

CASE EXAMPLE

# Application of RRAT to a watershed on Santa Cruz Island

**WITH THE REMOVAL OF ITS REMAINING FERAL PIGS IN 2007**, Santa Cruz Island, part of Channel Islands National Park, California, finally was freed of all introduced grazers. Now park staff wants to know where active restoration is needed and how to set priorities that will result in the greatest ecological gains for their efforts. They have adopted a watershed approach for the application of RRAT, the Restoration Rapid Assessment Tool.

This case example is a preliminary application of RRAT at three disturbed sites in one watershed on Santa Cruz Island (see photo). For each potential restoration site the assessor first described the site’s assumed natural state and then set a realistic management goal for success. (In setting management goals the assessor may consider such limitations to complete restoration as the inability to remove stressors.) Table 1 illustrates that the effort to restore these sites to natural condition may not be possible; however, realizing management goals may indeed be feasible.

Table 2 facilitates comparison of the potential restoration sites based on four RRAT index values. Scores for *Restoration Logistics* (site size, distance from road, and status as wilderness) are the most varied, indicating that the “disturbed wetland” site would be the easiest to restore. Since this site has the same potential *Site Value* scores as “lower reach,” and scores for *Restoration Logistics* and *Site Value* scores for all three sites are the same for natural condition and management goals, “disturbed wetland” is likely to yield the greatest benefit for effort. Additionally, the scores for *Ease of Restoration* and *Ecological Restoration Potential* are high for all sites, indicating this watershed is likely to rank high compared to other watersheds on the island. An additional 50 potential restoration sites were assessed this summer in multiple watersheds on Santa Rosa Island, also part of Channel Islands National Park, and will be added to the information shared with park staff for setting watershed restoration priorities.



Managers at Channel Islands National Park are investigating the feasibility of restoring areas of Santa Cruz Island where the last nonnative grazing animals were removed in 2007. Scorpion Ranch, shown here, was the initial study area and compared three potential restoration sites within one watershed.

**Table 1. Gain for effort to restore Santa Cruz Island sites**

| Site*             | Gain for effort                  |                                |
|-------------------|----------------------------------|--------------------------------|
|                   | Restoration to natural condition | Restoration to management goal |
| Disturbed Wetland | 2.13                             | 4.60                           |
| Lower Reach       | 1.52                             | 2.89                           |
| Upper Reach       | 1.08                             | 2.24                           |

\*All potential restoration sites are at Scorpion Ranch (see photo).

**Table 2. Restoration potential of Santa Cruz Island sites**

| Site*             | Restoration Logistics |            | Site Value        |            | Ease of Restoration |            | Ecological Restoration Potential |            |
|-------------------|-----------------------|------------|-------------------|------------|---------------------|------------|----------------------------------|------------|
|                   | Natural condition     | Mgmt. goal | Natural condition | Mgmt. goal | Natural condition   | Mgmt. goal | Natural condition                | Mgmt. goal |
| Disturbed Wetland | 80                    | 80         | 53                | 53         | 75                  | 93         | 66                               | 99         |
| Lower Reach       | 67                    | 67         | 53                | 53         | 73                  | 88         | 71                               | 99         |
| Upper Reach       | 57                    | 57         | 47                | 47         | 68                  | 85         | 69                               | 99         |

Note: Index values are standardized so that higher numbers always signify a more favorable condition for restoration than lower numbers.

\*All potential restoration sites are at Scorpion Ranch (see photo).