

Adaptive Harvest Management (AHM) Task Force International Association of Fish & Wildlife Agencies (IAFWA)

Status Report #4

September 23, 2004

Task Force Background

The AHM Task Force was established in December 2002 by the president of the IAFWA. The mission of the AHM Task Force is to foster understanding and support for continued strategic development and implementation of AHM. Task Force members are:

Wayne MacCallum, Atlantic Flyway (MA Division of Fish & Wildlife)
Roy Grimes, Mississippi Flyway (KY Dept. Fish & Wildlife Resources)
John Cooper, Central Flyway (SD Game, Fish & Parks Department)
Don Childress, Pacific Flyway (MT Fish, Wildlife & Parks)
Ken Babcock (Ducks Unlimited)
Rollie Sparrowe (Wildlife Management Institute, retired)
Ken Williams (U.S.G.S. Cooperative Research Units)
Ralph Morgenweck (U.S. Fish and Wildlife Service)
Dave Case, facilitator (D. J. Case & Associates)

This is the 4th Status Report that has been prepared by the AHM Task Force. Further information about the mission of the AHM Task Force, as well as its Status Reports, can be found at <http://migratorybirds.fws.gov/mgmt/ahm/taskforce/taskforce.htm> and at <http://www.iafwa.org/publications.htm>

Development of Strategic Guidance for AHM

In its first Status Report (September 2003) and at the AHM Conference (January 2004), the Task Force presented the waterfowl management community with a number of policy questions and challenges concerning the future direction of AHM for regulating duck hunting. In Status Report #2 (February 2004), the Task Force posed some more specific questions to the Flyway Councils, with the intent of using the Councils' responses to help formulate a set of strategic alternatives for the future direction of AHM.

Status Report #3 (June 2004) detailed seven strategic recommendations for future development of AHM (attached). The report was distributed to the Flyway Councils for their review and to seek their comments. Responses from the Flyway Councils to Status Report #3 are attached at the end of this report.

Request for assistance from AHM Working Group

The AHM Task Force has asked the AHM Working Group to conduct some technical analyses and review of a number of important issues. The specifics of the request are attached to this report.

Updated Next Steps/Timeline

- September 29: AHM TF provides updates on its activities to the appropriate committees at the IAFWA annual meeting in Atlantic City, NJ.
- November 30 – December 3: AHM *Working Group* meets and provides technical feedback on Task Force recommendations to the AHM Task Force, Flyway Councils and the Service.
- January 2005: The Task Force holds a 1-day meeting in Minneapolis to develop recommendations.
- January 26-27: If possible, a final set of recommendations is submitted to the IAFWA Executive Committee and the waterfowl management community prior to the Service Regulations Committee meeting on these dates.
- March: AHM Task Force presents a paper on the status of AHM at the North American Wildlife and Natural Resources Conference.

AHM Task Force Recommendations

Reprinted from Status Report #3, June 29, 2004

- 1) The Task Force believes that harvest and habitat management are inextricably linked, and the objectives of both AHM and the NAWMP should explicitly reflect that linkage (Runge et al. 2004; <http://migratorybirds.fws.gov/reports/ahm04/ReuniteNAPlanAHM.pdf>). However, the Task Force agrees with Runge et al. (2004) that population objectives of the NAWMP cannot be interpreted without the context provided by a specified harvest policy and by specification of “average” environmental conditions (e.g., precipitation). The Task Force therefore suggests that managers use the understanding of environmental and harvest dynamics of ducks derived from AHM and other research as a basis to help clarify the nature of the NAWMP population objectives. Certainly, the understanding of population dynamics will continue to evolve, and thus there needs to be an ongoing, joint AHM-NAWMP effort to periodically review population objectives. Ultimately, managers need to be clear about whether NAWMP population objectives represent the optimal level for maximizing harvest yield, a habitat carrying capacity, or something else.
- 2) In the short term, the AHM and the NAWMP communities need to become more aware of the deficiencies and ambiguities in current NAWMP population objectives. Until a satisfactory resolution of these issues is achieved, the Task Force believes it is advisable to temporarily de-couple the NAWMP population objective for mallards from AHM. As long as the NAWMP population objectives remain ambiguous, it will be difficult, if not impossible, to develop a strong, defensible rationale for how the NAWMP objective for mallards should influence harvest policy. However, the Task Force makes this recommendation contingent on the existence of suitable regulatory mechanisms for restricting the harvest of species that are unable to sustain the same level of harvest as mallards (this concern is addressed in other recommendations).
- 3) After considerable discussion, the Task Force has concluded that there should be some simplification of the current set of regulatory alternatives. However, any modification of regulatory alternatives now or in the future should reflect several important considerations:
 - a. The number of regulatory alternatives should be small to facilitate the identification of optimal choices, although the set of alternatives can be expanded or limited as the need and desire to do so is widely recognized. The Task Force recommends that the set of regulatory alternatives be reviewed no more often than every five years, perhaps coincident with the current review schedule for zone and split-season configurations.
 - b. Regulatory alternatives should be designed so that they result in relatively distinct ranges of harvest rates, and the same alternatives should be in place long enough to measure their effects.

