

Responses to Comments

on the

Monitoring Plan for the American Peregrine Falcon
A Species Recovered Under the Endangered Species Act

Submitted to States and Cooperators for Review

December 2003

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Introduction

Previous versions of this monitoring plan received considerable review through two 30-day public comment periods [Notices of Availability were published in the Federal Register on July 31, 2001 (66 FR 39523), and again on September 27, 2001 (66 FR 49395)]. The Fish and Wildlife Service (FWS) distributed a 2002 revised version internally for comment by FWS regions, to monitoring cooperators, and to the International Association for Fish and Wildlife Agencies on November 22, 2002 for their distribution to State wildlife agencies for review. On January 13, 2003, this same version was distributed to individuals and organizations who had commented on earlier versions. The FWS then evaluated all comments received and made several changes to the plan. This section is a response to both comments that resulted in changes to the plan and those that did not.

Distribution of the 2002 version generated 48 replies, from State and Federal agencies, private organizations, and individuals. Many comments, and their responses, were similar; these are organized under the general categories, below (see Table of Contents above).

Public Review, Team Representation

1. Comment: The public should have the opportunity to comment formally on this version of the plan prior to implementation, considering the substantial changes from earlier versions.

Response: The FWS believes the process used in drafting the plan is consistent with the public comment requirements of the Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1537-1544) and the Administrative Procedure Act (APA; 5 U.S.C. §§ 551-59, 701-06, 1305, 3105, 3344, 5372, 7521). The ESA contains no specific requirements for public comment on delisting monitoring plans, instead stressing cooperation with the State wildlife agencies during plan development. This is in contrast to the specific public comment requirements for drafting ESA recovery plans (16 U.S.C. 1533(f)(4)) and the requirement to list species and designate critical habitat *by regulation*, which would include formal public notice and comment procedures (16 U.S.C. 1533(a)(1)&(3)). Further, the APA (5 U.S.C. 553) requires formal public notice and comment only for legislative rules and excepts interpretive rules, general statements of policy, or rules of agency organization, procedure, or practice. The plan does not create new law, rather it interprets and clarifies the ESA's monitoring requirements (16 U.S.C. 1533(g)(1)) in specific relation to the delisted American peregrine falcon and outlines the organization

and procedures the FWS will use to monitor the falcon effectively. Despite the lack of public notice and comment requirements in the ESA and APA, the FWS chose to seek public input anyway by opening two public comment periods on earlier versions of the plan in 2001 and sought further public input in December 2002-January 2003.

2. Comment: Only agency biologists are represented on the national monitoring team; expertise from Recovery Teams and others is lacking.

Response: The Peregrine Falcon Monitoring Team is entirely FWS employees, each representing a different FWS Region. We are a diverse group of biologists with different levels of experience with Peregrine Falcons, bird biology, population monitoring program design, and scientific training. Each member brought his or her own expertise to bear on the plan and spoke for the interests of cooperators and others monitoring Peregrines in his or her respective region. The team benefitted from the advice of a few members with many years of experience monitoring Peregrines. While the FWS might be criticized for including only agency biologists on the team that developed the plan, the FWS did seek comment, three times, from other Peregrine experts across the United States as this plan was developed. This input, from experts outside and from within the FWS, substantially improved the plan.

Objectives

3. Comment: The plan should be designed to detect increases as well as declines; the plan should be designed to find new territories.

Response: The focus of this plan is to detect declines in measures of population status in time to reverse or stabilize population trends, and therefore keep the peregrine from becoming threatened or endangered. It was never intended to monitor population increases, which new territory starts would indicate. However, the FWS will keep track of new territory starts if supplied with this information by State wildlife agencies and others. The plan encourages observers to document new territories when they are monitoring sample territories.

Subsequent to this plan, assuming Peregrines populations are doing well, there might be a new monitoring scheme designed to track population increases as well as declines. However, those decisions will be made by the FWS Division of Migratory Birds and State Programs after 2015.

Monitoring Frequency

4. Comment: Baseline data must be acquired prior to intermittent monitoring if the latter is to have any validity; monitoring Peregrines five times, at three year intervals, is inadequate; monitoring annually for at least three years to establish a baseline should be required.

Response: With few exceptions, Federal and State agencies and non-governmental organizations continued to monitor Peregrines since delisting as they have since the 1970s. These post-delisting data demonstrate the continued expansion of Peregrines across the United States (Figure 2 of the plan). In the preparation of this plan, Regional Coordinators asked State wildlife agencies and other cooperators monitoring nesting Peregrines for the number of territories occupied at least once from 1999 to 2002, the number of territories checked for occupancy in those years, the number of occupied territories, and the number of nests fledging at least one young during that period. These data were used to calculate current rates of territory occupancy and nest success, which were then used to determine the sample size necessary to estimate declines of a certain magnitude, power, and precision (Appendix F of the plan). They also provide a baseline against which data collected as part of this monitoring effort can be compared. Although not collected with exactly the same methods (timing of nest observations, length of time observers spent to determine occupancy, age of nestlings at which ‘fledging’ is determined, etc.) they are, nonetheless, reasonably standardized.

