

MEMORANDUM

Date: February 20, 1998

To: Paul Cylinder, Pete Rawlings; JSA

cc: Sharon Gross, Marti Kie; CALFED
Larry Eng, Tom Hall; CDFG
Dave Harlow, Patrick Leonard, Mike Fris; USFWS

From: Tiki Baron; USFWS

Re: USFWS Comments on Species Tables

Following is a summary of the comments provided by USFWS staff on the "pilot" species tables (dated October 23 or October 29, 1997) developed by JSA for the CALFED ESA compliance strategy.

General Comments:

1. Some reviewers found cross-referencing between the Applicable Programmatic Actions in the species table and the descriptions of the programmatic actions in other tables to be less than "user friendly." One suggested remedy is to incorporate a brief description of each Programmatic Action in the species table. This would result in duplication of descriptions and make the tables substantially longer, but would eliminate the need to cross-reference multiple tables. We are not certain such a format would be preferable to the existing format; however, JSA may want to consider if this is even feasible. (We should mention that other reviewers found the current format of the tables easy to follow.)
2. We recommend that the information in column 3 of the "a" tables (Activities Potentially Affecting the Species) be incorporated into the single table prepared for each species.
3. The "ESA Compliance Team" needs to begin thinking about how the Conservation Strategy will address indirect, interrelated, inter-dependent, and cumulative effects; particularly, if the species tables may incorporate some or all of this analysis.
4. The species tables should incorporate measures identified in USFWS recovery plans (for those species with recovery plans).

5. Generally, the USFWS recommends that the first action involving special-status plant species be protection and management of known sites or populations. After the known sites are secured in perpetuity, restoration or repatriation may be considered. If so, first priority should be given to sites at which the species was historically found. Second priority for restoration and introduction would be other suitable sites within the historic range of the species. Restoration or introduction outside of the historic range is generally discouraged. We recommend that the CALFED Conservation Strategy for plant species be developed consistent with this ranking system. It is unclear from the one "pilot" plant table (Mason's lilaeopsis) that the highest priority mitigation strategy is avoidance/protection of occupied habitat and known populations.

6. Many of the Programmatic Actions proposed by CALFED refer to large scale habitat restoration. The species tables should reflect careful consideration of the value of habitat restoration to particular species. In some cases, the assumptions made about the feasibility of such habitat restoration may be unrealistically optimistic, particularly for terrestrial habitats and associated substrate specialist species and rare natural communities. The potential benefits of habitat restoration vary considerably depending on which special-status species and/or rare natural communities are the targets of restoration efforts. Placing emphasis on the benefits of restoration may de-emphasize the importance of impact avoidance for species with restricted range, limited distribution, and/or low potential for habitat restoration.

7. Terms used in the tables should be defined to the extent possible (e.g., terms such as "health," "improved," etc.); in some cases, definitions will be species-dependent.

8. Many of the species tables imply that a species' "preferred habitat" can be precisely identified. This may not always be a correct assumption, especially for special-status plants. In many cases, we do not understand why species are distributed as they are (i.e., why they do not occupy what we perceive to be suitable habitat). Given this limitation, the CALFED Conservation Strategy (and thus, the species tables) should recognize that decisions about what constitutes "preferred" or "suitable" habitat may need to be linked to ecological research to clarify habitat requirements for the special-status species involved.

9. The "Overall Effect of Summary Outcomes with Mitigation" column should generally indicate that these are *potential* overall effects (at least until the actions become defined enough to articulate overall effects with more confidence).

Table 1: California Black Rail

This table was not reviewed by USFWS staff, although a number of comments provided below for the California clapper rail may also apply to the black rail.

