

## Prioritization Methodology

In order to provide an objective method to prioritize projects based on the prioritized goals and objectives, the following method was established to assign weights to each of the goals and each of the objectives within a goal for the Pajaro River Watershed IRWMP planning process.

Weights were assigned to each of the goals on a percentage basis considering both the total number of goals and the rank that the Partners had assigned to each of the goals. A convergent series was employed that considers both the total number of elements and the position of the element. A different series could be employed provided that it takes into account both the number of elements (i.e. number of goals) and position (i.e. rank) of the elements. Additionally, the convergent series must produce a decreasing sequence of positive terms that converges to 1.

The convergent series that was employed in the sample prioritization is:

$$\frac{\frac{n}{i}}{\sum_{i=1}^n \left(\frac{n}{i}\right)} \quad \text{where: } n = \text{number of goals} \\ i = \text{rank of the goal}$$

### Sample Weighted Goals Calculation:

There are 4 Pajaro River Watershed IRWMP goals, so  $n = 4$ .  
The water supply goal is ranked number 1, so  $i = 1$ .

$$\frac{\frac{4}{1}}{\sum_{i=1}^4 \left(\frac{4}{i}\right)} = \frac{\frac{4}{1}}{\frac{4}{1} + \frac{4}{2} + \frac{4}{3} + \frac{4}{4}} = \frac{4}{4+2+1.33+1} = \frac{4}{8.33} = 0.48$$

∴ The water supply goal was assigned 48% of the total project score.

Weights were assigned to each of the objectives using the same methodology. The total number of objectives within a goal and the rank that the Partners had assigned to each of those objectives was considered. The same convergent series that was applied to the goals was applied to the objectives.

### Sample Weighted Objectives Calculation:

There are 8 water supply objectives, so  $n = 8$ .

The “Meet 100% of M&I and agricultural demand in wet year to dry years including the first year of a drought” objective is ranked number 1, so  $i = 1$ .

$$\frac{\frac{8}{1}}{\sum_{i=1}^8 \left(\frac{8}{i}\right)} = \frac{\frac{8}{1}}{\frac{8}{1} + \frac{8}{2} + \frac{8}{3} + \frac{8}{4} + \frac{8}{5} + \frac{8}{6} + \frac{8}{7} + \frac{8}{8}} = \frac{8}{8+4+2.67+2++1.61.33+1.14+1}$$
$$= \frac{8}{21.74} = 0.37$$

∴ The “Meet 100% of M&I and agricultural demand in wet year to dry years including the first year of a drought” objective was assigned 37% of the total water supply score, which is 48% of the total score. In other words, this objective was assigned 17.7% of the total score.

For simplicity the total possible score each project can receive was set at 100. Each project is compared against the list of objectives, and for each objective that a project can “check”, the project receives claims that objectives percentage of the total score. For example a project which can check the “Meet 100% of M&I and agricultural demand in wet year to dry years including the first year of a drought” objective receives 17.7 points (17.7% of 100) towards its score.