

Adaptive Management

UDWR and cooperating partners attempt to count all occupied leks three times each year. A lek is defined as having ≥ 2 strutting males attending the same location for ≥ 2 years; not necessarily two consecutive years. Active leks are any lek that has been attended by male sage-grouse during the annual strutting season. Inactive leks are those where it is documented that no strutting activity has occurred during the course of a strutting season, when the lek was visited at least three times during the strutting season under good survey conditions. Presence can be documented by observation of birds using the site or by signs of strutting activity (e.g. footprints, droppings, feathers). An occupied lek has been active during at least one strutting season within the last 10 years. An unoccupied lek is defined as having no males counted in > 10 years, and can be classified as either destroyed or abandoned. Undetermined leks are any leks for which lek activity has not been documented for > 10 years, but survey information is inadequate to designate the lek as unoccupied, or strutting males have only been observed on one occasion.

Lek counts have been conducted in Utah since 1959 as an index of sage-grouse population sizes and trends. Field survey methods and recording procedures are standardized to ensure that the most consistent and comparable data is collected both through time and throughout the state. Lek counts are the best method to determine long-term population trends statewide, and within each Sage-grouse Management Area. Lek counts are used for analyzing population trends, estimating population size, and are often the focal point of populations, especially non-migratory populations.

All known sage-grouse leks (occupied and unoccupied) are recorded in a geographic information system (GIS). Utah has 514 known leks. Of the 514 known leks, 369 (72%) are occupied, 116 (23%) are unoccupied, 29 sites are undetermined. Seven counties do not have any known occupied leks; Davis, Grand, Millard, Salt Lake, Sanpete, Weber, and Washington.

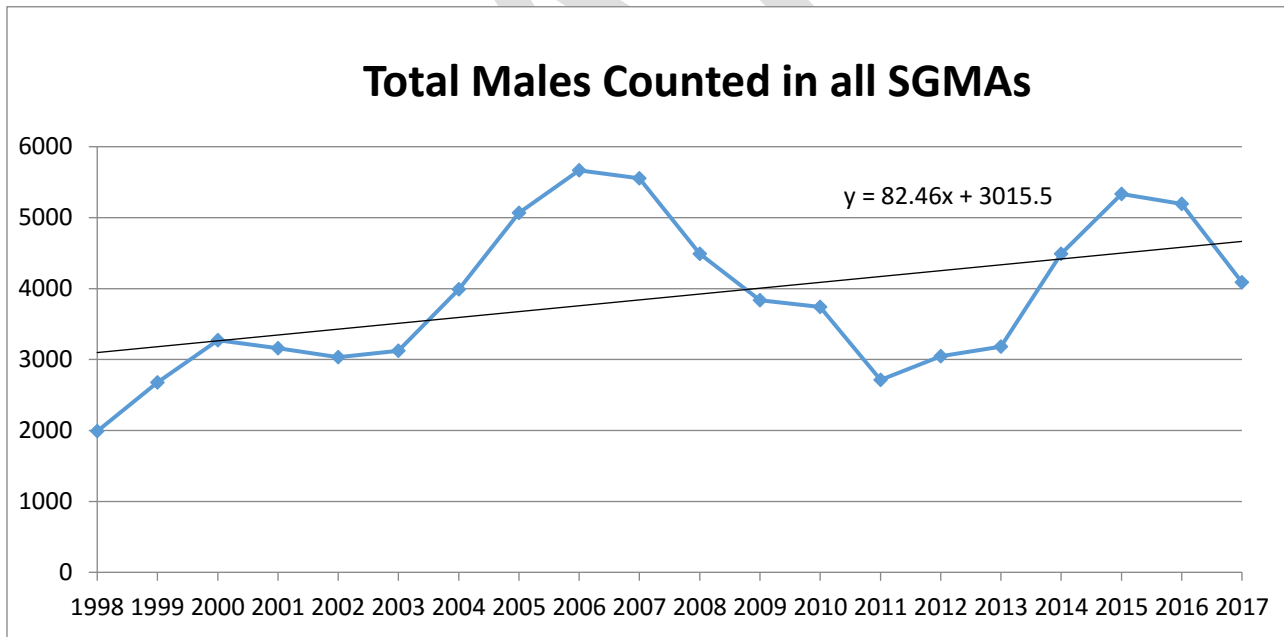
Most lek count data for Utah was collected after 1967, with Box Elder, Rich, and Summit counties starting earlier. Throughout the following decade and continuing to the present, efforts have focused on annual counts of existing leks and searches to discover unidentified new leks throughout the state. The number of leks counted has increased over time, as new leks have been located. Only 13 leks were counted in 1961, which is the lowest number since lek counting began in 1959. The highest number of leks visited was in 2016, with 378 leks visited. Deep and persisting snow pack, making it difficult to access lek locations, explains much of the variability in the number of leks counted through the years.

