

June 20, 2006

To: Kirtland's Warbler Recovery Team

From: Mike DeCapita

Subject: Kirtland's Warbler Recovery Plan Revision –  
Selected excerpts from August 2002 USFWS DRAFT Recovery Handbook, Procedures  
for Conducting Recovery Planning Activities for Endangered and Threatened Species Under Section 4  
of the Endangered Species Act

### **Purpose of a Recovery Plan**

Recovery is the process by which listed species and their ecosystems are restored and their future safeguarded to the point that protections under the ESA are no longer needed. A variety of actions are necessary to achieve the goal of recovery, from ecological restoration of habitat to the development of conservation agreements with stakeholders, however, without a plan to organize and coordinate and the many possible recovery actions, the effort may be misguided. Although recovery *actions* can, and should, start immediately upon listing a species as endangered or threatened under the ESA, prompt development of a recovery *plan* will ensure that recovery efforts use limited resources effectively and efficiently into the future. The recovery plan serves as a kind of road map for species recovery -- it lays out where to go and how to get there. A recovery plan is one of the most important tools to ensure sound scientific, financial and logistical decision-making throughout the recovery process. Primarily, a recovery plan: delineates those aspects of the species' biology, life history, and threats that are pertinent to its endangerment and recovery;

- X outlines and justifies a recovery strategy;
- X identifies the actions necessary to support recovery of the species; and
- X identifies goals and criteria by which to measure progress.

Recovery plans can also serve a number of secondary functions as they can:

- X be useful as outreach tools by articulating the reasons for a species' endangerment, as well why the particular suite of recovery actions described is the most effective and efficient approach to achieving recovery for the species;
- X assist potential cooperators and partners in identifying how they can facilitate the species' recovery, and help them understand the rationale behind the recovery actions identified;
- X be a tool for monitoring recovery implementation of the species; and
- X be used to obtain funding, for FWS and NMFS and their partners, by identifying recovery actions and their relative priority in the recovery process.

Recovery plans are guidance documents; not regulatory documents. No agency or other entity is required by the ESA to implement the recovery strategy or specific recommended actions in a recovery plan. However, the ESA clearly envisions recovery plans as the central organizing tool for guiding each species' recovery process. They should also guide Federal agencies in fulfilling their obligations under section 7(a)(1) of the ESA which calls on all Federal agencies to "utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the

conservation of endangered species and threatened species...” In addition to outlining strictly proactive measures to achieve the species’ recovery, plans provide context and guidance for implementation of other provisions of the ESA, such as section 7(a)(2) consultations with other Federal agencies and development of Habitat Conservation Plans.

Although FWS and NMFS are responsible under the ESA for developing and implementing recovery plans, individuals and entities outside of FWS and NMFS often have pertinent information, skills, or authorities that can facilitate the design and implementation of an effective recovery program. In recognition of this, FWS and NMFS should seek peer review of plans and make use of non-Service individuals for the development and implementation of recovery plans when appropriate. The recovery planning process can include local planners and landowners, conservation organizations, representatives of affected industries, academics, and other stakeholders interested in the recovery of listed species. The addition of these participants may make the planning process more difficult and time-consuming. However, involving stakeholders early in the process may help identify and resolve implementation issues and concerns at the planning stage, thereby facilitating more effective implementation.

## General Recovery Plan Format

General Format of a Recovery Plan
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## Background

The Background section of the Recovery Plan is critical to understanding and acceptance of the recovery needs of the species and should build the case for why the particular recovery program outlined in the recovery plan is the most appropriate path to recovery. The Background section needs to succinctly discuss the information in each of the subsections outlined below. Since the Background section of the recovery plan is the primary vehicle for communication with other agencies and the public about the species' threats and needs, and the recovery program, this section needs to be biologically accurate but readable by lay persons. The discussion should focus on major research and information that is pertinent to recovery. Appropriate citations should be referenced. Finally, the Background section should summarize biological needs and constraints of the species that should be taken into consideration for management actions, including section 7 consultation and HCP development. As for all sections, the Background section should be arranged in such a way that the information can be accessed easily.

The following subsections are suggested for inclusion in the Background section. They may be adapted or additional subsections added to suit the biology of the species. Each subsection used, should be noted in the Table of Contents so information can be found easily. The summary can refer to a recent status review or the listing package for more in-depth information.

*Listing Status of the Species* – Give the status (threatened, endangered or, for some multi-species plans, candidate or proposed), date listed, proposed, or designated as a candidate, and Federal Register citation for each species, subspecies or DPS/ESU. Also provide the species' recovery priority number, if a FWS-listed species.