The Monitoring Team chose to monitor Peregrines five times at three-year intervals, beginning in 2003 and ending in 2015. Five monitoring periods meets the requirement of ESA (to monitor “...for not less than five years...”); the three-year interval spreads the monitoring over 13 years, reflecting our concern for the long-term rather than short-term future of the Peregrine. The Monitoring Team believes the most likely threat to future Peregrine populations will be from contaminants, and that effects on productivity and survival from contaminants will be noted over the long- rather than short-term. Monitoring every year over the long-term would be unnecessary in the face of increasing population trends and it would be costly. In the end, monitoring 5 times at 3 year intervals over 13 years will provide sufficient comparative data and trend information on territory occupancy, nest success and productivity to measure effects from what we believe to be the most likely potential threats to Peregrines, contaminants.

5. Comment: Monitoring Peregrines five times, at three-year intervals, is unnecessary.

Response: Several alternative monitoring schedules were entertained during the development of this plan. For the reasons mentioned above, the monitoring team decided that monitoring five times at three-year intervals was the appropriate strategy. At the end

of the 13-year period in 2015, the FWS Migratory Bird office might elect to continue monitoring, at this or some alternate schedule using the same or different methods, as necessary to continue tracking the Peregrine population.

6. Comment: The “every-three-year” interval of monitoring is a problem. Why not every year?

Response: Many State wildlife agencies and other cooperators are monitoring Peregrines every year, and the FWS hopes that at least some of this yearly monitoring will continue and that money in every third year will assist in some of that yearly monitoring as well. However, the majority of comments agreed that five sampling periods spaced at longer intervals were appropriate (rather than five years in a row), given the general concerns specified above in the reply to Comment 4. The Canadian government conducts surveys at five-year intervals (2000, 2005, 2010, etc). In some States, the three-year interval may be problematic in terms of keeping persons trained and available for monitoring. In the opinion of the monitoring team this potential cost is outweighed by the benefits of monitoring over a longer time period (13 years) without the unnecessary expense of the annual monitoring required to keep monitors trained.

Population Parameters

7. Comment: Seemingly, the assumption has been made that Peregrine productivity is currently unimpaired.

Response: The version of the plan that elicited this comment did not require that productivity information be collected. This version does. Neither version assumes that reproduction is unimpaired. If reproduction is currently impaired, nevertheless it seems to be at a level that allows continued population expansion. This may or may not remain the case in the future. Productivity information collected under this plan will be compared to historical and more recent productivity rates from the many studies and long-term monitoring conducted on Peregrines. Regional coordinators, State wildlife agencies, and cooperators will look for declines in productivity that might lead to substantial population declines.

8. Comment: The plan should use established and widely published standards for occupancy and productivity if the plan is to have any credibility.

Response: The rate of territory occupancy (77%) used as a benchmark in the earlier version of the plan distributed to State wildlife agencies for review included territories from some States that are continually checked but long abandoned. Recalculating using

only more recently occupied territories brings the nationwide calculation of occupancy to 84 percent. Additional calculations from data collected over the past 30 years from different regions of the United States are similar (Appendix F of the plan). These rates of territory occupation conform to often cited references, Enderson and Craig (1974; 55%-85%), and Ratcliffe (1993; 82%). Each of the above estimates is valid, and dependent upon the 'population' of territories from which it is calculated.

9. Comment: Declining trends in chosen parameters might actually indicate a healthy population at carrying capacity rather than a population in decline; the plan as written might lead to re-listing of a healthy population.

Response: We may observe declining trends in the reproduction parameters in a healthy population of Peregrines. Although this is a reasonable scenario, we do not know exactly how Peregrine populations will perform when they stop increasing. Because of this uncertainty, the monitoring team is reluctant to set rigid benchmarks by which to react to future territory occupancy, nest success, and productivity data. Rather, FWS, in cooperation with State wildlife agencies and species experts, will closely evaluate likely causes and potential solutions for negative differences of 13 percent or more in nest occupancy and nest success, downward trends, and regional or national productivity levels that drop below 1.0.

10. Comment: "Nest Success" is not an adequate standard; nest success needs to be measured when chicks are ≥ 34 days old, not at 10 days old; productivity should be measured instead of nest success.