- c. Regulatory alternatives should reflect traditional Flyway differences, the preferences and skills of hunters, and law-enforcement capabilities.
- 4) The Task Force recommends the development of only two regulatory alternatives. These would include a “standard” or “traditional” season, which might be similar to the liberal alternative in use in 1995 and 1996 and which would be expected to be the optimal choice in most years. The other alternative would be “restrictive” regulations, which might be similar to the recent restrictive or very restrictive alternatives and which would be appropriate in times of below-average duck abundance.
- 5) The Task Force further recommends that the AHM Working Group investigate the expected performance characteristics of “standard” and “restrictive” alternatives, given a range of possible regulatory specifications (e.g., season length) and associated harvest rates. This analysis should then be used as a basis for developing final regulatory specifications for each alternative.
- 6) With respect to management of multiple stocks, the Task Force generally supports the first of the alternatives articulated by the AHM Working Group (with the exception of using NAWMP population objectives as a constraint on hunting opportunity). Thus, the Task Force supports the effort of the Service to define three breeding populations of mallards, with regulations in each Flyway governed by their respective derivation of birds. This has never been attempted before, and it is not clear that extant monitoring and assessment capabilities can support this degree of spatial resolution. Therefore, the Task Force believes it is necessary to demonstrate the feasibility of this approach before considering further spatial resolution in harvest management.
- 7) The Task Force also recognizes that establishing general duck seasons based on the status of mallards will continue to present difficult challenges for managing the harvests of other stocks with lower harvest potential. Therefore, independent season lengths, bag limits, and framework dates should be considered for those stocks with relatively low harvest potential (e.g., canvasbacks) or for those stocks with small or declining population sizes (e.g., pintails). However, such regulations should be practicable and effective in light of extant monitoring programs, administrative burden, regulatory complexity, the ability of hunters to shoot selectively, and enforcement capabilities.

Assessment Tasks Requested of the AHM Working Group
by the AHM Task Force

1. Evaluate the implications of a closed season plus only two open-season (i.e., standard and restrictive) regulatory alternatives (Re: AHM Task Force Recommendations # 2, 3, 4, & 5). This task involves:
 - a. Specifying a range of possible harvest-rate distributions for standard and restrictive alternatives, and then calculating optimal harvest strategies for mid-continent, eastern, and possibly western, mallards; and
 - b. Calculating and evaluating these optimal harvest strategies using both an objective to maximize long-term cumulative harvest and an objective that also includes the NAWMP goal for mid-continent mallards.

Lead: Fred Johnson

2. Construct statistical models that can predict mallard harvest-rate probability distributions as a function of Flyway-specific hunting regulations (Re: AHM Task Force Recommendations # 4 & 5). These models would be used to help determine the specifics of regulatory alternatives (i.e., season length, bag limits, framework dates) once target harvest rates for the standard and restrictive alternatives were agreed upon (based on #1 above).

Leads: Scott Boomer (USFWS) and Andy Royle (USGS)

3. To the extent possible, evaluate the potential need for independent hunting regulations on species other than mallards when the basic duck hunting season is predicated on the status of mallards and two open-season regulatory alternatives (Re: AHM Task Force Recommendations # 7). This task involves application of existing population models developed for pintails, canvasbacks, scaup, several other mid-continent species, and black ducks.

Leads: Fred Johnson (USFWS), Scott Boomer (USFWS), Mike Runge (USGS), and Nathan Zimpher (Atlantic Flyway Technical Section)

4. Assess progress on incorporating western mallards into the AHM protocol for establishing Flyway framework regulations (Re: AHM Task Force Recommendation # 6). This task involves:
 - a. Finalizing a set of models describing the dynamics of western mallards;
 - b. Developing efficient procedures for computing optimal harvest strategies; and
 - c. Exploring the implications of various joint harvest-management objectives for midcontinent and western mallards.

Leads: Fred Johnson (USFWS), Scott Boomer (USFWS), Bob Trost (USFWS), Mike Conroy (USGS), Don Kraege (Pacific Flyway Study Committee), and Dan Yparraguirre (Pacific Flyway Study Committee)

5. Review a preliminary study plan prepared by the Central Flyway Technical Committee to assess the effectiveness of the Hunters' Choice Bag Limit System (Re: AHM Task Force Recommendation # 7).

Leads: Mike Johnson (Central Flyway), Jim Gammonley (Central Flyway), and Bobby Cox (USGS)



ATLANTIC FLYWAY COUNCIL

Newfoundland-Labrador
Prince Edward Island
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Quebec
Ontario
Nova Scotia

Maine
New Hampshire
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Rhode Island
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New York
Pennsylvania
New Jersey

Delaware
Maryland
Virginia

West Virginia
North Carolina
South Carolina

Georgia
Florida
Puerto Rico

July 30, 2004

IAFWA AHM Task Force Members

Wayne MacCallum	Ken Babcock
Rollie Sparrowe	Ken Williams
Ralph Morgenweck	Dave Case
Roy Grimes	John Cooper
Don Childress	

Dear Task Force Members:

The Atlantic Flyway Council and Technical Section reviewed the AHM Task Force Status Report #3 at our recent summer meeting, and we developed the attached responses to each of the recommendations contained in the report. We commend the Task Force for proposing some strategic guidance, and support implementation of many of the changes after consideration of comments being provided by all of the flyway councils.

