts, small number of large fire incidents responsible for large share of suppression expenditure. Average size of fires in Arizona has increased in past 20 years
q. Type of drought matters as they have different effects and buffers, such as reservoir levelsc affect impacts until a threshold is hit. Long term hydrologic drought has greatest impact. Arizona systems are resilient but subject to big shocks.

5. Drought Updates
    a. Review of water providers drought stages; no change
    b. Erin Boyle (NWS); Water Year to date is 2.26" normal is 5.1". June was normal but is a dry month. No rain in April or May. All months except December were below average. Potential to make up deficit with monsoons but La Niña is strengthening into the winter months. Information on monsoon tracker, https://www.weather.gov/twc/Monsoon
    c. Marie Light (PCDEQ); Dry spring interfered with the last five water quality samples. But have had 75 percent of samples collected by July 1st for the summer sampling.
    d. Mitch Basefsky (CAP); Recent Arizona Reconsultation Committee Meeting many questions about the 2-4 million acre feet of protection volume that must remain in the reservoir system.

Determined by the percent of 1991-2020 average inflow. If inflow falls below 79 percent of average it will not be possible to protect elevation levels at Lake Powell and Lake Mead. Even in an 80-95 percent inflow Lake Mead will be in a Tier 3 shortage through 2026. The worse the runoff the faster the decline. Less than 50 percent inflow in the next few years could result in deadpool at Mead. BOR has two goals, protect 3,525' elevation at Powell and 1,020' elevation at Mead.

e. Amanda Webb (Pima County); Ecological monitoring wet/dry mapping at key Pima County streams and stockpond measured in June. Increase in fish species in 2022 for Bullock Canyon, Edgar Canyon pools were silted in by flooding removing previous fish species.

6. Adjournment
    a. Next meeting September 14th