*Species' Description and Taxonomy* – Describe the taxonomy and physical appearance of the species. This should be written approximately on the level of a field guide. Note when the species was described and refer to the best available technical descriptions. When dealing with lesser known species, such as many plants and invertebrates, a few words describing family affiliations may be a useful reference point for the non-taxonomist. You may wish to mention look-alike species and note how to differentiate between them and the species in the plan.

*Populations Trends and Distribution* – Give the best available information on current and historical numbers of populations and individuals, and the historical and currently occupied range. Note population trends, and projections based on recent trends, if available. Indicate population or stock discreteness. Include a map of appropriate scale to delineate range, without disclosing site-specific information where it is sensitive. Be sure that the map has adequate margins to allow for binding, a legend and an indication of north, and that it will reproduce clearly.

*Life History/Ecology* – Include pertinent information about reproduction and recruitment rates, breeding habits, litter or clutch size, pollination and dispersal, diet and feeding habits, behavior, migration and movement patterns, habitat use patterns, and natural sources of mortality. As in previous sections, this section should be concise yet thorough. Be sure to cite relevant literature. This subsection may be combined with the following subsection.

*Habitat Characteristics/Ecosystem* – This section of the recovery plan focuses specifically on the habitat needs of the species and should note the different habitats used for different portions of the species’ life history (breeding, feeding, calving, spawning, nesting, summer and wintering grounds, denning areas, migratory routes, roosting sites, rookeries, haul-outs, seasonal wetlands or drylands, etc.). Be sure to include relevant physical habitat and ecosystem needs, such as geological formations, plant or community associations, soil type, elevation, migratory pathways, cover and food use, currents, water quality and quantity, flow regimes, and host species or plant pollinators, as well as known relationships to competitors, predators and prey, and symbiotic relationships. Habitat noted here may reflect a recent critical habitat designation. Important habitat outside of critical habitat or where critical habitat has not been designated, is often referred to as “essential habitat.” If critical habitat is designated, it would be either an identical overlay or a subset of the essential habitat (see box on Critical Habitat vs. Essential Habitat, 4.6-3).

Describe all essential physical and biological elements of the species’ ecosystem that should be considered by persons proposing activities that may affect the species or its recovery, or that may help prioritize recovery actions. This information will be utilized for section 7 consultations, Habitat Conservation Plans, and other management programs.

*Reasons for Listing / Threats* – The intent of this subsection is to provide a framework for the reader to understand the actions specified in the Recovery Program/Narrative Outline. This subsection should include an overview of the species’ decline and causes of decline (if applicable), as well as the threats the species currently faces.

Threats should be distinguished by the effect they have on the species and by the source of the threats. For example, the threat of silt loads in a stream could have the effect of reducing the available oxygen for a listed fish. The source of the threat could be from many possible sources; residential development, agriculture, industrial, recreational uses. The planned recovery actions will be more specific if the sources of threats are understood. Both current and anticipated threats should be identified, and distinguished from past threats, which may have contributed to the species’ past declines but are no longer of concern. A description of current or anticipated fishery practices or land management practices that may affect the species should be included, as they may have a direct bearing on decisions regarding the recovery and management of listed species. The description may also give historical perspective to future management issues or conflicts. If the species was recently listed, much of this information can be taken from the “Factors Affecting the Species” section of the listing rule.

The results of conducting a threats assessment will feed into writing this subsection. A threats assessment is the identification of the stresses and sources of stress to the listed species or its habitat, and the evaluation and ranking of those stresses. This type of exercise is particularly valuable when there are multiple, potentially interacting, threats. It offers a structured approach to assessing the relative importance of each threat to the species’ status, which in turn should aid in prioritizing recovery actions.

*Conservation Measures* – For some species, conservation efforts will have been ongoing or will be initiated prior to approval of the recovery plan. Any such activities should be discussed here. This discussion should include, if applicable, the reasons why the measures were considered insufficient to avoid listing (e.g., only covered a small portion of the species’ range or addressed

one threat but not others), as this will be instructive to the reader and help to document why FWS and NMFS took the strategy that they did in subsequent sections of the recovery plan. For revised plans, this is also the place to list the recovery actions that have been accomplished to demonstrate implementation.

*Biological Constraints and Needs* - Based on all of the above, identify any biological constraints or needs of the species that need to be taken into account in planning and management. The purpose of this section is to state up front any known limiting factors that are biologically inherent in the species and non-modifiable, which therefore *must be honored* when designing any management/recovery program for that species. Examples might include: extremely delayed maturity which requires unusually high annual survival in juvenile stages; needs for a particular and rare habitat for one or another life history stages; need for a minimum population size for successful breeding behavior, etc. In the case of freshwater mussels, the presence of fish hosts for the larval stage of the mussel in particular river reaches at particular times of year might be crucial. Identifying constraints and needs will not only inform recovery planning, but also the development of habitat conservation plans, section 7 consultation, Safe Harbor agreements, and any other activities that may affect the species.