Following is a brief summary of our principal responses to the Task Force recommendations. Please see the more detailed responses attached to gain a greater understanding of the Atlantic Flyway's perspectives and concerns as we move forward with AHM in the future.

1. It is imperative that the Task Force and USFWS keep in mind the unique perspective of the Atlantic Flyway, where regulations are based solely on eastern mallard AHM, and where a different approach or conclusion may be appropriate.
2. NAWMP goals should not be used for harvest management purposes. Those goals were intended to guide habitat conservation efforts, not harvest management, and this distinction needs to be clearly expressed by the waterfowl management community.
3. We support simplification to two regulatory alternatives for the Atlantic Flyway (i.e., a "standard" and a "restrictive" season), subject to change no more often than every five years. However, the process for selecting the appropriate alternative each year should be more flexible to allow for periodic and timely improvements.
4. The regulatory alternatives should be based on current, rather than traditional, flyway

differences, including allowing for flyway-specific differences in regulatory packages and selection of packages annually.

5. It is premature to specify regulatory packages prior to analysis of various alternatives by the AHM Working Group and the flyways. At this time, we do not support the de facto presumption that the standard season for the Atlantic Flyway should be similar to what was in effect during 1995-1996.

Thank you again for providing guidance on future implementation of AHM and for the opportunity to comment on your preliminary recommendations. The Atlantic Flyway looks forward to working with you, the other flyways, the AHM Working Group, and the USFWS on these issues in the coming year.

Sincerely,



Robert Ellis
Chairman

Cc: Atlantic Flyway Council members
Mississippi Flyway Council, Chair
Central Flyway Council, Chair
Pacific Flyway Council, Chair
National Flyway Council members

**Comments on IAFWA AHM Task Force (TF) Recommendations
from the Atlantic Flyway (AF) Council and Technical Section
July 2004**

TF Recommendation #1: The Task Force suggested that managers should clarify the nature of NAWMP population objectives. Ultimately, managers need to be clear about whether NAWMP population objectives represent the optimal level for maximizing harvest, habitat carrying capacity, or something else.

AF Response: Atlantic Flyway regulations are based on the status of eastern mallards, for which there is no NAWMP goal. At this time, we do not believe a population goal is needed for harvest management. Furthermore, because mallards have recently expanded their breeding range into the flyway, it is unclear what the basis for such a goal would be. Nonetheless, we agree that the existing NAWMP objectives need to be clarified as to their purpose or intent. There is much confusion as to whether the NAWMP goals were ever intended for harvest management and including them in AHM has significant implications for current mid-continent mallard harvest strategies. In our opinion, NAWMP goals were developed solely to guide habitat conservation efforts, and should not be used for harvest management purposes.

TF Recommendation #2: The Task Force recommends a temporary un-coupling of NAWMP population goals for mid-continent mallard AHM.

AF Response: Atlantic Flyway regulations are based on the status of eastern mallards, so this recommendation does not directly affect harvest strategies or AHM in our flyway. However, because of the precedent it would set for managing harvest of other stocks (e.g., eastern mallards, black ducks, wood ducks, etc.), we support the un-coupling of NAWMP population goals from AHM. We do have some concerns that un-coupling NAWMP from mid-continent mallard AHM may lead to more liberal harvest strategies for other flyways which could result in lower average populations of mid-continent duck stocks that come to the Atlantic Flyway. However, we assume that this un-coupling would be contingent on any necessary regulatory adjustments being made to ensure the long-term conservation of all affected stocks.

TF Recommendation #3: The Task Force recommended simplification of the current set of regulatory alternatives, and specifically that: a) the set of regulatory alternatives be reviewed no more often than every 5 years; b) the alternatives have relatively distinct ranges of harvest rates; and c) regulatory alternatives should reflect traditional flyway differences, preferences and skills of hunters, and law enforcement capabilities.

AF Response: We support a limited number of alternatives, with distinct ranges of expected harvest rates, and maintaining a set of alternatives for a minimum of 5 years. However, this fixed period should apply only to the regulatory packages (i.e., season lengths, total duck bag, mallard limits, and framework dates) and not to the process used for selecting the appropriate alternative each year. That process should be more flexible to allow for periodic and timely development and updating of population models, changing model weights, integrating other mallard or non-mallard stocks (e.g., black duck or wood duck AHM), and implementing regional duck harvest management units within flyways. In developing regulatory alternatives for the

future, they should not be based strictly on traditional flyway differences. While traditional differences may be a starting point, future regulatory alternatives should reflect current flyway differences in hunter numbers, stocks harvested, and other factors affecting harvest potential. In addition, we have worked hard to develop eastern mallard AHM, which allows for flyway-specific choices each year. In some years, this may call for different regulatory alternatives among flyways, which was not traditionally allowed. Maintaining traditional flyway differences would preclude flyway management if we were not allowed to choose the most appropriate alternative in any year simply because it would deviate from traditional continent-wide harvest strategies.