Table 2: California Clapper Rail

General Comments

1. The clapper rail does not occur in the Delta Region. Therefore, it is not likely that habitat restoration or manipulation in the Delta would benefit the clapper rail.
2. Any effort to restore or enhance wetlands in Suisun Marsh and San Pablo Bay should be coordinated with the USFWS to ensure compatibility with the *Recovery Plan for the California Clapper Rail and Salt Marsh Harvest Mouse* (USFWS 1984), and/or the *Recovery Plan for Coastal Salt Marsh Ecosystems*, currently under development by the USFWS.
3. Clapper rails occur in and would likely benefit from the restoration and enhancement of tidal salt marsh systems. It is unlikely that clapper rails would benefit from enhancement of freshwater marsh, as indicated throughout the table.
4. A major effect of boat wakes is shoreline erosion and loss of habitat. Restrictions to reduce the impacts of boat wakes on clapper rails and their habitats should require year-round compliance.
5. Potential Beneficial Effect BE1: It is unlikely that tidal restoration in the Delta would benefit clapper rails downstream in Suisun Marsh enough to result in significant or measurable effects.
6. Potential Beneficial Effect BE2: It is not clear how CALFED actions would result in the establishment of tidal salt marsh in the western Delta; this indirectly suggests that the CALFED Program is expected to result in reduced freshwater outflows.
7. Potential Beneficial Effect BE4: It is possible that seasonal wetlands adjacent to tidal wetlands may help to support increased predator populations and result in an adverse effect on clapper rail populations. The beneficial effect described (reduced predation as a result of increased flood refugia) is not likely to be a substantial benefit and should probably not be included in the table. Clapper rails would benefit more from a non-native predator management program.

Specific Comments

1. Summary Outcome 1, Action E010905: Clapper rails do not occur in the Delta and therefore, will not benefit from this action.
2. Summary Outcome 2, Action E011101: Same comment as above.

3. Summary Outcome 3, Action E015201: Same comment as above.
4. Summary Outcome 4: Ecosystem Restoration and Water Quality Actions that reduce toxins in upstream discharges also would benefit clapper rails.
5. Summary Outcome 5: Actions that will occur in clapper rail habitat should be conducted outside of the rail's breeding season, which extends from February 1 through August 31. Workers should use Best Management Practices to minimize impacts. In general, loss of clapper rail habitat, temporary or permanent, is mitigated by restoring or creating habitat at a ratio of 3:1 or higher, depending on the nature and location of the impact.
6. Summary Outcome 12, All Actions: Implementation of any of these actions should be coordinated with the USFWS to ensure compatibility with the *Recovery Plan for the California Clapper Rail and Salt Marsh Harvest Mouse* (USFWS 1984) and/or the *Recovery Plan for Coastal Salt Marsh Ecosystems*, currently under development by the USFWS.
7. Summary Outcome 13: Clapper rails would not benefit from these actions since they do not utilize seasonal wetlands. Creation of seasonal wetlands in Suisun Marsh and San Pablo Bay should be coordinated with the USFWS to ensure compatibility with the existing and forthcoming Recovery Plans noted above, and avoid adversely affecting clapper rail habitat.
8. Summary Outcome 14: Clapper rails would not benefit from these actions since clapper rails do not utilize seasonal wetlands. Manipulation of water quality in western Suisun Marsh that results in reduced salinities would adversely affect clapper rails as well as salt marsh harvest mice by converting tidal salt marsh community to brackish and freshwater communities. Such actions should be considered as having adverse effects to clapper rails and other species dependent on tidal marsh. Enhancement of seasonal wetlands in San Pablo Bay should be coordinated with the USFWS to ensure compatibility with the existing and forthcoming Recovery Plans noted above.
9. Summary Outcome 15: Increasing cover on outboard levees would benefit the clapper rail and salt marsh harvest mouse. Where possible, levees should be moved back and reconstructed to provide a more gentle slope (e.g., 5:1), and to avoid and minimize levee footprints in wetland habitats.
10. Summary Outcome 16: These measures would benefit clapper rails to the extent that the tidal wetlands are vegetated with saline emergent species (i.e., pickleweed and native cordgrass). Open, unvegetated shallow water habitats are not utilized by clapper rails and would not benefit them. Any program to acquire and restore wetland habitats in Suisun Marsh and San Pablo Bay should be coordinated with the USFWS to ensure

compatibility with the existing and forthcoming Recovery Plans noted above.