## Recovery Strategy

*The Recovery Strategy* presents and justifies the recommended recovery program for the species. It can be one of the most challenging sections of the recovery plan. This section has not been included in all recovery plans in the past. However, because it is the link between the needs of the species and the Recovery Program, it is believed to be extremely useful and is now a required section of the plan.

The Recovery Strategy is the section of the plan that links the biological and situational background to the recovery program for the species. The Recovery Strategy is comparable to the “If ....., then ....” statement of a logical problem, that identifies the assumptions and logic underlying the selection of one path over another to achieve the objectives and goal. Because the rationale for recovery recommendations lies in the Recovery Strategy, it provides a cogent, well-reasoned preamble to the recovery objectives and criteria that immediately follow. Rather than merely paraphrasing or summarizing the criteria and actions, the Recovery Strategy is intended to give a clear sense of the “whole” of the recovery effort within which the actions are the individual parts.

An effective strategy will, in a few short paragraphs, enable the reader to grasp the species’ current situation and the logic of the recommended approach to its recovery. The strategy will comprise an important part of the administrative record should recovery recommendations ever be challenged.

*The Recovery Strategy* synthesizes the pertinent information from the Background section lays out a structured, logical approach to recovery based on this information, and justifies this recovery approach.

The following elements should be addressed (not necessarily in the order presented), as appropriate:

- X Key facts and assumptions. Taken from the Background, these considerations may be a combination of concerns about the species' demography, threats, biological constraints and needs, ongoing conservation programs, data gaps, and so on. These key facts and assumptions form the foundation upon which the recovery recommendations are based.
- The primary focus(es) of the recovery effort. For some species, the recovery program will have a single overriding focus (for example, habitat protection, or control of invasive species); for other species, the recovery program may have a two- or three-pronged focus (for example, captive propagation may be needed while control of invasive species is being undertaken). The relative priority and timing (whether simultaneous or sequential) of each prong should be made clear. In either case, the focus of the recovery effort should be evident in the plan's recovery recommendations.
- The overarching objectives, criteria and recovery actions of the plan and their relative priorities. How do the objectives, criteria, recovery actions support the primary focus of the recovery effort, and priorities of each? For instance, if habitat protection is the most immediate and primary need, but recovery can not be achieved without an ambitious reintroduction program, the relative priority and timing of these imperatives should be made clear.

Other important considerations or contingencies, if any. Any other important considerations or contingencies that will play a strong role in the recovery effort should be explained.

## Recovery Goals, Objectives and Criteria

*Recovery Goals* – A goal is the desired outcome of an activity. For the purposes of recovery planning the goal is almost always delisting of the species. In all cases, recovery criteria should clearly articulate the conditions under which the species will be delisted under the ESA. If a species is listed as endangered, an interim goal of reclassification to threatened, with accompanying objectives and criteria, is also appropriate. It is possible for some species that delisting will never be feasible. In this rare case, the goal may be to achieve long term stability through perpetual management and downlisting to threatened status.

*Recovery Objectives* – Goals can be subdivided into discrete component objectives which collectively describe the conditions for achieving the goal of delisting. Simply stated, recovery objectives are the parameters of the goal and criteria are the values for those parameters.

Long term sustainability of a species requires adequate habitat (type, amount, and quality) and elimination or control of threats (this may also include having adequate regulatory mechanisms in place). Thus it is appropriate to identify recovery objectives in terms of the five listing factors and any particular vulnerability or sensitivity inherent to the species. For example, a recovery objective might be to identify the need for adequate, quality nesting habitat be held in protected

status. Other objectives might be to eliminate or control incidental take of a species or to increase recruitment to the breeding population.

*Recovery Criteria* – Determining recovery criteria is a statutory requirement articulated in the ESA for recovery. The ESA states that each recovery plan shall incorporate, to the maximum extent practicable, “objective, measurable criteria which, when met, would result in a determination. . . that the species be removed from the list.” Thus, the recovery criteria comprise the standards upon which the judgment or decision to reclassify or delist a species should be based. Recovery criteria can also be viewed as the targets, or values, by which progress toward achievement of recovery objectives can be measured. For instance, if we have identified what a species’ populations, habitat, and threats are expected to look like when the species is recovered (and is eligible for downlisting or delisting), we will be better able to determine how far the species needs to move to reach those objectives and the actions needed to achieve that state of recovery.