TF Recommendation #4: The Task Force recommended that only two regulatory alternatives be used - a "standard" or "traditional" season that might be similar to regulations in effect during the 1995 and 1996 seasons and a "restrictive" season that might be similar to the recent restrictive or very restrictive alternatives.

AF Response: We support the development and use of only two regulatory alternatives, but do not agree that the standard season for the Atlantic Flyway should be similar to what was in effect during 1995-1996 (i.e., 50 days, 5 ducks, 5 mallards including no more than one hen mallard, and framework dates of October 1 - January 20) for the Atlantic Flyway. In this flyway, where regulations are based on eastern mallard AHM, there is much evidence to suggest that our current "liberal alternative" could be sustained on a long-term basis with very infrequent (if any) changes in regulations from year to year. This is very different from the situation for mid-continent mallards, where the probability of annual regulations changes is much higher and a standard season that is more conservative than the current liberal alternative may be appropriate. In any case, it would be premature for us to specify the details of an appropriate "standard" season for the Atlantic Flyway until the analyses suggested below have been done.

TF Recommendation #5: The Task Force recommends that the AHM Working Group investigate the expected performance characteristics of standard and restrictive alternatives given a range of possible regulatory specifications. This analysis would then be used as a basis for developing final regulatory alternatives.

AF Response: As noted above, we do not agree that the regulations used in the Atlantic Flyway in 1995-1996 are the most appropriate for a "standard" season in this flyway. Recent analyses and experience suggest that the current "liberal" alternative would be the optimal choice in >90% of years. Nonetheless, we agree that the performance and implications of various alternatives should be investigated before final packages are recommended for the Atlantic Flyway. Alternatives to be considered for our "standard" season should include, but not be limited to: 1) the current liberal alternative (i.e., 60 days, 6 ducks per day, 4 mallards per day including no more than 2 hens, and extended framework dates); 2) same as #1 but with a total duck bag of only 4 ducks; 3) regulations similar to those in effect in the AF during 1995-1996 (50/5/5) but with 2 hen mallards and extended framework dates; and 4) same as #3 but with a total duck and mallard limit of only 4/day. Before any analyses are done, we would like to be consulted regarding the specific regulations to be evaluated and the performance measures that will be used. We also request that the AHM Working Group assess the performance or effects of aggregate bag limits (i.e., the Hunter's Choice Bag Limit) and having no hen mallard restriction

in each of the alternatives.

TF Recommendation #6: The Task Force recommended continuation of the current AHM approach based on mallards with special regulations (e.g., independent seasons or bag limits) as needed to protect other stocks. They also supported efforts to define three breeding populations of mallards, but questioned the feasibility of this approach.

AF Response: Atlantic Flyway regulations have been based solely on eastern mallards since 2000, and we have clearly demonstrated that AHM based on two mallard stocks is not only feasible, but a successful case of flyway management that is an improvement over management based solely on mid-continent mallards. The outcome of similar efforts to develop AHM for western mallards should not affect the continued use of eastern mallard AHM in the Atlantic Flyway. For now, we agree that annual selection of regulatory alternatives for each flyway should be based on status of their respective derivation of mallards. However, as we develop models and other components of AHM for other stocks, such as black ducks or wood ducks, we should not be precluded from integrating those into the decision process contingent on review and approval by other flyways and the AHM Working Group.

TF Recommendation #7: The Task Force recommended that independent season lengths, bag limits, and framework dates should be considered for stocks with relatively low harvest potential or that have small or declining population sizes. They further suggest that such regulations should be practicable and effective in light of existing monitoring programs, administrative considerations, ability of hunters to shoot selectively, and enforcement capabilities.

AF Response: We agree that given a regulatory alternative based on mallards (i.e., eastern mallard AHM in the Atlantic Flyway), the full suite of potential regulatory tools, including independent seasons, total duck bag limits, species-specific bag limits, aggregate bag limits (i.e., the "Hunter's Choice" bag limit proposal) and framework dates be considered to restrict the harvest of other stocks in each flyway as needed. However, the need for such restrictions should be based on expected effectiveness, including whether any biological benefit to the stock can be demonstrated from implementing restrictions. Restrictions that have no demonstrable purpose or benefit to a resource should be avoided or eliminated.

Central Flyway Council

Alberta Kansas Nebraska North Dakota Oklahoma South Dakota Wyoming
Colorado Montana New Mexico Northwest Territories Saskatchewan Texas



July 23, 2004

Dave Case
AHM Task Force
D.J. Case & Associates
607 Lincolnway West
Mishawaka, IN 46544

Dear AHM Task Force Members,

The Central Flyway Council (CFC) appreciates the opportunity to provide input and feedback on the Adaptive Harvest Management (AHM) Task Force's Status Report Number 3, dated June 29, 2004. The following responses were developed during several hours of thoughtful and productive discussion during our summer meeting, and we trust the Task Force will give them serious consideration. We appreciate the Task Force's continuing acknowledgement of the role of the flyway councils and the U.S. Fish and Wildlife Service (Service) in the establishment of migratory bird hunting regulations.