Using those data, the statewide population trend, as well as the population trend within each SGMA, will be evaluated annually to determine if each population is generally stable, increasing or decreasing. Population trends will be evaluated over a 20-year period — which incorporates two population cycles into the evaluation — and minimizes bias in light of natural fluctuations. A trend line (i.e., a regression line) will be fit to the most recent 20 years of data, with the slope of the line representing the long-term population growth rate (λ). If the long-term population growth rate (i.e., slope) is approximately equal to or greater than 1.0, it is an indicator the population is stable or growing. If the population is stable or growing, no additional management action is needed beyond that which is already taking place.

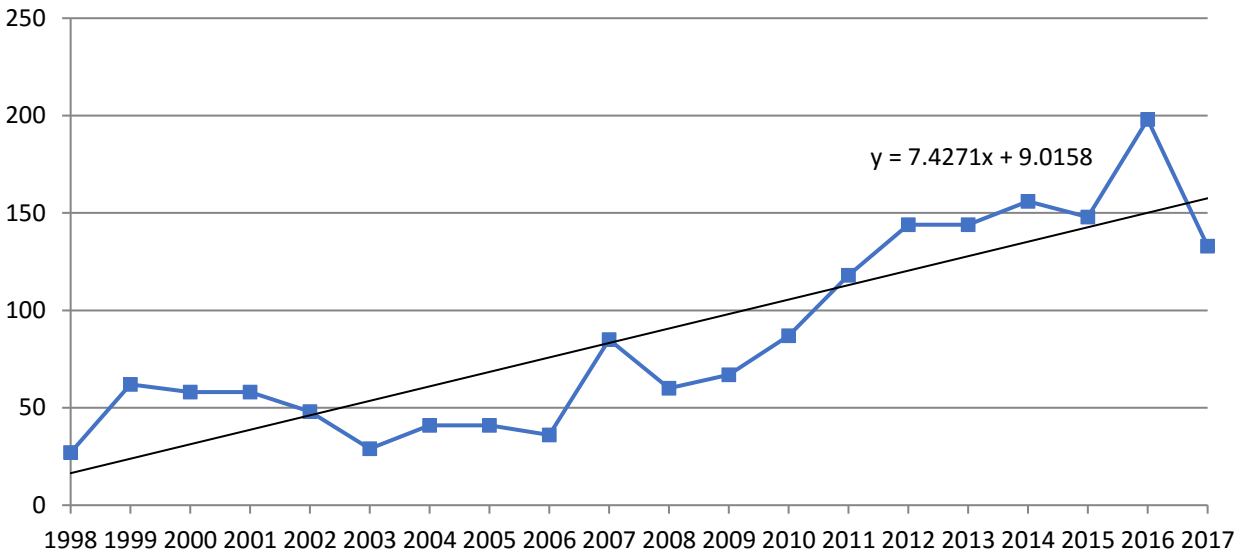
If the population growth rate is less than 1.0, it is an indicator the population is declining, and new management actions are needed in order to reverse that decline. If a population is determined to be in decline using these methods — or if other information indicates that the population could soon be in decline — resource experts from state agencies, federal land-management agencies and other affected stakeholders will convene in LWG meetings to determine the causal factors for the decline. Then, they will decide on the appropriate responses and strategies to address those causal factors (e.g., population translocations, predator control, habitat improvements). The conservation plan for the affected LWG will be updated to adaptively respond to those findings.