Recovery criteria may include: population numbers and sizes, management or elimination of threats by specific mechanisms, specific habitat conditions, minimum time frames, and so on. Criteria often must be developed in the face of considerable uncertainty. If it is difficult to measure the parameters upon which the recovery objectives and criteria are based, it is entirely appropriate to identify confidence limits or other means to account for uncertainty in predictions and measurements. For example, a criterion might require that a certain measurable condition be met with 95% confidence for a period of three generations.

When drafting recovery criteria, remember that they should be “SMART:

*Specific* - Who, what, & where

*Measurable* - So that species status and recovery progress can be assessed

*Achievable* - Authority, funding, staffing are technically feasible (even if not always likely)

*Realistic* - Grounded in good science and defensible

*Time-referenced* - Not open-ended, having a set time frame for determining if the objective is be met, e.g., stable or increasing “for 3 generations” or “for a minimum of 10 years.”

In the past, recovery criteria have typically included population numbers, sizes, and trends. Some criteria have also identified particular distributions of populations and individuals across the landscape in order to ensure demographic and genetic resilience to stochastic events. These type of criteria remain valid and useful. Yet few criteria have historically been focused on threats or, specifically, the five listing/delisting factors. The tacit assumption has been that the species’ population parameters serve as surrogate indicators of the status of the species’ threats and habitat. This assumption may serve the purpose in some cases; however, in others this may not be true. For example, population augmentation through captive breeding and reintroduction may increase a species’ population numbers while a threat continues unabated; population declines will recur once augmentation ceases. In another example, take of a species, either direct or via habitat alteration, may have been curtailed by listing the species and populations may thus have rebounded, but the threat of take could recur after delisting if controls have not been explicitly addressed. Evaluating a species for potential delisting requires an analysis of the five listing factors to address this problem. Hence, there is a need to frame criteria in terms of both

population, or demographic, parameters and in terms of the five listing factors. In this way, the recovery program for a species is more likely to ensure the underlying causes of decline have been addressed and mitigated prior to considering a species for delisting. Furthermore, if a plan includes criteria framed in terms of the five listing factors, the assessment for reclassification or delisting (50 CFR 424.11) the species should be relatively simple and straightforward, unless the plan is outdated and the recovery criteria included are no longer believed to be appropriate.

Legal challenges pertaining to the grizzly bear and Sonoran pronghorn recovery plans have affirmed the need to frame recovery criteria in terms of the five listing factors.

“Congress has spoken in clarion terms: the objective, measurable criteria must be directed towards the goal of removing the endangered or threatened species from the list. Since the same five statutory factors must be considered in delisting as in listing, 16 U.S.C. § 1533 (a), (b), (c), the Court necessarily concludes that the FWS, in designing objective, measurable criteria, must address each of the five statutory delisting factors and measure whether threats to the grizzly bear have been ameliorated.” (see Fund for Animals v. Babbitt)

There may be times when the current best available information is so seriously limited it is truly not possible to identify delisting or reclassification criteria. This would be an unusual case (see Gila trout case study, Box 12); however, when it occurs, the recovery plan and administrative record must clearly show why it is not possible to identify appropriate criteria at the time, and include the actions necessary to obtain this information and develop delisting or downlisting criteria once it is obtained.

### **Recovery Program **Error! Bookmark not defined.****

This section of a recovery plan describes the recovery actions believed necessary to achieve the plan's goal(s) and objectives. Essentially, all actions that may alleviate known threats and restore the species to long term sustainability, such as, habitat protection, protection from take, research, control of disease, controlled (including captive) propagation, reintroduction or augmentation, and control of alien species. The anticipated activities included in the species' Recovery Outline will contribute to the development of the recovery program. Ongoing or planned federal, regional, state, local or tribal recovery activities should be incorporated into this section and work toward the same goals as the plan. Measuring the effectiveness of the plan (known as implementation or compliance monitoring) should be included in the recovery program and should be assigned a priority equal to the activity that is being monitored. The importance of monitoring the results of these actions is the only way to measure success. (See Monitoring and Adaptive Management subheading in Section 4.8.3, Recovery Narrative)

Ultimately, the Recovery Program section of the recovery plan will provide guidance to the resource manager, resource user or landowner regarding the specifics of each recovery action (including its role and priority within the overall recovery program); it will also facilitate tracking recovery progress and accomplishments. It should also assist in identification of appropriate conservation actions that can be implemented via section 6, 7 or 10 of the ESA. As

always, effective coordination with stakeholders and other interested parties is essential in the identification of recovery actions.