11. Summary Outcome 18: The action number does not appear to correspond to the summary outcome. However, the action described in the summary outcome would benefit clapper rails where they occur. The table indicates "BE2" in the Adverse Effects column; this should be corrected.

12. Summary Outcome 19: Action E026001: This measure should require year-round compliance, not just during the nesting season. Boat wakes erode banks, reducing and/or degrading clapper rail habitat. Action E026002: This measure should cover appropriate sections of channels supporting rail populations, rather than set a limit on the number of miles to be protected. In addition, this restriction should be in effect year-round, not only March to June. Action E026003: Restrictions on use of motorized boats should pertain to all tidal salt marsh restoration sites created to benefit clapper rails, and these restrictions should be in effect year-round. This action refers to "tidal fresh emergent wetlands;" clapper rails do not occur in fresh emergent wetlands.

13. Summary Outcome 20: Actions that reduce the levels of toxins entering Suisun Bay and San Pablo Bay will benefit clapper rails; actions that reduce salinity in Suisun Bay and San Pablo Bay may adversely affect clapper rails.

14. Summary Outcome 21: Actions that will occur in clapper rail habitat should be conducted outside of the rail's breeding season, which extends from February 1 through August 31. Workers should use Best Management Practices to minimize habitat impacts. In general, loss of clapper rail habitat, temporary or permanent, is mitigated by restoring or creating habitat at a ratio of 3:1 or higher, depending on the nature and location of the impact.

Table 3: Swainson's Hawk

Staff reviewed this table and did not have any comments.

Table 4: Greater Sandhill Crane

Staff reviewed this table and did not have any comments.

Table 5: Western Yellow-Billed Cuckoo

Staff reviewed this table and did not have any comments.

Table 6: Riparian Brush Rabbit

Specific Comments

1. Summary Outcome 1, Actions E010402, E010403, E010404, E010405, E010406, E010407, E010502, E010607, E011102, and E011603: These actions appear to be out of the geographic area and/or habitat type that would benefit riparian brush rabbits.
2. Summary Outcome 1, Potential Adverse Effects: These actions (i.e., reestablishment of riparian and adjacent upland habitat) should be coordinated with actions identified for the riparian brush rabbit in the *Draft Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1997). The USFWS is currently considering reintroduction at Los Banos, depending on the number of rabbits trapped this year.
3. Summary Outcome 1, Overall Effect Column: This entry should be changed as follows: "In concert with summary outcome 2, the range, numbers of populations, and numbers of individuals ~~would potentially~~ could be increased."
4. Summary Outcome 2, Overall Effect Column: Same comment as above.
5. Summary Outcome 5, Overall Effect Column: Same comment as above.
6. Summary Outcome 5, Potential Minimization and Mitigation Strategies: Measures M3 and M4 are very good.
7. Summary Outcome 7, Actions E130302, E130303, E130304, and E130306: These actions are likely to have only very indirect benefits to riparian brush rabbits.
8. Summary Outcome 7: Action E136001 is not in the Summary of ERPP Actions table; is it possible this action should be E136101 instead?

Table 7: Valley Elderberry Longhorn Beetle

General Comments

1. It would be helpful if the descriptions of the Programmatic Actions (e.g., the Summary of ERPP Actions table) could provide more information. For example, Action code E010901 -- "Restore 500 acres of shallow-water habitat at Prospect Island in the North Delta Ecological Unit" -- was not included in the species table for VELB. If Prospect

Island has riparian vegetation or *Sambucus* sp. (elderberry), conversion of such habitat to shallow-water habitat would likely affect the beetle. The Ecosystem Element column in the Summary of ERPP Actions table identifies what the action will create (e.g., E010901 will create tidal perennial aquatic habitat), but no information is provided on what will be lost. Addition of another column which summarizes the existing resources would help remedy this situation.