The appropriate management responses (e.g., translocations) will be implemented in a manner and for a duration deemed appropriate by resource experts and the relevant LWG. If, in the course of that implementation, an SGMA is no longer occupied after 10 years, then PLPCO — in careful coordination with UDWR — may revise SGMA boundaries and designations to re-prioritize statewide conservation actions.

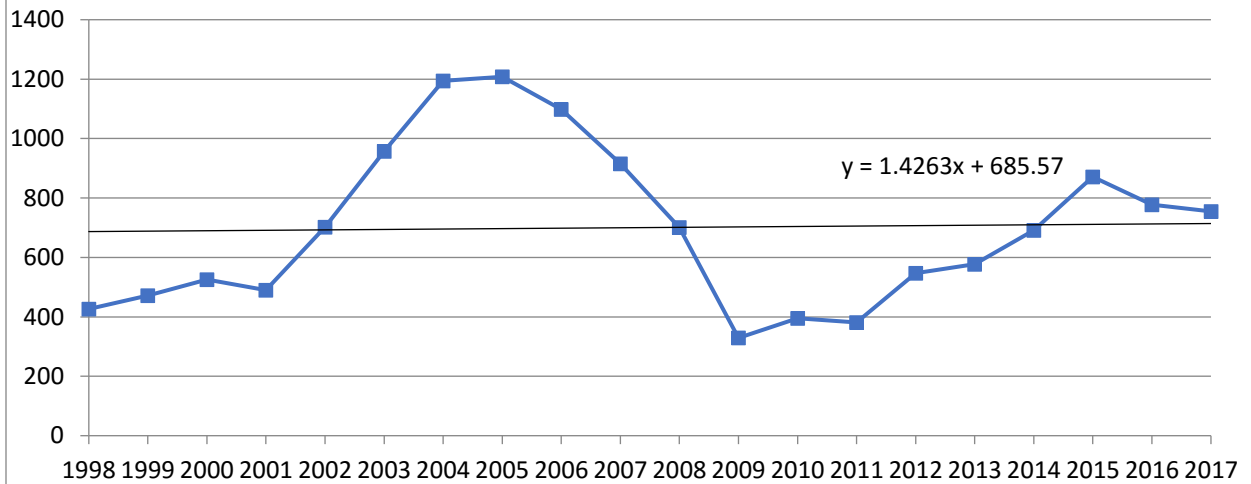
Below is a summary of the statewide population trend, and within each SGMA:



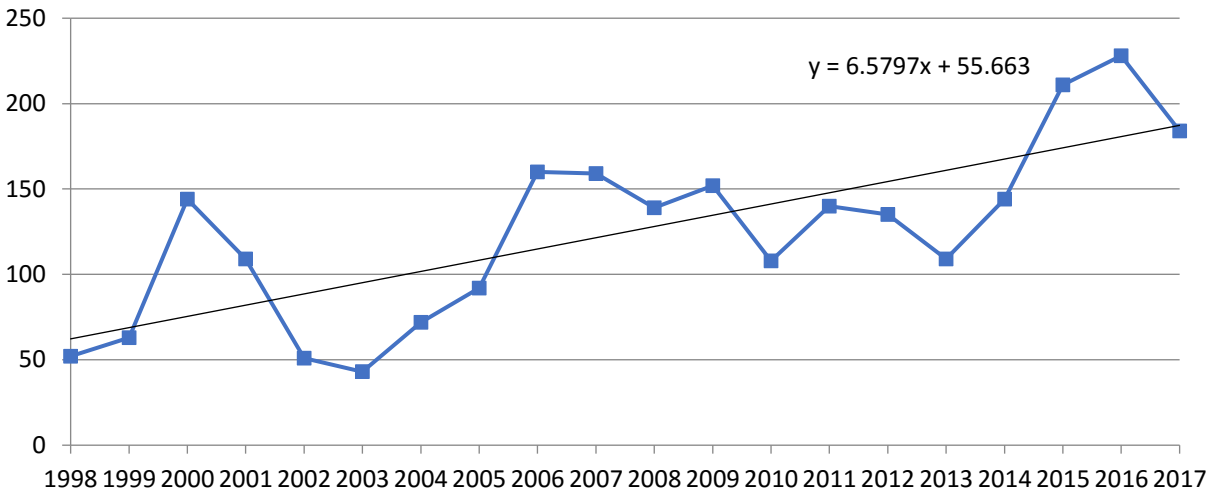
Total Males Counted in Bald Hills SGMA



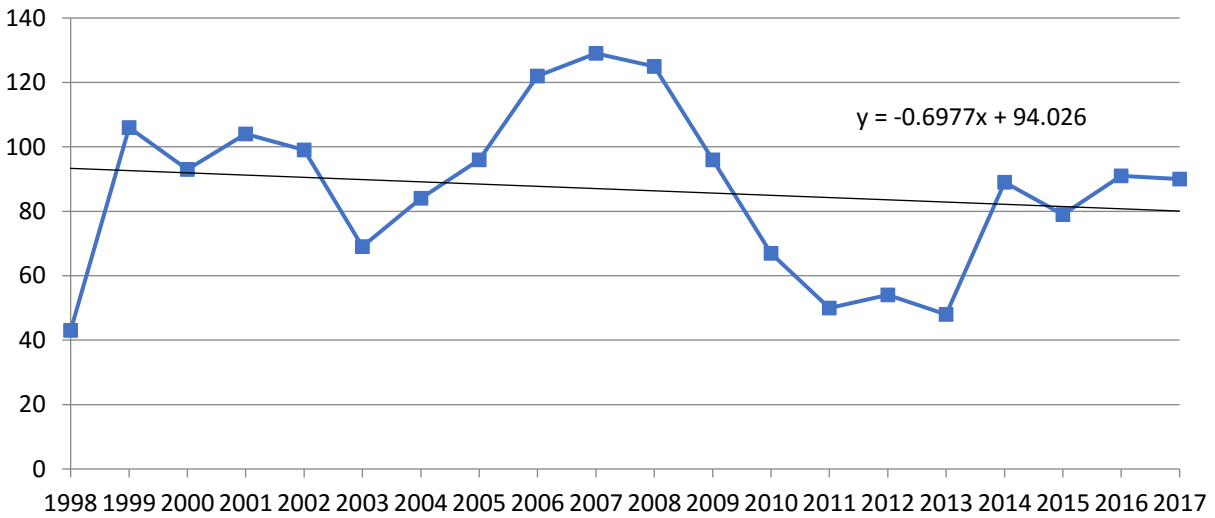
Total Males Counted in Box Elder SGMA