Response: Nest Success, the proportion of nests in an area raising one or more young to fledging age, is not often the only population parameter measured in raptor studies, but it is often one of several parameters measured. Although not as robust as productivity (the number of young fledged per nest), nest success is likely to drop if Peregrines begin experiencing difficulties in reproduction, as during the DDT era. The intent of the monitoring plan version for State review was to track breeding performance of Peregrines using this measure, which specified that the determination of nest success was to be made when chicks were at least 10 days of age. This version of the plan now requires the determination of nest success be made when nestlings are 28 days or older. We chose 28 days old because nestlings of this age are more likely to survive to fledge, are more visible from a distant observation point, are of banding age, and a count is more easily made. We then decided to require a count of nestlings at this time so we will be able to estimate productivity as well.

11. Comment: Definitions of Territory Occupancy, Nest Success, and Productivity are non-standard.

Response: This version of the plan has adopted more standard definitions. These are:

Occupied Territory - a territory where either a pair of Peregrines is present (two adults or an adult/subadult mixed pair), or there is evidence of reproduction [e.g., one adult is observed sitting low in the nest, eggs or young are seen, or food is delivered into eyrie (nest site)]. Occupancy for a territory must be established for at least one of two, and possibly more, 4-hour site visits. Occupancy within a region is the number of occupied territories divided by the number of territories that were checked for occupancy.

Nest Success - the proportion of occupied territories in a monitoring region in which one or more young ≥ 28 days old is observed, with age determined following guidelines in Cade et al. (1996).

Productivity - the number of young observed at ≥ 28 days old per occupied territory, averaged across a monitoring region.

Sample Area, Sample Size, and Territory Selection

12. Comment: Sample Size is incorrectly calculated.

Response: The version for State review did miscalculate the sample size necessary to measure the desired level of decline, power, and precision. The sample size of 72, based on 68 percent nest success, *did not* take into account that only approximately 77% of those 72 territories would be occupied. The sample size has been corrected in this version. The sample is now 96 territories ($72 \div 0.75$) in each of 4 monitoring regions. Seventy five percent was chosen because it is the lowest in the range of territory occupancy values across regions, and is therefore conservative in the sense that it requires a larger monitoring sample.

13. Comment: The pool of territories to be monitored represents a biased sample and will not be comparable to benchmark rates of Territory Occupancy and Nesting Success.

Response: The pool of territories from which the sample is randomly drawn is the set of territories reported to the FWS by State wildlife agencies and other partners, which have been occupied one or more times from 1999 to 2002. Earlier data were used in cases where 1999-2002 data were lacking. Various arguments were used to suggest that monitoring only nests in this pool will bias results one way or the other and potentially misrepresent the current status of Peregrine falcon populations.

At least some of the criticism stems from a misinterpretation of what this pool of territories consists of. These territories were not necessarily occupied all four years; rather, they were occupied either once, twice, three times, or in all four years from 1999

to 2002. Thus, one comment, that we will inevitably find nearly 100 percent occupancy at first is unfounded; this pool already has a rate of ‘un-occupancy’ of 16 percent per year across the nation; this is higher in some regions and lower in others (Appendix F of the plan).

A few comments highlighted the fact that in some States there was little or no monitoring from 1999-2002, and thus the 1999-2002 ‘population’ of territories is incomplete and does not represent a consistent effort across the nation. For this reason, one reviewer suggested we use territories occupied between the years 1994 to 1998, when more territories were actually monitored. We acknowledge the incomplete nature of the 1999-2002 data set. In western States with burgeoning Peregrine populations, less energy and resources have been devoted to monitoring per territory. This is particularly true in Arizona where data have not been collected since 1997 when there were probably more than 200 breeding pairs. Nevertheless, we must rely on the best available data to determine appropriate sample sizes to meet our objectives.

One reviewer suggested the FWS randomly choose territories to monitor in States in proportion to the abundance of Peregrines in each State. For the purpose of selecting territories to monitor, we decided to treat monitoring regions as a single unit, rather than as aggregations of States.

14. Comment: Territories to be monitored should be randomly selected from a pool of all known territories.

Response: We randomly drew monitoring territories from a set of over 1,400 territories across the nation (Appendix E of the plan). Out of that pool we selected about 494 territories to monitor, or about one third. If “all known territories” includes any eyrie ever recorded to have been occupied by Peregrines, reasonably separable from other territories containing eyries, then this figure falls short of ‘all known’ territories by some unknown figure. If, on the other hand, “all known territories” is restricted to territories occupied one or more times in the last 30 years, since recovery, then 1,400 territories is probably reasonably close to the true number. We fall short of the true number of occupied and ‘known’ territories, especially in the western United States. For example, it is estimated that in California there might be an additional 100 pairs nesting in remote or poorly monitored regions (Brian Walton, pers. comm. 2002).