2. In the species table, it would be helpful to quantify, to the extent possible, the “Benefits,” “Adverse Effects,” and “Overall Effect of Summary Outcomes with Mitigation” columns in relation to the programmatic action taking place. Including a description of the programmatic action in each table (see General Comment #2 at the beginning of this memo) may facilitate including this information. Because this is a programmatic approach, the level of loss/gain may need to be quantified in terms of “acres of riparian vegetation in which elderberry is present at a certain level” and/or “number of elderberry shrubs per acre.” This information could be added to the table (or database) as it becomes available and should be entered with a date (the year would be sufficient) since the number of elderberry plants present will change over time.

Table 8: Mason’s Lilaeopsis

General Comments

1. The header for this table, “Overall Program Effect with Mitigation” is somewhat incomplete. While historical loss of habitat is one important reason for the decline of *Lilaeopsis masonii*, other reported threats to the species include accelerated erosion, competition from non-natives plants, levee maintenance activities such as herbicide spraying and rip rapping, increases in salinity gradients, and lack of siltation (CDFG *Lilaeopsis masonii* Recovery Workshop Summary, November 1995).

2. It is important to preserve not only occupied habitat of *L. masonii* but also colonization habitat (CDFG *Lilaeopsis masonii* Recovery Workshop Summary, November 1995).

3. While *Lilaeopsis masonii* is threatened by heavy erosion, such as that caused by boat wakes, a limited amount of bank erosion from tidal fluctuation and wave action may be necessary for the plant to colonize.

3. Transplantation is probably an inappropriate mitigation or conservation action for *L. masonii* unless specific conditions warrant it (CDFG *Lilaeopsis masonii* Recovery Workshop Summary, November 1995). According to Golden and Fiedler (1991), “...it is still not clear whether the destruction of populations of *Lilaeopsis masonii* and the subsequent creation of habitat via transplanted populations is beneficial to the long term survival of the species.”

4. In the “Potential Mitigation Strategies” column, add “maximum” before the phrase “to the extent feasible” throughout. In addition, these measures should specify a hierarchal process, i.e., first avoid; then restore habitat; if restoration unsuccessful then replant; etc.

Specific Comments:

1. Potential Beneficial Effect BE2: This description should be changed as follows: “Potential increase in the number of species individuals and populations of the species resulting from increases in the preferred habitat.
2. Potential Beneficial Effect BE4: This description should be changed as follows: “Reduction in the rate of erosion of tidal wetlands...and, in occupied habitat affected by the these activities, species individuals and populations of the species.”
3. Summary Outcome 5 and Summary Outcome 12, Overall Effect columns: It may be more accurate to indicate reduction in competition as an overall effect, rather than “improvement in the health of ecological processes...”
4. Potential Beneficial Effects BE7, BE8, and BE9: Change “This benefit...” to “A benefit...”
5. Summary Outcome 6 and Summary Outcome 14, Overall Effect columns: Change to read as follows: “Potential increase in suitable wetland habitat or, if mitigation is required, no net loss in species numbers of individuals and populations of the species resulting from the actions.”
6. Summary Outcome 10, Overall Effect column: It may not be accurate to assume that “...replacement of populations and individuals lost during project implementation” is feasible.
7. Summary Outcome 13: Omit “on nesting success” at the end of this description.

Table 9: Winter-run Chinook Salmon

No one from the USFWS reviewed this table.

Table 10: Delta Smelt

General Comments

1. In some cases, it appears that individual actions contribute to more than one Summary

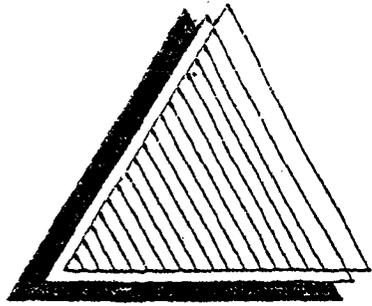
Outcome. It is unclear to what extent the summary outcomes are exclusive of each other or to what extent they may overlap. For example, in the delta smelt table, Summary Outcome 1 (Restore 30,000-45,000 acres of tidal freshwater emergent wetland) and Summary Outcome 2 (Restore 7,000 acres of shallow tidal perennial aquatic habitat) include a number of the same Programmatic Actions. Does this mean that some of the 7,000 acres of shallow aquatic habitat are also counted as freshwater emergent wetland habitat?