*Stepdown Outline* – The stepdown outline is a “skeleton” list of actions in the Recovery Narrative, i.e., includes all actions in the Recovery Narrative without the accompanying descriptions. It’s often included in a plan to facilitate seeing the big picture of the Program. Regional Directors/Administrators may include stepdown outlines in plans at their discretion. Sequential numbering using decimal points to indicate “stepped-down” actions is recommended (see below). Generally, the Stepdown Outline is inserted into the plan after the Recovery Narrative is completed, as it will reflect the Recovery Narrative verbatim. The following box exhibits portions of a Stepdown Outline from the Atlantic Coast Population Piping Plover Recovery Plan.

*Recovery Narrative* – This section of a recovery plan describes all actions necessary to achieve full recovery of the species both in the near term and the long term. Within the Recovery Narrative, recovery actions should be stepped down to discrete actions that can be funded, permitted or carried out independently. For instance, in the case above, “Reduce pedestrian recreational disturbance, two actions are “Fence and post areas used by breeding plovers, as appropriate” and “Implement and enforce pet restrictions.” Actions are also listed as separate recovery actions if one should receive a higher priority than the other. Use judgement in deciding how finely to slice the recovery actions. If certain actions are dependent on the outcome of other planned actions, this should be noted in the narrative and the time frames for later recovery actions can be shown to follow the first action in time in the Implementation Schedule or, if the timing is not certain, can be identified as “to be determined” in the Implementation Schedule.

The following parameters should be applied to the Recovery Narrative:

- 1) Recovery actions should be concise and action oriented.
- 2) The narrative should include near-term actions (to prevent extinction or lead to long-term recovery actions) and long-term actions (all those actions needed to reclassify to threatened status or delisting). The narrative should include near-term actions (to prevent extinction or lead to long-term recovery actions) and long-term actions (all those actions needed to reclassify to threatened status or delisting).
- 3) Recovery actions that are dependent on the outcome of earlier actions should be so indicated.
- 4) Priority 1 recovery actions (see Implementation Schedule, Section 4.10) must be justified in the Recovery Narrative as those actions necessary to prevent extinction or prevent the species from declining irreversibly in the foreseeable future.
- 5) Recovery actions should be stepped-down to discrete items at a level at which they can be funded or contracted.

Recovery actions may include, but are not limited to, limiting direct take, habitat protection and restoration, research, monitoring, controlling threats, population augmentation and outreach:

*Limiting Take* – Recovery actions can specify the need, and means, to eliminate or minimize take of the species. For instance, “Reduce nest disturbance by creating seasonal no-take zones” or “Establish no take zones around rookeries” may be appropriate actions to include in some plans. Knowing these types of actions are recommended can be particularly useful when conducting section 7 consultations or developing Habitat Conservation Plans.

*Habitat Protection and Restoration* – Where this has not been done yet, a recovery action might speak to the need to identify essential habitats for breeding, migration, etc., including some that may need restoration. Specifically identify any recommendations for the protection or management of the species' essential habitats. For instance, “Exclude cattle from Site A via fencing or other means.” This may include critical habitat as well as other habitat important to the continued existence and recovery of the species. Identify appropriate options for habitat protection (for example, conservation agreements with landowners, local or state laws or regulations, or fee purchase). Also, any habitat to be acquired by a Federal agency (or some State agencies) for endangered species must be identified in the recovery plan before the Administration will submit the request to Congress.

*Research* **Error! Bookmark not defined.** – Research actions in the recovery plan should be limited to those essential to meeting recovery criteria, and achieving goals of the plan. These may include identifying and studying aspects of life history critical to population growth and persistence, determining underlying biological and ecological causes of population decline, and identifying and studying threats to the species. Genetic research may also be important when establishing new or augmenting existing populations, when establishing priorities where only a subset of the existing population can be protected, or for species with critically low levels (Schemske, et al. 1994). Within the Recovery Narrative, also explain the potential need to change recovery actions or priorities as the results of research become available (see Monitoring and Adaptive Management in this section below). Note that specifying research actions may be necessary for obtaining funding for these actions and helpful in obtaining scientific research permits under section 10(a)(1)(A).

*Control of Threats* – As stated throughout this document, it is not adequate merely to increase numbers and populations in order to delist a species; rather, it must be clear that threats to the species' well-being are sufficiently controlled to ensure that the species will not experience a renewed decline in the foreseeable future. See court cases under Section 1.2. Therefore, recovery actions that control identified threats should be included and the reasons for inclusion should be made clear. Many recovery actions may be perceived to naturally control threats, e.g., habitat protection. However, depending upon the type of protection and management regime, a threat to habitat may be more or less controlled. When putting together the Recovery Narrative, it is worth reviewing the species' listing documents, as well as the Background section of the plan, to be sure all threats are being addressed adequately.