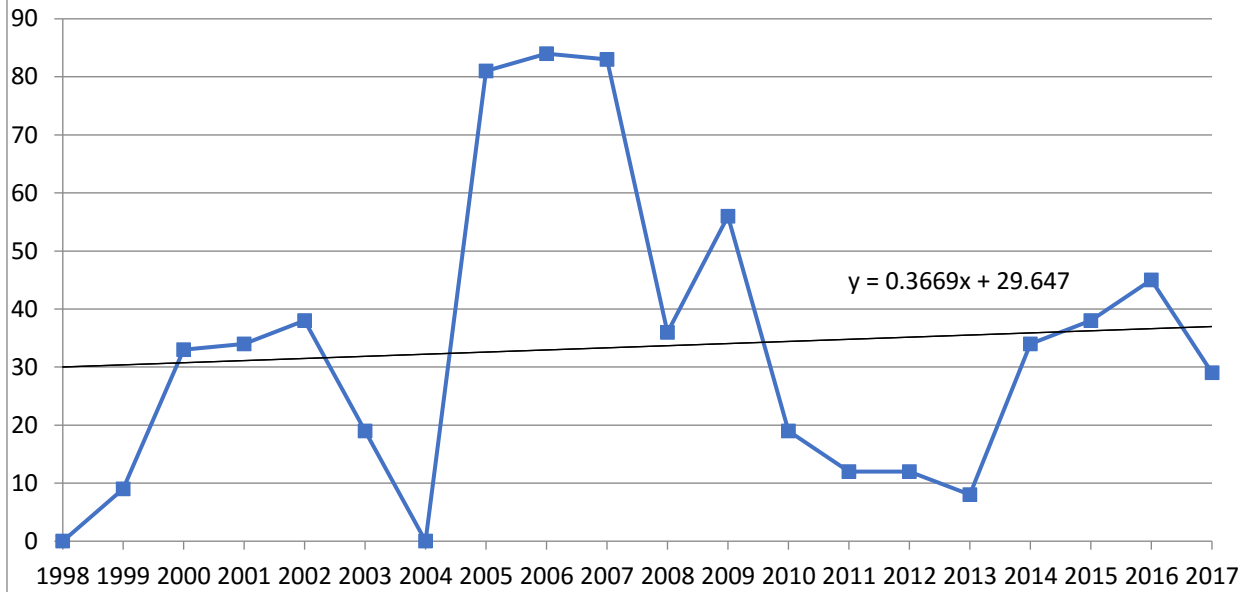
Total Males Counted in Carbon SGMA



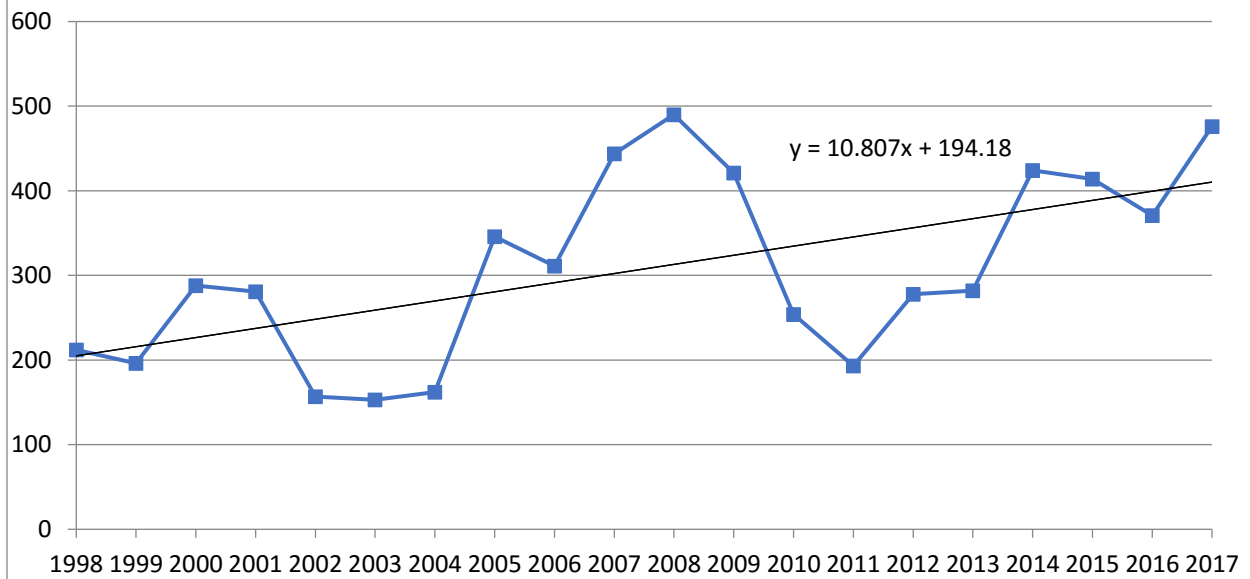
Total Males Counted in Hamlin Valley SGMA