Specific Comments:

1. Programmatic Action E010403: It is unclear how the conversion of subsided lands to nontidal wetland will benefit delta smelt.
2. Programmatic Action E010405: While setback levees may create needed shallow-water habitat in the South Delta, such habitat may have adverse effects on delta smelt, depending on how the water conveyance system is operated.
3. Programmatic Action E010603: This action is not likely to result in beneficial effects to delta smelt or the adverse effects identified.
4. Programmatic Action E011101: To provide beneficial effects for delta smelt, the table should identify specific actions from the Delta Native Fishes Recovery Plan.
5. Programmatic Action E011201: The means to "actively protect" these islands need to be identified. Some measures, such as rock riprap could protect islands, but not result in beneficial effects to delta smelt.
6. Programmatic Action E011401: It appears that this action (Develop tidal wetlands ion Prospect, Little Holland, and Liberty Islands in the North Delta Ecological Unit) was already covered by Programmatic Action E010401.
7. Programmatic Action E011403: It appears that this action (Develop tidal wetlands along the upper ends of dead-end sloughs in the east Delta) was already covered by Programmatic Action E010404.
8. Programmatic Action E016001: Some of these slough and river areas are proposed to be used as conveyance facilities. If used for that purpose, reduced boating speeds in these areas will not provide the intended benefits to delta smelt identified in the table.

Table 12: California Red-legged Frog

Staff reviewed this table and did not have any comments.



D-M Information Systems, Inc.

GAP NOTED

Table 13: Giant Garter Snake

General Comments:

1. The "Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake Habitat," attached to this memo, should be used as the basis for mitigation strategies in the table.

2. The comments below on the effects of the Programmatic Actions on giant garter snakes are partly based on the following definition of essential habitat components:

Essential habitat components for giant garter snakes consist of (1) adequate water during the snake's active period (i.e., early spring through mid-fall) to provide a prey base and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat; (3) upland habitat for basking, cover, and retreat sites; and (4) higher elevation uplands for cover and refuge from flood waters.

3. Summary outcomes involving the restoration of wetlands (tidal, non-tidal, emergent, or seasonal) may remove essential upland habitat components used by giant garter snakes. While restoration of wetlands is desirable and will provide more wetland habitat for giant garter snakes, a temporary impact of displacement of snakes from former uplands could occur. Giant garter snakes may not be able to immediately shift behavior and movement patterns to use new upland habitat. During this period, giant garter snakes may be vulnerable to predation, vehicular mortality, and other sources of mortality, and new upland habitat may not immediately provide all the cover and retreat sites necessary to support these snakes. Mortality may be increased further if disturbance occurs during the breeding season, during the fall dispersal of juveniles, or during the initiation of overwintering behavior. Mitigation for the above effects should consist of ensuring the availability of nearby or adjacent habitat that provides all the essential habitat components for giant garter snakes.

4. Summary outcomes involving the creation of permanent and semi-permanent ponds may result in increased predation on giant garter snakes. Permanent ponds or semi-permanent ponds may be colonized by and support introduced predatory fish and bullfrogs which prey on giant garter snakes, particularly juveniles.

5. Summary outcomes involving the management of wetlands may have adverse impacts on giant garter snakes. Operations and maintenance activities (e.g., canal, levee, and water control structure maintenance) may result in adverse effects to or take of giant garter snakes. Levee maintenance which removes vegetative cover, small mammal burrows, and other retreat and basking sites could adversely impact giant garter snake

upland habitat. Dredging of canals could remove aquatic and emergent vegetation which provides cover for giant garter snakes and habitat for their prey base. Management of water regimes could affect availability of giant garter snake habitat.