*Monitoring and Adaptive Management* – Monitoring is the measurement of an action or an environmental characteristic over time to determine compliance, status, trends, or effects on

some aspect of the environment. There are three basic types of monitoring that are done in the recovery program: 1) *Implementation (compliance) Monitoring* is used to see if the plan is being implemented fully (Did we do what we said we could do in the recovery plan?); 2) *Status and Trends Monitoring* to determine whether a population is increasing or decreasing (What is happening to our population right now? Is the population increasing over time and what can we predict for the future?); and, 3) *Cause and Effect Monitoring* to test hypotheses and find out (research) whether an action is effective and should be continued (Is the dam hindering fish migration? Is our management action causing the population to increase?).

Monitoring can be focused on tracking population trends, threats, limiting factors for species and their habitats, and plan implementation. Without monitoring, management decisions may be made without verification of their usefulness. Partnering with academic institutions and researchers may prove an efficient means of achieving monitoring, especially the cause and effect type of monitoring which is mostly research.

Where uncertainty exists with respect to the threats to the species, the species' life history, or the effectiveness of various management actions, adaptive management can be an extremely useful tool for moving towards recovery. Adaptive management uses the scientific method to "learn by doing," and then to adapt accordingly. It involves (1) formulating a plan or action (in this case a recovery or research action), (2) setting it up as a hypothesis to be tested, (3) implementing the action *while monitoring the outcome*, (4) evaluating its effectiveness or outcome using pre-determined criteria, and (5) adjusting, discontinuing, or continuing the action as necessary or, in the case of research actions, taking the next appropriate step depending on the outcome of the research. This process provides feedback to ensure actions are effective and minimizes surprises if an agreed-upon objective is not reached and additional steps become necessary.

The keys to adaptive management are appropriate monitoring of an action, agreed upon criteria to determine whether an action is effective, and agreed-upon actions to take if the effectiveness threshold is not reached during the agreed upon time frame or depending on the outcome of the research. Where uncertainty exists, management actions should have specific criteria for evaluating their effectiveness. For example, if the goal is to increase the species' habitat over time, it is important to note whether any amount of increase is acceptable, or if there is a percentage increase (say, 10%) that would be acceptable. It is also important to note the time-frame over which the increase must be maintained. Having the objective stated clearly, in quantifiable terms when possible, and agreed upon beforehand makes it easier to determine the point at which goals have been met. Finally, it is important to determine up front what actions will be taken if the objective is not reached. For instance, in a case where the objective is not reached, it should already be decided whether additional habitat will be protected, the habitat will be protected more intensively, the management should be changed, or the management will be curtailed. More information on Adaptive management will be included in the Implementation section of the Recovery Handbook.

*Outreach* – Outreach is a key component to ensuring the long-term recovery of listed species. In a typical recovery plan, an outreach strategy is often seen as a low priority action and placed at the end of implementation schedules and action lists. However, providing information to the public and especially those entities most likely to affect the species, may be crucial to species

and habitat recovery. Effective partnering is a good start to outreach, but other means, such as holding public meetings, producing fact sheets, writing news articles, and giving public programs will usually result in increased support for recovery actions and can help ensure conservation of the species far beyond what the FWS and NMFS can do alone. Increasing public interest also results in better chances of maintaining funding. See Section 5.2, Outreach to Public.

## Implementation Schedule

The Implementation Schedule satisfies the requirement under the ESA that recovery plans must contain “estimates of the time required and the cost to carry out those measures needed to achieve the plan’s goal and to achieve intermediate steps toward that goal” (section 4 (f)(1)(A)(iii)). Implementation schedules also identify a priority for each recovery action in the Recovery Narrative and recommend a responsible party for carrying each recovery action. The Implementation Schedule can be used in securing and obligating funds, and establishing associated regulatory and other management priorities. The Implementation Schedule provides the basis for tracking plan implementation performance.

The Implementation Schedule is usually located immediately after the Recovery Narrative. It is usually presented in a table format in a landscape orientation with each row representing an individual action. (See example, Appendix N)

*Introduction/Disclaimer* – Given the limitations to the information contained in an Implementation Schedule, it is advisable to include as a preface an introduction/disclaimer. An example of a preface is:

*“The Implementation schedule that follows lists the actions and estimated costs for the recovery program for the [name of species]. It is a guide for meeting the recovery goals outlined in this plan. Parties with authority, responsibility, or expressed interest to implement a specific recovery action are identified in the Implementation Schedule. When more than one party has been identified the proposed lead party is indicated by an asterisk (\*). The listing of a party in the Implementation Schedule does not require, nor imply a requirement, that the identified party has agreed to implement the action(s) or to secure funding for implementing the action(s). However, parties willing to participate may benefit by being able to show in their own budgets that their funding request is for a recovery action identified in an approved recovery plan and is therefore considered a necessary action for the overall coordinated effort to recover [species name].” Also, section 7(a)(1) of the ESA directs all federal agencies to utilize their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of threatened and endangered species.”*

*Assigning priorities* - Priorities are assigned to actions in the implementation schedule. In compliance with the FWS Endangered and Threatened Species Listing and Recovery Priority Guidelines, Recovery Plan Preparation and Implementation Priorities (48 FR 43103) and the NMFS Endangered and Threatened Species Listing and Recovery Priority Guidelines (55 FR 24296), all recovery actions will have assigned priorities based on the following:

2. **Priority 1:** Actions that must be taken to prevent extinction or to prevent the species from declining irreversibly;
3. **Priority 2:** Actions that must be taken to prevent a significant decline in species population/habitat quality, or some other significant negative impact short of extinction; and
4. **Priority 3:** All other actions necessary to provide for full recovery of the species.

It is important to emphasize that a priority 1 recovery action is an action that must be taken to prevent extinction. Therefore, use of priority one recovery actions in a recovery plan for a threatened species should be done judiciously and with a constant reflection back to the original definitions to protect against assigning recovery actions an unwarranted high priority. Remember that *all* recovery actions must be completed to achieve the recovery objectives. Assigning priorities does not imply some recovery actions are of low importance, but they may be deferred while implementing higher priority recovery actions. For some species, especially those with complicated recovery programs involving many actions, it may be useful to assign sub-priorities within these categories (for example: priority 1a, priority 1b, priority 1c).

*Table structure* – Recovery actions in the implementation schedule can be arranged in priority order. If the recovery team chooses to organize recovery actions this way, all priority one recovery actions are grouped first, priority two recovery actions grouped next and priority three last.

*Recovery action number* – Enter the number as identified in the Recovery Narrative. Recovery actions listed in an Implementation Schedule should be of the lowest (most specific) order.

*Recovery action description* – Enter the title, or brief description, of the recovery action. If an action will likely be accomplished simultaneously with another action, you may want to refer to that action here as well.

*Recovery action duration* – Estimate the length of time to complete the recovery action. State whether the recovery action is currently ongoing and whether it will be continuous throughout the recovery period. Try to be precise and note that identifying *too many* actions as “ongoing/continuous” has been found inappropriate in a court ruling on the Sonoran Pronghorn (Defenders of Wildlife v. Babbitt, 130 F.Supp.2d, 121 (D.D.C. 2001))

*Responsible parties/participants* – Identify the best lead participant based on collective agreement of who is expected to actually accomplish the recovery action. Note that inclusion under Responsible Parties does not commit any party (except FWS and NMFS) to actually doing the work, but merely identifies the best candidate for completing the action.

*Cost Estimates* – Enter the estimated costs for each identified recovery action. This can be a difficult section to complete as obtaining cost estimates from other identified parties can be challenging. Costs should be provided on an annual basis and projected out for a minimum of five years [again - I question this – think the ESA instructs us to go all the way to recovery - Can you check with solicitor? - sp] from the time the plan is finalized. The potential for developing additional guidance on how to develop cost estimates is being investigated; please check for guidance in the future on this issue.

*Comments and Notes* – This is a good place to identify whether a recovery action is already underway or any other relevant information pertaining to that recovery action.

## KEEPING THE PLAN CURRENT AND USEFUL

There are a variety of means of adding new information to a recovery plan to keep it current and useful. The initial consideration is whether the new information warrants (1) a plan update, (2) a plan revision, or (3) a plan addendum. In determining which of these is most applicable, consider: how old the plan is, how much information has changed, the extent of new information, and the level of interest or controversy in the plan. It is important to keep contributors to the recovery effort, and all stakeholders, informed about key recovery decisions as well as updates, revisions and addenda.

Less complex plans may be easier to update than more complex or multi-species plans. The ability to keep a plan current should be a strategic consideration in determining how to structure the initial document and orchestrate the public involvement process. Recovery plans should always be formatted to allow for updates, revisions, and addenda. The formatting should follow a pattern of pagination that allows specific plan sections to be replaced in their entirety. Each page should be numbered with the chapter, section, page number, and date (see Section 6.2, Formatting). During the recovery process, new information will emerge on a more or less regular basis. Establishing a central clearinghouse for this information will greatly expedite plan updates or revisions. In most, if not all, cases it may be most efficient to keep recovery plans current by updating them frequently enough to forgo the need for major revisions. In taking this incremental approach, however, it is important to bear in mind that at certain points, multiple changes that are minor in and of themselves may add up to a major change in recovery direction, of which the public should be informed and involved. The question of when to involve the public when keeping plans continually current may be best addressed by taking an interactive approach to public involvement, as described below.