During recovery, Peregrines were nesting on bridges, buildings, and towers, in greater numbers than ever anticipated. The monitoring team thus decided that restricting the pool of territories to those occupied at least once from 1999 to 2002 would fairly represent the behavior of the Peregrine population at the time that FWS determined that it had recovered under the Endangered Species Act.

15. Comment: Monitoring should be done in reference areas only, rather than trying to cover entire regions, e.g. as in Alaska.

Response: There would be benefits to reducing the Peregrine monitoring effort to 'reference areas,' rather than covering the nation with randomly selected territories. Primarily, intensive effort in select areas would more easily yield information on new territory establishment than in the current plan, and therefore could be used as an index to actual population growth, as well as declines. Such an effort might be less expensive, or more, depending on the number and size of sites. Many States in the northeast, Midwest, and southeast are essentially doing this already. Tracking population increases, although laudable, is not the focus of this plan. Instead, the FWS decided to design a plan to track potential declines in population parameters that will serve as an early warning should threats to the population arise in the future.

16. Comment: Describe why monitoring in Alaska is different and why that method is thought to represent Alaska populations.

Response: Alaska is different in two regards. First, Alaska's American Peregrines are spread across a huge area that is extremely remote and therefore difficult and expensive to access. A monitoring plan that required visiting randomly selected territories scattered across this vast region would be prohibitively expensive. Second, Alaska is unique in that Peregrines have been monitored in several index areas intermittently since the early 1950s, and annually, using standardized methodologies, since the mid- to late 1970s. Data derived from these surveys have clearly demonstrated long-term trends in Peregrine population size, productivity, and contaminant loads during the Peregrine's decline and subsequent recovery. It is believed, therefore, that these long-term data sets are representative of Alaska's populations and provide an excellent baseline for post-delisting monitoring. Further, Peregrine survey protocols in Alaska have always involved surveying all cliffs within survey areas, not just cliffs selected randomly or through other processes. As a result, population increases, as well as decreases, can be detected, whereas the methods used in other Regions are primarily designed to detect only decreases in territory occupancy. As a result, we believe that to modify the long-standing survey protocol in Alaska to conform with protocols used elsewhere would compromise, rather than improve, the ability to monitor Peregrine populations in Alaska.

17. Comment: Describe the randomizing process; territories difficult to access should be tossed from the pool.

Response: Territories from each State were coded, grouped by region, then assigned a number. Using a randomization procedure in Microsoft Excel, the first 96 numbers randomly drawn were selected for monitoring (duplicate random draws of the same territory were thrown out and redrawn). If Regional Coordinators or their cooperators found that any of the selected territories would likely be too difficult to access or if the

nest site no longer existed (primarily for man-made sites like towers or where boxes had created nesting sites) then these were removed from the pool and a new replacement territory was randomly selected for that same State.

18. Comment: Why isn't the number of territories monitored proportional to regional populations?

Response: The sample size is based on the degree of decline we wish to be able to monitor and the desired precision of the data. The sample size necessary to achieve our monitoring goals is the same in each monitoring region, despite differences in total nesting pairs among these regions.

19. Comment: Mixing data from nests on manmade structures versus natural formations might bias results.

Response: This monitoring effort was not designed to evaluate population parameters based on nest location. Data collected from nests on manmade and natural substrates will be lumped in data analyses. Any differences in population parameters arising from nest location will contribute to overall variation in the data from a monitoring region. The monitoring team and cooperators are more concerned about overall declines or downward trends in these parameters, regardless of nest substrates. Large declines in any parameter may prompt an examination of the effect of nest location or substrate.

20. Comment: The territories monitored in future years, or the method of choosing them, needs to be resolved before monitoring begins in 2003.

Response: In future monitoring we will monitor either the same territories as monitored in 2003, a new set of territories randomly chosen from the same pool of territories used in 2003, a new set chosen from a new pool of territories (including newly discovered territories), or some mixture of these alternatives. The merits and drawbacks of these alternatives will be evaluated in the coming year. The data collected in 2003 will not be compromised by our choice of territory selection in future years.

21. Comment: The regions selected for monitoring do not reflect Peregrine biology; the Midwestern/Northeastern region should be split; the chosen regions are good because they allow focus on specific areas such as the southwest; boundaries should be redrawn in specific cases.

Response: There are many ways to divide the nation into monitoring regions for Peregrine falcons, including no division at all. The latter may be appropriate for such a wide-ranging species. Nevertheless, the regions we chose generally follow recovery region boundaries, are convenient administratively for the FWS, and correspond to general habitat and climatic differences.