AHM Task Force Proposed Timetable

The CFC is concerned that the timetable proposed by the Task Force will not provide adequate opportunity for resolution of these important issues by the Flyway Councils and the Service Regulations Committee (SRC). In particular, it will be difficult for the Flyway Councils to adequately review and respond to the "more final set" of Task Force recommendations in January, prior to the SRC meeting. We would prefer to have the opportunity for full review by each flyway Technical Committee and Council, and opportunity for interaction among the flyways, before these recommendations are made to the SRC. This interaction could take place at the March 2005 flyway council and National Flyway Council meetings. Recommendations of this potential magnitude to the Flyway warrant such consideration.

Even if there was unanimous agreement with all of the recommendations in the Task Force report, the details of developing new regulatory alternatives and analyses associated with these recommendations will likely take considerable time and effort. The CFC has proposed some alternative recommendations (as we expect other flyways will) that will need some time to develop and implement. Specifically, we would like to maintain the current liberal and restrictive package season lengths in any new alternatives, as well as develop and implement Hunter's Choice Bag Limit (see attachment) regulatory options on an experimental basis in the Central Flyway. Unless this experimental approach is incorporated as an option into the final Task Force recommendations, we are concerned that the Task Force's efforts to finalize their work according to the proposed schedule will be at odds with the Central Flyway's efforts to implement and evaluate the effectiveness of the Hunter's Choice Bag Limit regulatory options.

We see no pressing need to quickly impose major changes to AHM regulatory options for the 2005-2006 seasons except for the de-coupling of harvest and population objectives. Moreover, we note that the schedule to reconsider zones and splits will begin in 2005, with implementation of revised zones and splits beginning with the 2006-2007 seasons. Given that zones/splits configurations can be influenced in part by the regulatory alternatives that are available, it may be useful to have the schedules for possible revisions to zones/splits and AHM regulatory alternatives follow the same schedule.

Finally, the CFC suggests that the Task Force make some recommendations on how policy issues related to AHM will be handled in the future. Although the Task Force has made an admirable effort to resolve the issues addressed in the report, policy-level issues and disagreements about duck harvest management will undoubtedly continue to arise. Will the Task Force remain a standing group? If so, are any future changes anticipated in the relationships between the Task Force (and the International Association of Fish and Wildlife Agencies), the Flyway Councils, and the SRC? If not, how does the Task Force recommend that future policy issues be addressed?

CFC response to Recommendations #1 and #2

The CFC agrees with the AHM Task Force's recommendations. A review and clarification of North American Waterfowl Management Plan (NAWMP) population objectives is warranted. We note that an update of the NAWMP was recently completed, and it will take considerable time and effort to conduct further review of NAWMP objectives. The National Science Support Team and AHM Working Group may be able to collaborate on this effort to clarify how NAWMP objectives relate to harvest management programs.

Until the relationships between habitat and harvest programs for North American ducks are clarified, the CFC is not convinced that NAWMP population objectives are appropriate for constraining overall mallard harvest or harvest of other stocks of ducks. Therefore, the CFC supports a temporary decoupling from the goals of the NAWMP and use in its place an objective of maximizing long-term cumulative harvest of midcontinent mallards in order to minimize the time spent in closed season prescriptions and maximize hunting opportunity. We also believe that the time to decouple is now, while enjoying the recreational opportunity afforded by liberal duck hunting seasons. Decoupling AHM from NAWMP when a restrictive season is the recommended alternative will likely result in a general misunderstanding of the motives for this action.

Should NAWMP goals be re-coupled with AHM objectives in the future, we recommend that action be preceded with a comprehensive analysis of the consequences, and opportunity for full discussion and input from the flyway Councils be provided.

CFC Response to Recommendations #3, 4 and 5

The CFC offers qualified support for the Task Force recommendation to simplify the regulatory packages. We agree in concept that the packages should be designed to result in distinct rates of harvest. We concur that the alternatives should reflect flyway differences but also believe that

changes in the regulatory relationships among flyways should be considered when biological justification for modification is developed. The CFC believes that regulatory frameworks for a flyway should be based on harvest rates within the flyway and the biological capabilities of the waterfowl populations to support harvest. We do not concur with the Task Force premise that waterfowl hunters will support a reduction in opportunity to gain simplicity/consistency in regulations, particularly as it relates to the liberal package.

We offer the following modifications and/or requested clarifications as they relate to these recommendations.

- 1) We strongly endorse the use of a 74-day liberal season length and a 39-day restrictive season length in the Central Flyway. Experience since 1995 indicates that we have not been able to achieve the desired harvest rate of 13% under the liberal package and typically have observed rates in the range of 11 – 12% most years. We believe that it would be desirable to maintain harvest rates in this range rather than adopting a more conservative approach for any revised Liberal package. Furthermore, we argue that maintaining hunter interest and participation is a crucial aspect in management decisions and would support efforts to more quantitatively assess hunter preferences as outlined in the Think Tank Report on Waterfowl Hunter Satisfaction.
- 2) In addition, we would like to see an analysis of the difference in days of hunting opportunity simulated over a 10-year period between the existing 3-package system versus a more conservative 2-package system. Does the use of the 2-package system reduce potential hunter opportunity?
- 3) The CFC reiterates its support for the use of the Hunter Choice Bag Limit option as part of any package as a means of dealing with the management of multiple stock issues.