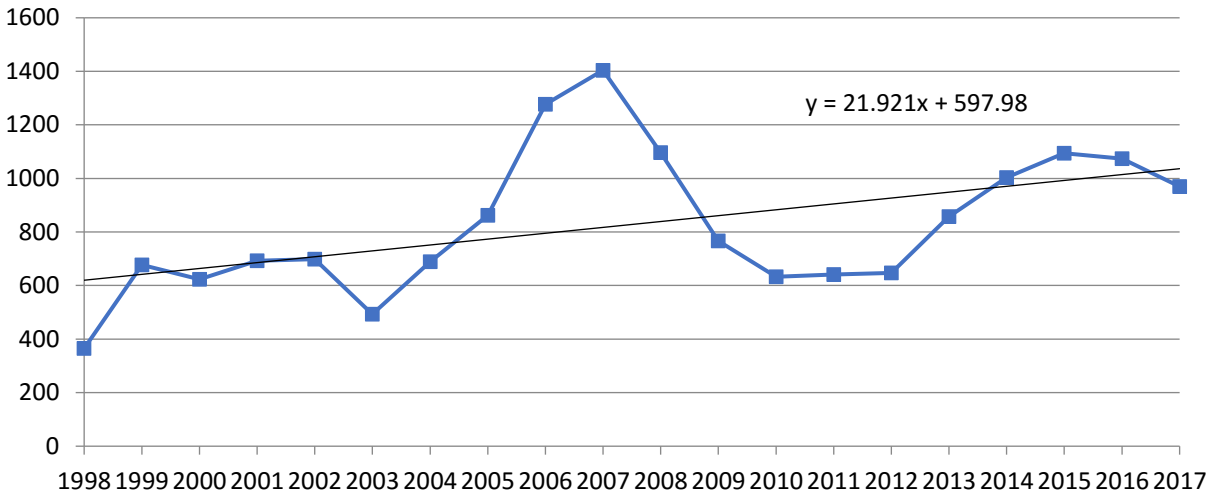
Total Males Counted in Ibapah SGMA



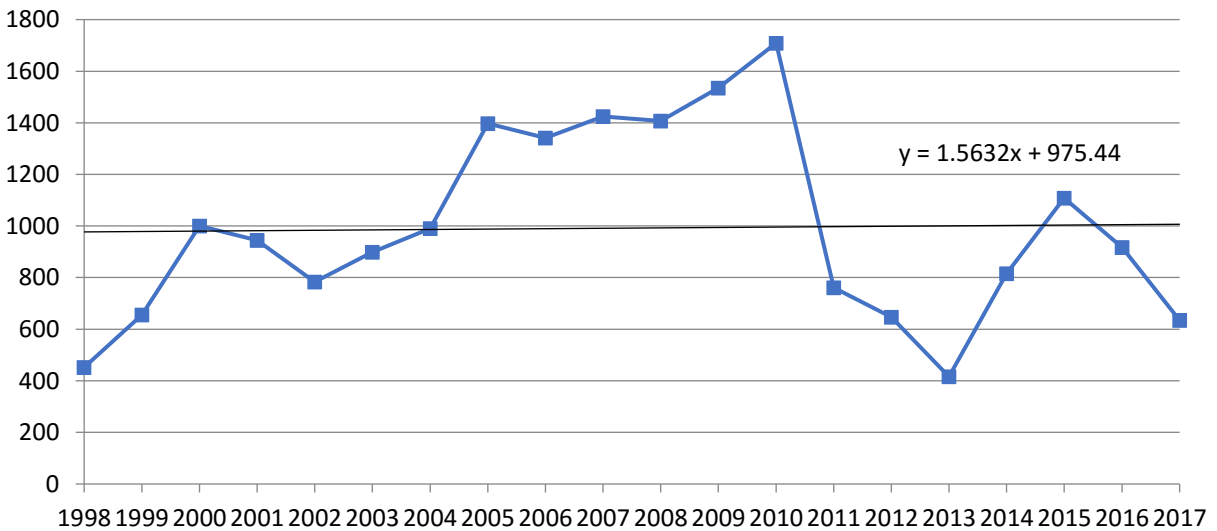
Total Males Counted in Panguitch SGMA