22. Comment: How were sample territories for monitoring allocated among the States?

Response: State wildlife agencies, or other organizations within a State identified by the State wildlife agency, were asked to compile a list of all the known Peregrine territories (identified by nest sites) that had been occupied by a pair at least once since Peregrines were delisted in 1999. Based on data gathered on territory occupancy and nest success since 1999, the sample size needed to detect the level of declines and desired precision was ascertained. The sample size is the same for every region, so within each of the plan's regions (see monitoring plan), a random draw from the list of territories (occupied at least once since 1999) within that region was made. Generally about one quarter to one third of the nests in a State were randomly drawn, but due to the randomness of the draw, that "allocation" is only an approximation.

23. Comment: Clarify whether eyries/nest sites or territories are being monitored, and how will multiple eyries per territory be handled.

Response: Peregrines appear to be quite faithful to a nest location, but sometimes select an alternate site on the same cliff, or even a few kilometers away (White *et al.* 2002). Some sites appear to be very attractive to Peregrines, for a variety of reasons, and are re-occupied decade after decade by a succession of pairs. For our monitoring, the object of interest is the occupied nest site within the pair's territory, wherever it is located. Especially in the large expanses west of the Rocky Mountains, it may not always be possible to locate a nest site relocated elsewhere within a territory, and especially without banded pairs. The FWS anticipates that experienced observers are aware of this possibility, and will look around the territory for activity if an old site appears unoccupied. The FWS anticipates that the two four-hour observation periods needed to establish territory occupancy will usually be adequate for discovering an alternate eyrie within the same territory, but observers should not limit themselves to four hours if more time is needed to check potential sites within a territory.

Monitoring Protocol and Data Forms

24. Comment: There should be three or more visits to the nest site to establish productivity.

Response: Productivity has been added back into the protocol as a monitored population parameter. FWS has asked that the territory be visited a minimum of two times, with four hour observation times per visit, if necessary, to establish occupancy/non-occupancy, although three or more visits are suggested. Many or most territories will be visited three or more times, but logistical considerations may limit the number of visits to some

remote sites, especially those that are difficult to reach by boat or aircraft. In those cases, observers may time their visits to coincide with the maximum likelihood of observing incubating birds or late nestling stage chicks.

25. Comment: The monitoring protocol is too specific, or not specific enough (e.g., uncertainty about adjustments in future sites to be sampled), or it is unclear if the protocol is efficacious.

Response: The FWS received a wide range of comments regarding the protocol. Some felt that the protocol was too rigid, while others felt that there was not enough detail in the protocol. The overall consensus was that experienced observers gathering data using standard definitions, timing of monitoring, and randomly selected sites to monitor across the 40 or more States, would go a long way toward clarifying the true population status of the Peregrine, both regionally and nationally. Since the FWS has never before written a nationwide monitoring plan for a delisted species still re-occupying former habitat, FWS built some flexibility into the plan. The FWS acknowledges that there is some uncertainty as to the best way to monitor such a wide-ranging and low-density species. The State-by-State monitoring done prior to delisting was primarily versions of total territory counts with varying attention to occupancy, nest success, and productivity. A few reviewers believe that monitoring the same randomly selected territories over time may result in a guaranteed decline in territory occupancy over time, and suggested that all or some of the sites be randomly redrawn during every monitoring interval. It is likely that some sites will have to be replaced, since a few sites (especially those on man-made structures) are likely to be lost over time. The FWS, in conjunction with the working groups and cooperators, plans to continue to evaluate the monitoring plan throughout its implementation and to make adjustments to improve it, as appropriate.

26. Comment: The Service must ensure that observers can identify Peregrine Falcons and have experience in monitoring.

Response: The FWS recognizes that this is a very important element of good data collection, and has instructed in the plan that nest monitoring should be done by "...observers familiar with Peregrine nesting behavior". The FWS acknowledges that long-time volunteer or non-agency observers may be better qualified than some of its own staff at identifying Peregrines, and has incorporated as much as possible existing Peregrine monitoring networks that have been operating in the individual States and regions since the Peregrine Falcon was delisted in 1999.

27. Comment: Urban Peregrine nest sites should have less stringent monitoring standards, since the birds are more habituated to humans.

Response: Although urban Peregrines may be generally more habituated to humans than Peregrines in more "natural" or wilder settings, we strongly believe that having standard

monitoring protocol will help to limit variation in the data. The monitoring plan does suggest that observation posts should be 150 to 1,700 meters from the nest site, but this is only a recommendation. Clearly, in some urban settings, the birds can be much more closely approached: the key is stated in the plan, to “minimize stress” and to “not elicit sustained territorial behavior.” Experienced observers will be able to ascertain whether they meet those criteria or not. Also, in a few situations where a nest site is being monitored during the permitted banding of nestlings, a certain amount of stress to the birds will be unavoidable.