CFC Response to Recommendation #6

The CFC supports continuing efforts to define three breeding populations of mallards, with regulations governed by derivations of those birds. We do have some concerns with how potential boundaries for derivation of harvest will be described and how that might affect the optimization routines for those populations.

CFC Response to Recommendation #7

The CFC provided the Task Force with recommendations for use of an aggregate bag limit system (Hunter's Choice Bag Limit) to account for species with lower harvest potential (response to Task Force Status Report #2). As mentioned earlier, the CFC is concerned that the Central Flyway's recommendations regarding an experimental trial and evaluation of the Hunter's Choice Bag Limit option in the Central Flyway is not reflected in the Task Force's Status Report #3. We urge the Task Force to incorporate the Hunter's Choice Bag Limit proposal in the Task Force's next draft report.

Dave Case
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July 23, 2004

The CFC continues to recognize that setting seasons based on the status of mallards may result in harvests of some duck species, in some years, which exceed objective harvest levels. Closed seasons, independent season lengths (seasons-within-seasons), bag limits, and framework dates are all potential harvest management tools that could be considered in managing harvests of those stocks with relatively low harvest potential (e.g., canvasbacks) or for those stocks with declining population sizes (e.g., pintails). Closed seasons and seasons-within-seasons have been used separately and together in recent years to limit harvest of canvasbacks and pintails, resulting in increased regulation complexity. The CFC believes that closed seasons and seasons-within-seasons are generally burdensome to duck hunters, compared to other potential harvest management approaches, particularly as these season adjustment approaches are used for more species. In addition, the CFC does not want to compromise mallard hunting opportunity (season length) in order to limit harvest on stocks with lower harvest potential.

The CFC has a strong interest in developing regulatory alternatives for the Central Flyway that (1) limit harvest on species with relatively low harvest potential, (2) maintain maximum harvest opportunity on drake mallards, but (3) avoid closed seasons, seasons-within-seasons and/or reductions in overall season lengths. Specifically, we believe that the use of Hunter's Choice Bag Limit may be as effective at reducing harvest of target species as seasons-within-seasons, while maintaining drake mallard hunting opportunity. The Council also believes that the Hunter's Choice Bag Limit is as practical and effective relative to extant monitoring programs as are season-within-seasons, requires similar levels of administration, results in less regulatory complexity compared to season-within-seasons, better accommodates the range of hunter's abilities to shoot selectively, encourages hunters to shoot selectively, and will result in fewer regulations violations due to species seasons closures.

Recognizing that there is no historical experience with the actual effectiveness (harvest impacts, hunter preference) of the Hunter's Choice Bag Limit, the CFC is committed to working with the Service to develop a plan to evaluate the approach during an experimental period. Preliminary discussions with technical staff indicate an evaluation of the Hunter's Choice Bag Limit option could be accomplished relatively inexpensively and by using existing tools. The attached summary of the Hunter's Choice Bag Limit provides further clarification of this option to assist the Task Force in considering this strongly supported recommendation of the CFC.

We understand the challenges faced by the members of the Task Force and appreciate their efforts in the continued refinement of the AHM approach used to establish duck hunting regulations.

Sincerely,



Vernon Beville
Central Flyway Council Chairman

Attachment

THE HUNTER'S CHOICE BAG LIMIT
As a Consideration for the AHM Task Force Report
July 26, 2004

Introduction

In recent years, AHM regulatory strategies have afforded liberal season lengths based on duck breeding habitat and mallard population status. As a result of these liberal season lengths and combined with a continuing population decline of pintails and a small continental population of canvasbacks, the prescription of more restrictive regulatory options for these species that are not specifically addressed within the AHM process has been judged necessary. Partially closed seasons (seasons within seasons) for pintails and canvasbacks or completely closed seasons for canvasbacks have been implemented. Closed or partially closed seasons, especially on "brown duck" species such as pintails, that can be difficult to identify in-flight and are similar to look-alike species such as teal, gadwalls and female wigeons, contribute additional regulations complexity and raise regulations compliance issues. Duck hunters, especially young and novice hunters are at increased risk for committing inadvertent violations from "first shot mistakes" on species whose season are closed.

An Alternative Multi-Stock Duck Harvest Management Approach: The Hunter's Choice Bag Limit

The Hunters Choice Bag Limit concept uses an aggregate bag limit category of multiple duck species in an effort to limit or reduce harvest on those species needing additional protection while maintaining hunting opportunity on more abundant species or stocks of ducks. The bag limit system has two or more categories of ducks based on their population status. One category consists of an aggregated or combined limit of species that are judged to need a reduced level of harvest compared to more abundant species due to low or declining population status. Duck species with acceptable population status are assigned to one or more other categories allowing for more liberal limits in the overall bag. The proposed concept has three key elements:

1. **An aggregate category.** Only one of the species that is listed in this aggregate group could be taken in the daily bag limit. Thus, harvest of all species in this aggregate group would be reduced. The harvest reduction of any given species included in the aggregate limit would be dependent upon a number of factors including a species relative abundance and availability, hunter behavior, including preference for particular species, and willingness and ability to practice selective shooting. Use of an aggregate bag limit system to regulate harvest in lieu of closed or partially closed seasons would reduce regulatory complexity and prevent hunters from committing inadvertent "first shot" violations by shooting a species whose season is closed. Any hunter could shoot the first bird without fear of a regulations violation. However, the decision to shoot the second bird, hopefully tempered by their ability to identify the bird, would be the hunter's choice.

