

Adaptive Management Scenario #1

Public Access

Overview and Project Objectives: This scenario describes a potential conflict that may arise between public access and habitat Project Objectives. Specifically, Objective #3, “Provide public access opportunities compatible with wildlife and habitat goals” and Objective #1, “Create, restore, or enhance habitats of sufficient size, function, and appropriate structure” are in conflict. Objective 1A “Assist in Rare Species Recovery: CA clapper rail” is being used for the example.

Project Objective:	Restoration Target	Currently Monitored Parameters	Potential New Monitoring Parameters
1A. Assist in Rare Species Recovery: CA clapper rail	<ul style="list-style-type: none"> 1500-2500 rails in winter at a density of 0.5-1.0 birds/2.5 acres 3 subpopulations of 500+ birds in winter targets now being developed by FWS 	<ul style="list-style-type: none"> number of rails in winter acres of tidal marsh channel density/extent acres of transitional upland density of vegetation, esp. cordgrass and <i>Grindelia</i> 	<ul style="list-style-type: none"> chicks fledged/nest soil texture, organic material & nutrient levels levels of Hg in rail prey predation rates
3. Provide public access opportunities compatible with wildlife	<ul style="list-style-type: none"> public is satisfied with access opportunities provided bird use and fish abundance not significantly affected by public access 		<ul style="list-style-type: none"> attitudes of public and recreationists toward the Project bird abundance and diversity before and after public access recreational and commercial fishing effort

Possible Situation: Public access trails are constructed along the tops of levees extending out into the South Bay. Recreationists begin using the trails in large numbers and Clapper Rails begin nesting and foraging in areas that previously had not been accessible to the public. What is the impact, if any, of trails on the Clapper Rails, or of the Clapper Rails on the users of the trails?

Recommended Applied Studies: What applied studies should be done to better understand the potential effect of increased public access on the Clapper Rail populations?

Recommended Adaptive Management Actions: Assuming there is a negative impact on Clapper Rails from increased public access, what actions might the Adaptive Management Team consider to protect the Clapper Rail populations? Additional questions to consider include:

1. How quickly does the Project Management Team (PM Team) need to respond?
2. How long should we wait for response time to any physical/management changes?
3. What is the Management Trigger?
4. What situation would trigger management intervention?
5. What is the required regulatory response?

Decision-making: What should be the decision-making process for taking action? How should the PM Team, the Science Team, and the public be involved? How should the public be informed, and in what timeframe?

Adaptive Management Scenario #2 Flood Control

Overview and Project Objectives: This scenario presents a possible situation in which assumptions about the positive effects of opening certain ponds to tidal action turn out to be overly optimistic. Specifically, in this case, the project objective to improve flood protection may not be achieved within a reasonable time frame in the first decade of the restoration.

Project Objective	Restoration Target	Currently Monitored Parameters
2. Maintain or improve existing flood protection level	* meet requirements of flood protection agencies	<ul style="list-style-type: none"> • elevations and topography of levees • freeboard amount during extreme events • sea level rise data • ground surface rebound

Possible Situation: Overall flood control plan includes assumptions about channel scouring and the effects of returning certain ponds to tidal action, thereby enhancing the downstream flood capacity at the mouths of major creeks in the project area. After 10 years of restoration, anticipated scouring has not taken place in certain creeks; thus, anticipated improvements of fluvial and tidal flooding management have not developed.

Recommended Applied Studies: What kinds of applied studies should the project develop to address this possibility?

Recommended Adaptive Management Actions: How should the project adjust its flood protection measures to deal with the unanticipated reduced channel scouring? Additional questions to consider include:

1. How quickly does the Project Management Team (PM Team) need to respond?
2. How long should we wait for response time to any physical/management changes?
3. What is the Management Trigger?
4. What situation would trigger management intervention?
5. What is the required regulatory response, if any?

Decision-making: What should be the decision-making process for taking action? How should the PM Team, the Science Team, and the public be involved? How should the public be informed, and in what timeframe?

Adaptive Management Scenario #3 Habitat

Overview and Project Objectives: In this scenario, potential conflicts appear to be arising between project objectives for maintenance or improvement of different types of bird species in the project area.

Project Objective	Restoration Target	Currently Monitored Parameters	Potential New Parameters
1C. Increase diversity and abundance of native species: breeding birds	* meet or exceed pre-ISP breeding bird numbers as determined by USGS, FWS and DFG monitoring	<ul style="list-style-type: none"> • # of pairs of breeding birds by species • 	<ul style="list-style-type: none"> • chicks fledged/nest • predation rates
1B. Maintain existing migratory birds: shorebirds	<p>pre-ISP shorebird numbers and diversity available from USGS baseline data and PRBO Pacific flyway study</p> <p>more data are needed to characterize natural variability</p>	<ul style="list-style-type: none"> • number of species and abundance of each • acres of tidal flat foraging habitat in tidal marshes, ponds, sloughs and Bay • acres of low and medium salinity ponds 	<ul style="list-style-type: none"> • fecal coliform levels in heavily used ponds • for indicator species, percent of flyway population visiting South Bay • invertebrate density • Hg levels in invertebrates

Possible Situation: In this scenario, actions to increase diversity of some native species may appear to be in conflict with maintaining migratory waterfowl populations, thereby putting two objectives of the project in conflict. Ten years after initiation of Phase 1 of the project, migratory shorebird numbers have dropped by 15% in the Project area. It is not clear whether this is due to decreased acreage of managed ponds in the project area, natural variability, or loss of habitat in the Arctic.

Recommended Applied Studies: What additional applied studies should the project initiate to study the trends in this potential conflict, or to determine if there is in fact a conflict between the objectives?

Recommended Adaptive Management Actions: What actions should the project take if these objectives turn out to be in conflict? Additional questions to consider include:

1. How quickly does the Project Management Team (PM Team) need to respond?
2. How long should we wait for response time to any physical/management changes?
3. What is the Management Trigger?
4. What situation would trigger management intervention?
5. What is the required regulatory response, if any?

Decision-making: What should be the decision-making process for taking action? How should the PM Team, the Science Team, and the public be involved? How should the public be informed, and in what timeframe?

Adaptive Management Scenario #4 Public Health

Overview and Project Objectives: In this scenario, public health issues arise when residents become concerned that local mosquito populations seem to be increasing, which they worry could result in the spread of West Nile Virus.

Project Objective	Restoration Target	Potential Monitoring Parameters
5. Maintain or improve current levels of nuisance and invasive species: mosquitoes	* mosquito numbers do not increase above pre-ISP/ISP levels * numbers available from the Santa Clara and Alameda county mosquito abatement districts	<ul style="list-style-type: none"> • Methods and parameters as per the mosquito abatement districts

Possible Situation: In part of the Project area, after a number of ponds are returned to full tidal action, several local residents begin to complain that mosquito numbers have increased. They believe this is due to the Restoration Project and that the Project is adding to a public health hazard.

Recommended Applied Studies: What kinds of applied studies should the project develop to address this possibility?

Recommended Adaptive Management Actions: What actions should the project take if this situation arises? Additional questions to consider include:

1. How quickly does the Project Management Team (PM Team) need to respond?
2. How long should we wait for response time to any physical/management changes?
3. What is the Management Trigger?
4. What situation would trigger management intervention?
5. What is the required regulatory response, if any?

Decision-making: What should be the decision-making process for taking action? How should the PM Team, the Science Team, and the public be involved? How should the public be informed, and in what timeframe?