28. Comment: The data form should have specific sections for indicating which visit to the territory it is, whether or not the nest site is natural or on a man-made structure, what prey is being brought to the nest, various types of behavior, etc.

Response: The sample data form in this version of the plan has been revised somewhat and incorporates some of the suggested changes, but it does remain a sample form, with our minimum information requests. Among other items, observers can now indicate which visit to the territory is being recorded on the form, since each visit to a territory should be described on a separate form. The FWS anticipates that experienced observers will record behavior, prey, and other observations in the comment sections.

29. Comment: Two four-hour observation periods to determine territory occupancy is not enough time, and two four-hour observation periods to determine occupancy is not always needed (too much time).

Response: If a territory is clearly occupied by a pair of Peregrines and the nest site is easily located and observed, the two four-hour observation periods will seem excessive. Observers may end their observations before the end of the four-hour period if and when they document positive information for occupancy (territorial or nesting Peregrines, etc.). However, if a territory is very large, a nest site is difficult or impossible to locate or observe, or only a single Peregrine is seen, then two four-hour observation periods may not be long enough. The FWS Regional Coordinators decided that this minimum unit of effort is a standard way to conclude that a territory is not occupied, or will hopefully give observers enough time to overlap with a Peregrine returning to a cryptic nest with a prey item for its nestlings. This may be one area that would receive special scrutiny after the first year of monitoring.

30. Comment: Regional Coordinators must ensure adherence to the monitoring plan protocol.

Response: To the best of their ability, the FWS Regional Coordinators will try to ensure adherence to the plan protocol.

Contaminants

31. Comment: Contaminants monitoring should be mandatory.

Response: The contaminants section of the plan has been extensively revised by a FWS environmental contaminants expert and by others. It is now mandatory for 20 addled eggs and the same number of nestling feathers (see monitoring plan for extensive details) to be collected within each region before 2009, and again before 2015. Finding funding for contaminants analysis has been problematic, but the first round of samples will be collected with the coordination of the FWS Regional Coordinators and will be archived at the National Institute of Standards and Technology (NOAA) in Charleston, South Carolina, until they can be analyzed. At the very least, these samples will be a historical contaminants record available for analysis if information indicates that contaminants may be causing a significant population decline; however, funds will continue to be sought for contemporary analysis, regardless of whether or not a population decline occurs.

32. Comment: Who will do the contaminants monitoring, and how?

Response: The FWS Regional Coordinators are charged with coordinating the collection of addled egg and feather samples, as outlined in the monitoring plan and Appendix G of the plan. Appropriate agency personnel and cooperators with appropriate State and Federal permits who are banding Peregrine nestlings or otherwise monitoring nests will be able to collect up to 20 addled eggs and 20 feather clippings (using protocol in Appendix G) over the span of 2003 to 2009. Should we receive sufficient funds, we will analyze the samples as outlined in Appendix G.

33. Comments: Failed nest eggs should be sampled for contaminants; collect fresh eggs randomly since only collecting addled eggs for contaminant analysis is biased; egg collection should have a random component to it.

Response: The FWS has concluded that if it becomes clear that there is a Peregrine decline being generated by contaminants, we would reconsider the possibility of using fresh as well as addled eggs for analysis. Past work has indicated that at least some of the time, addled egg contaminant concentrations (e.g. organochlorines) were not significantly different from fresh egg samples (R.E. Ambrose, A. Matz, T. Swem, and P. Bente, FWS Technical Report NAES-TR-00-02, 2000.), although similar sampling may be biased in highly contaminated populations. The FWS has concluded that opportunistic collection of addled eggs, in the absence of evidence of a population decline related to contaminants at this time, is the best course of action. We will reevaluate this in the future, if necessary.

34. Comment: The contaminants analysis should also include analysis of heavy metals.

Response: The analysis of both eggs and nestling feathers will include heavy metals analysis.

Implementation

35. Comment: Who are the “working groups” mentioned in the plan, and why weren’t the recovery teams used?

Response: Most of the monitoring regions have Peregrine working groups within their region, either a multi-State group, or individual State groups. These are mixed groups of cooperating agency and non-agency personnel with interest and expertise in the recovery of Peregrines. The FWS Regional Coordinators (see Appendix A of the plan) appointed within the monitoring plan regions have already been coordinating with these groups. If there is a question, contact the Regional Coordinator for your State or region. Recovery teams are formed for writing Recovery Plans for listed species and for advising FWS on the recovery of listed species. Although the Peregrine Falcon is no longer a listed species, it is anticipated that interested recovery team members will continue to participate in their respective State or regional working groups.