2. **Inclusion of hen mallards in the one bird aggregate category.** Hen mallards are one of the most abundant ducks available to hunters in much of the Central Flyway and the rest of the country. By including hen mallards in the aggregate category they should have a significant buffering effect on the harvest of the other species of ducks in the aggregate. The potential harvest buffering effect of hen mallards will be contingent on their availability to hunters in any given area. In coastal areas, and in some other areas of Flyways the potential buffering effect will be less than in areas where mallards comprise the majority of harvest opportunity.
3. **Adjust the total duck bag limit to be the same as the mallard bag limit.** This change effectively removes the current bonus duck scenario where a hunter may have shot a limit of 5 mallards or five of the other abundant species (Central Flyway) but remains in the field trying to limit out and ends up potentially taking one of the species for which harvest needs to be reduced (e.g., pintail). This change should also influence hunter behavior and how species are selected for inclusion in the bag. Certain species such as drake mallards are more highly valued than other species such as scaup for example. Hunters, especially experienced hunters, will be more inclined to pass on the less desirable species in order to take the more valued and usually more abundant species. Shooting a species other than a mallard will result in the hunter making a sacrifice and forgo shooting a drake mallard, a form of disincentive for many hunters. If the hunter's choice is to select a pintail or a canvasback in lieu of a mallard, then the result is one less drake mallard in the bag, not a ticket for violating a closed season regulation. In many instances, waterfowl hunting is an opportunity-limited situation with many hunters selecting whatever species is present, unless given sufficient incentive or disincentive to do otherwise.

One example (Central Flyway) of the Hunters Choice Bag Limit concept:

The daily bag limit shall be 5 ducks, with species and sex restrictions as follows: scaup – 3; redhead and wood duck – 2; only 1 from the following group: hen mallard, or mottled duck, or pintail, or canvasback. The possession limit shall be twice the daily bag.

Objectives of the Hunters Choice Bag Limit Concept:

- **limit harvest on species needing special harvest management consideration**
- **maintain hunting opportunity on abundant species, especially drake mallards**
- **prevent season closures and seasons within seasons**
- **reduce complexity of regulations and bag limit changes**
- **high compliance and enforceability of the regulation**
- **limit inadvertent or unintentional regulation violations**
- **compatible with both experienced and novice or new hunters**
- **encourage waterfowl hunting participation (recruitment & retention)**
- **ability to evaluate effects on directing harvest**

- **influence hunter behavior, including duck ID skills, species selection and ethical behavior**

Alabama Illinois Iowa Louisiana Michigan Mississippi Ohio Saskatchewan
Arkansas Indiana Kentucky Manitoba Minnesota Missouri Ontario Tennessee Wisconsin

MISSISSIPPI FLYWAY COUNCIL

MISSISSIPPI FLYWAY COUNCIL



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August 12, 2004

David J. Case
D J Case & Associates
607 Lincolnway West
Mishawaka, IN. 45644

Dear Dave:

Enclosed is the Mississippi Flyway Council's (MFC) comments and recommendations on the AHM Task Force Report 3 to the IAFWA's AHM Task Force. The MFC approved the MFC Technical Sections report at the July 24, 2004 MFC meeting in Duluth, MN.

Sincerely,

A handwritten signature in blue ink that reads "Richard K. Wells". The signature is written in a cursive, flowing style.

Richard K. Wells, Chair
Mississippi Flyway Council

AHM COMMITTEE

Guy Zenner, Chair

Mississippi Flyway Council Technical Section

Duluth, MN, July 21, 2004

The IAFWA's AHM Task Force distributed their third report (Status Report 3) on June 29 and requested the Flyway Councils review this report and respond to the recommendations it contained by August 20, 2004. To initiate that process, the Technical Section's AHM Committee, with all official Technical Section representatives participating, reviewed the report and its recommendations in detail, with the goal of providing guidance to the Council in making recommendations to the AHM Task Force. To initiate the process, the Committee Chair prepared a summary of the feedback that the AHM Task Force received from the questions that were posed in last February's Status Report 2 (appended to this report). That feedback illustrated general areas of consensus as well as issues on which the Flyways disagree, at least in part.

The Tech Section applauds the Task Force's efforts in outlining the lessons learned from AHM and summarizing the key issues that remain unresolved. In general, the Tech Section agreed with the vast majority of the statements and conclusion presented in the report. We did, however, have concerns about some of the statements made in the report. For example, the Tech Section felt that the statement that "maximizing the sustainable waterfowl harvest is not the most important objective of harvest management" was not completely accurate. While satisfying hunters and maintaining participation are important to waterfowl managers, it was noted that we know very little, at least quantitatively speaking, about hunter satisfaction and therefore believe that maximizing the sustainable waterfowl harvest should remain an important objective of harvest management until we acquire more information on hunter satisfaction issues, which needs to be done in a coordinated fashion within and among Flyways.