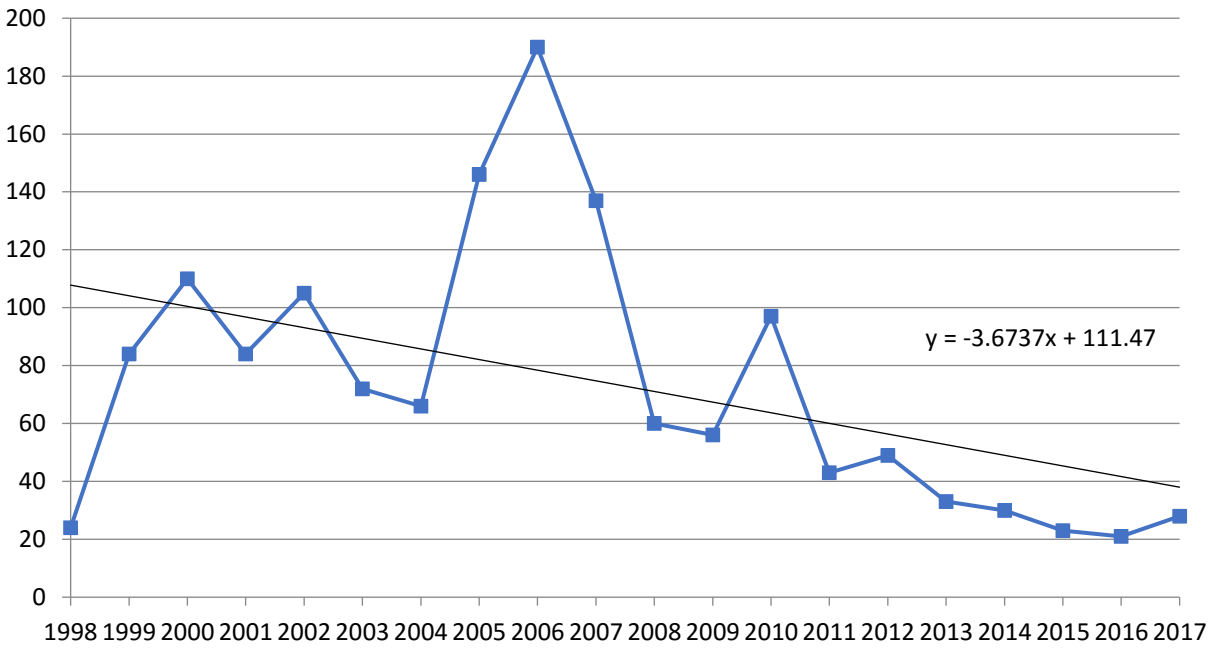
Total Males Counted in Parker Mountain-Emery SGMA



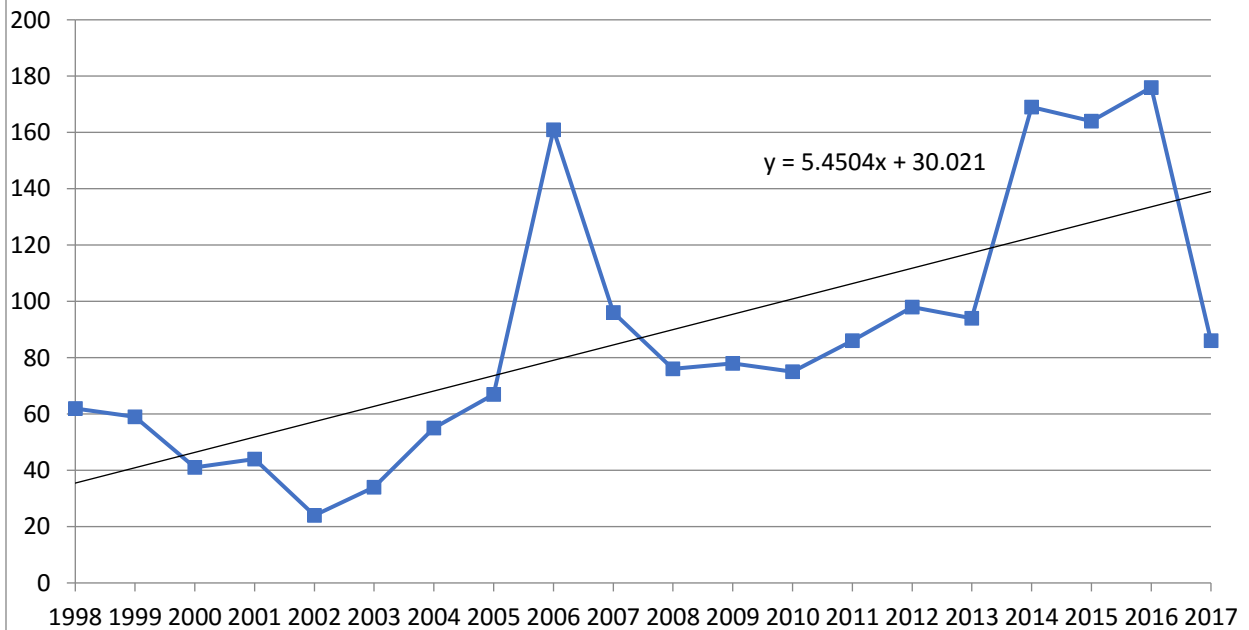
Total Males Counted in Rich-Morgan-Summit SGMA