36. Comment: Since the Peregrine was delisted, there is no longer monitoring by State agencies in a few States.

Response: Immediately prior to delisting, and since delisting in 1999, a very few State wildlife agencies have stopped monitoring Peregrines, and other State wildlife agencies plan to discontinue or decrease monitoring as the Peregrine is down-listed or delisted on their respective State endangered lists. The Federal money requested to help with the delisting monitoring under this current plan will help some State wildlife agencies and other partners reinstate monitoring, or assist in making current monitoring more comprehensive. Over time, as State wildlife agencies delist or downlist Peregrines on their own State lists, the priority of Peregrines for obtaining monitoring dollars within a State budget may be reduced. In some States or regions, some of the monitoring may be continued primarily by non-governmental organizations and private individuals, as it is currently, with the support of FWS, as needed.

37. Comment: Who does the monitoring under this current plan? What is the role of the State wildlife agency?

Response: Primarily, individual State wildlife agencies are the focal participants for this monitoring effort. However, other agencies like the U.S. Forest Service, U.S. Bureau of Land Management, U.S. National Park Service, FWS, and various other groups and non-agency cooperators also sometimes monitor or coordinate the monitoring. In some States, regions, or locales, non-profit organizations fulfill a large role or even the primary role of monitoring and/or coordinating the monitoring. Examples of these are the Santa Cruz Predatory Bird Research Group in California, and the biologists who coordinate peregrine monitoring in the Midwest (largely under the auspices of the Raptor Center at the University of Minnesota, until recently). It varies from State to State and region to region. A FWS employee within each FWS Region has been designated (the Regional Coordinator) to coordinate monitoring among States within each region.

38. Comment: Are there funds for this post-delisting monitoring plan, or is this another unfunded Federal mandate? Will this monitoring plan divert funds away from other, higher concern species that are more in need of conservation? Identify the funding source.

Response: A section was added to the monitoring plan called “Funding.” It explains that additional money for carrying out this monitoring plan will come from the Endangered Species Recovery Program’s annual appropriation from Congress. The funding for this Peregrine monitoring program will be competing with other programs and activities for other species nationwide that are being considered for delisting, downlisting, or are delisted and being monitored. FWS may provide this money to State wildlife agencies and other partners without any matching funds.

Analyses

39. Comment: The plan inadequately describes how results will be analyzed, what the thresholds for action are, and what the FWS will do when those thresholds are reached.

Response: The methods of data analysis and any anticipated FWS response have been more thoroughly described in this version of the plan. In addition, a new section has been added that describes thresholds that will trigger a response by the FWS and what those actions will be. The intent of the FWS and of this cooperative monitoring plan is to have an open evaluation of the monitoring data and methods with State wildlife agencies and other partners at the conclusion of each monitoring season. Recommendations for action will come first from the Regional Coordinators and partners, and then will be carried to the national level.

40. Comment: If definite declines are detected in Peregrines, how will FWS respond?

Response: The new section called “Data Evaluation” describes how the FWS will respond in the case of regional or nationwide declines in any of the measured parameters.

We will cooperate with State wildlife agencies, species experts, and other partners to determine the causes for any decline and to find solutions for known or suspected threats to Peregrine populations.

West Nile Virus & Falconry

41. Comment: The monitoring plan will not detect potential effects of West Nile Virus; specific efforts to determine the susceptibility and mortality of Peregrines to West Nile Virus should be included in the plan.

Response: This plan is designed to detect regional declines in Peregrine populations regardless of the cause. If declines are noted in the population parameters that we are monitoring, we will work to identify potential causes and solutions at regional or national scales, as appropriate. First documented in the United States in 1999 in northeastern States, West Nile Virus spread rapidly. As of August 20, 2003, it was reported in all but 2 of the contiguous United States (NV and OR). Birds are a reservoir for the virus and mosquitoes are the vector between birds, horses, and people. As of August 2003, 163 species of birds have been found to be at least somewhat susceptible to the virus (http://www.nwhc.usgs.gov/research/west_nile/wnvaffected.html). The list includes several species of hawks, including American kestrel (*Falco sparverius*), merlin (*Falco columbarius*), and prairie falcon (*Falco mexicanus*) which are closely related to peregrines. In September of 2002, a moribund 2-year old Peregrine was picked up in New Jersey; it died two weeks later. Extensive tests showed definite exposure to, and probable death from, West Nile Virus. In July 2003, evidence emerged from one nest in Virginia that three of four peregrine nestlings might have succumbed to West Nile Virus; the fourth nestling and one moribund adult were rehabilitated, and tests are underway to evaluate whether or not they had been exposed. These cases suggest that Peregrines are also susceptible; however, species apparently vary in their abilities to develop immunity to the disease. The falconry community is alert to the possibility of infection from the virus, and will be quick to report deaths of peregrines from this disease should they be found. The FWS, State agency biologists, and cooperators are also asked to report birds found dead, and to submit them for analysis using protocols suggested by State and local health departments (see links at http://www.cdc.gov/ncidod/dvbid/westnile/city_states.htm and also <http://westnilemaps.usgs.gov/>).