### Types of plan changes

**Updates** - An update to a recovery plan involves relatively minor changes. An update may identify specific actions that have been initiated or will be initiated since the plan was completed, as well as changes in species status or background information that do not alter the overall direction of the recovery effort. An update cannot apply to changes in criteria or goals, as these are considered substantial changes and would entail a revision. Updates should be completed by the lead biologist for the species, or the recovery team. Copies of the updated pages should be forwarded to cooperators, the distribution list for the recovery plan, and posted on the FWS and NMFS Internet site. An update represents a minor change to a recovery plan and does not require public review or comment.

**Revisions** - A revision is a substantial rewrite of at least a portion of a recovery plan and is usually required if major changes are required in the Recovery Strategy, Recovery Objectives or Criteria, or Recovery Narrative (actions). A revision may be required when new threats to the species are identified, when research identifies new life history traits that have significant

recovery ramifications, or when the current plan is not achieving its objectives. In some cases, a revision may be undertaken when a significant amount of time has passed and a number of updates have been completed. The planning process for revising a recovery plan is the same as for original plan development, including reconvening a recovery team, if appropriate. Revisions of recovery plans represent a major change to the recovery plan and should include review with public comment.

Addenda - An addendum can be added to a plan after the formal plan has been completed. Types of addenda can range from implementation strategies or participation plans to more minor attachments of data. Addenda that represent significant additions to the recovery plan should undergo public review before being attached to the recovery plan. An example of a significant addendum is one that adds a species to a plan.

## Involving the public

Keep in mind that revisions and some addenda (those that are significant) will require a formal public review and comment period as prescribed by the ESA and identical to that described for initial recovery plans. Our responsibility to invite public involvement and respond to public input throughout the recovery process extends, however, beyond the letter of the law.

At a minimum, FWS and NMFS are required to notify the public at the outset, through a Federal Register Notice of Availability, that a plan revision or major addendum is being prepared. This Notice should solicit data, provide information about public review and comment, and state the purpose of the revision or addendum. This effort is most often done for controversial species. If the public has been actively involved in implementing the standing recovery plan, public involvement in the upgrading process may be seamless. Productive working relationships with contributors and stakeholders may expedite the process of making changes to the plan. The public involvement process should be viewed as an *interactive* process, and, in this sense, technologies that facilitate ongoing interaction should be exploited whenever possible. Tools such as websites, email networks, audio- and video-conferencing, and discussion threads may enhance the ability to keep recovery plans *continually current*.

## Review and approval of plan changes

Updates to recovery plans represent minor changes and can be approved at the field office or Regional Director/ Regional Administrator level. Updates do not require formal public comment periods; however, contributors, stakeholders and Washington/Headquarters Offices should be sent a copy of the changes to the plan.

Recovery plan revisions represent a significant change to the recovery plan, and therefore must go through the same review and clearance procedures as a draft and final recovery plan (see section 2.6.4), including a formal public comment period announced in the Federal Register.

The review and approval of addenda should occur on a case by case basis due to the highly variable significance of different types of addenda.

## Literature Cited

Be sure to cite all literature that is referenced in the recovery plan in proper scientific citation format. It may also be helpful to include a list of references not cited, but used in background research, but it would not be appropriate to keep them on the same running list.

## Appendices

Any peripheral but pertinent documents can be included in the appendices of the recovery plan. Resist putting in too much into the appendices. Appendices can include: outreach materials, relevant reports (or their executive summaries); data; habitat management plans; summaries of public comments and information on public meetings. The comments, or a summary thereof, of the draft plan can also be an appendix. Appendices are also good places for specific issues to be fleshed out in detail. For instance, the Southwestern willow flycatcher plan uses appendices to explain the complexities of the grazing issue as it relates to the flycatcher's habitat.

ADDITIONAL RECOVERY PLANNING TOPICS in the DRAFT Handbook not excerpted here:

PARTICIPATION IN THE PLANNING PROCESS

- Stakeholder Involvement
- Public Communication and Outreach
- Recovery Teams
- Partnerships
- Scientific peer review

TECHNICAL DETAILS

- Quality Control / Internal Consistency
- Formatting
- User friendly / plain English
- Approval and Distribution Process
- Documentation
- Tracking and information management

EMERGING ISSUES

RECOVERY PLANNING REFERENCES AND LITERATURE CITED