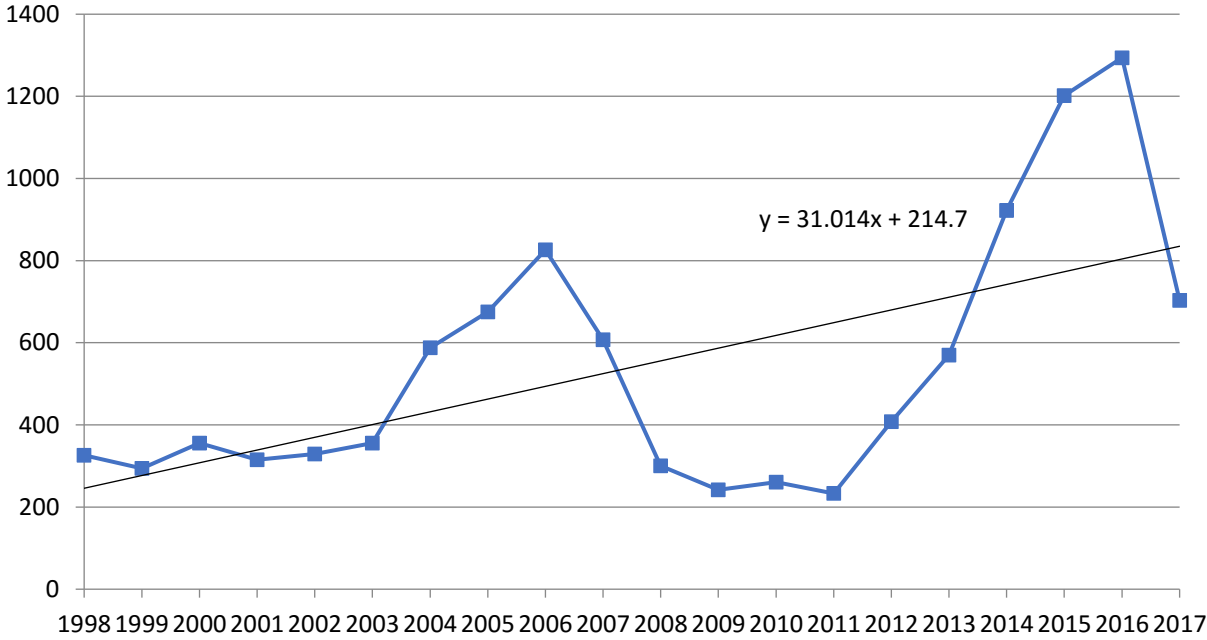
Total Males Counted in Sheeprock SGMA



Total Males Counted in Strawberry SGMA



Total Males Counted in Uintah SGMA



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