The FWS will depend on its extensive network of contacts with other government officials, State wildlife agencies, and other cooperators to detect and report cases of WNV in Peregrines. If Peregrines are found to be susceptible to WNV to the point of threatening falcon populations, the FWS will work with other agencies to attempt to

stabilize populations, as well as initiate a review to determine what measures might be taken to curb this threat and whether or not to relist the species under ESA § 4(b)(7).

42. Comment: The plan needs to address harvest due to falconry; the plan should be designed to detect changes in the population due to falconry.

Response: The same argument that holds true for West Nile Virus, is true here. This plan is designed to detect declines in regional Peregrine populations regardless of the cause. If declines are noted in the population parameters that we are monitoring, we will work to identify potential causes and solutions at regional or national scales, as appropriate. The version of the plan that led to this comment regarding falconry take recommended monitoring nest success when nestlings were 10 days old, and did not require the collection of productivity information. The current version of the plan requires that nest success and productivity be determined when nestlings are ≥ 28 days old. Most take of nestlings for falconry, if permitted by the FWS and State wildlife agencies, would occur when nestlings are younger than 28 days. Nest success and productivity data collected from nests that have also been visited by falconers will, thus, reflect the effects of take from falconry.

Currently, take of wild falcons for falconry is not permitted. The FWS might, however, allow take of nestlings for falconry in western States in the near future. If so, the FWS will only allow falconers with permits to take some percentage of nestlings produced per State; this percentage will likely not exceed 5%. Population models and field data suggest that, in healthy, expanding populations, Peregrines in their first-year normally sustain 60 percent mortality after they leave the nest. Population models also demonstrate that the rate of population increase is most sensitive to the rate of adult mortality (estimated at 10 to 20 percent) rather than to productivity. Population models incorporating take for falconry found that population increases would continue with take of nestlings as high as 20 percent (FWS, unpubl. data).

Other

43. Comment: In some States, immature peregrines breed as well as old pairs.

Response: Some literature suggests that immature peregrines may have reduced breeding performance: e.g., two-year old females averaged 3-egg clutches but females 3-years-old and older averaged 3.8 egg clutches (Mearns and Newton 1984, 1988; Ratcliffe 1993). Through 1985 in Arizona, “mixed” pairs (pairs with an immature member) had not been known to fledge young (Ellis 1988), which was thought to explain the low nest success (58%) in an area with an expanding population.

44. Comment: Concern was expressed that existing support for Peregrines within a State may decline in the future, now that the Peregrine is Federally delisted, and especially in regards to the maintenance of artificial nest sites, such as on buildings.

Response: The FWS shares this concern, as the various State wildlife agencies begin to delist or downlist the Peregrine on their own State lists. The Peregrine Falcon, its nests and eggs, are still, however, protected under the Migratory Bird Treaty Act, and taking, pursuing, hunting wounding, killing, trapping, capturing or collecting of birds, eggs, young, feathers, or nests requires a Federal permit. In addition, the various State wildlife agencies may retain or enact State laws in this regard that may be more restrictive but cannot be more lenient than the Federal law.

45. Comment: The Service should gather data from other sources in the intervening years between the formal three-year monitoring intervals.

Response: The FWS plans to solicit data from the State wildlife agencies and other sources during the intervening years. Many of the State wildlife agencies and other cooperators will continue to monitor yearly on their own. The FWS will analyze and summarize regional data it receives from State wildlife agencies and other cooperators in the years between formal surveys.

46. Comment: The Service should color mark Peregrines; a national color band scheme should be used.

Response: While the FWS agrees that this would be ideal it is beyond the scope of this monitoring plan.

47. Comment: The Service should include the National Park Service in monitoring discussions.

Response: Some National Parks are actively monitoring Peregrines, and coordination occurs among State wildlife agencies and National Parks. Regional coordinators are already in touch with most monitoring efforts that occur on U.S. National Park Service lands in their regions. However, we welcome suggestions that might improve inter-agency cooperation.