With regards to Recommendations 1 and 2 in the report, both of which address the use of the NAWMP goal for mallards in the objective function, the Tech Section disagrees with the recommendation in the Task Force's report to temporarily decouple the NAWMP population objective for mallards from AHM. This position is consistent with recommendation the Tech Section made last winter and in previous discussions on this issue. Recognizing the problems with using the NAWMP goal for mallards in the objective function as outlined in the Task Force report, the Tech Section still feels that the NAWMP goal should be retained in the objective function because:

- it results in a more conservative harvest strategy than a harvest strategy without it,
- retaining it will result in a higher average mallard population than a harvest strategy without it, an issue that appears important to some hunters
- it imposes a constraint that provides some measure of protection for non-mallard ducks by making the harvest strategy more conservative,
- there are compelling political and social reasons for retaining it in the objective function, such as increasing support for the NAWMP, Joint Ventures, and NAWCA,
- although it was devised as a habitat goal, it seems logical to retain it in some fashion in the AHM process,

- it seems more logical to retain the goal in the objective function until some other suitable constraint can be found that indirectly restricts harvests of species that can't sustain the same level of harvest as mallards rather than remove it and hope to find a suitable replacement constraint, and
- the responses of the Flyway Councils to this issue last winter suggest that most believe that it should be explicitly recognized in the AHM process.

In conclusion, the Tech Section believes that it is critical that a suitable mechanism be found to restrict harvests of ducks that are unable to sustain the same level of harvest as mallards before the NAWMP goal for mallards is decoupled from AHM.

In regards to the Task Force's recommendations 3, 4 and 5, all of which deal with the regulatory alternatives, the Tech Section reiterated its support for the current set of 3 alternatives. The consensus of majority of the Tech Section was that the advantages of reducing the number of regulatory alternatives from 3 to 2 did not outweigh the disadvantages. It was noted that we now have 7 years of recent experience (1997-2003) with the current liberal alternative (60 and 6), so harvest rates for this package should be as predictable as the rate for a 50 day and 5 bird season, which nullifies one of the arguments to go back to a 50-day season. We also have a fair amount of recent experience with the restrictive alternative (30 days and 3 ducks) during 1988-93. Only the harvest rate for the moderate regulatory package remains somewhat unknown, although we had 40-day seasons during 1985-87 and 1994, which should provide some guidance. It was noted that we don't really know what the majority of the hunters would be comfortable with regarding regulatory alternatives, nor how they might react to moving from liberal to restrictive alternatives in subsequent years. Thus hunters' desires should not be used as justification at this time. The Tech Section felt that it is important that we begin to collect more human dimensions information so that we can better address some of the regulatory alternative issues. In light of this opinion, the Tech Section Chair is encouraged to appoint an ad hoc Human Dimensions Committee to coordinate and develop approaches to garnering more information on hunters' desires in the Flyway.

The Tech Section still feels that imposing a 1-step constraint when moving between regulatory alternatives would address some of the perceived social concerns about jumping between liberal and restrictive alternatives, even if it results in the liberal alternative being selected less frequently. Recognizing that we are unsure about the actual desires of most hunters, it seems that a set of 3 packages would be more intuitive to hunters based on their experiences over the past 30-40 years. This recommendation is also consistent with the desire we expressed last winter to have more frequent but smaller changes in regulatory alternatives, again because we perceive this as being more socially acceptable. That being said, the Tech Section concurs with the Task Force's recommendation 5, that the AHM Working Group should investigate the expected performance characteristics of a 2-package system, a "standard" and a "restrictive" alternative, and this analysis should be the basis for developing regulatory specifications for such alternatives if this arrangement is desired at some time in the future. Knowing how these packages might perform would make it easier to solicit hunters' opinions on which set of packages they might prefer.

The Tech Section concurs with the Task Force's recommendation that the set of regulatory alternatives should be reviewed no more often than once every five years, perhaps coincident with the review schedule for zones and split-seasons, and that the regulatory alternatives should be designed to result in relatively distinct harvest rates and kept in place long enough to measure their effects. Regarding the recommendation that regulatory alternatives should reflect traditional Flyway differences, the Tech Section reiterated the position it stated last winter: that these differences should be revisited and evaluated based on current harvest and hunter numbers.

In regards to the Task Force's recommendations 6 and 7, which deal with how other stocks of ducks should be addressed within AHM, the Tech Section concurs with the Task Force's support for the first of the AHM Working Group conceptual approaches to managing multiple duck stocks, but disagrees with their objection to using the NAWMP population objective for mallards as a constraint on hunting opportunity (see response to recommendations 1 and 2). The Tech Section also agrees that independent season lengths, bag limits, and framework dates should be considered for those stocks of ducks with relatively low harvest potential (e.g., canvasbacks) or for those stocks with small or declining population sizes (e.g., pintails). Such regulations should be practicable and effective in light of extant monitoring programs, administrative burden, regulatory complexity, the ability of hunters to shoot selectively, and enforcement capabilities. The Tech Section also reiterated that the aggregate bag limit proposal from the Central Flyway is worth exploring and that the AHM Working Group or the Central Flyway should further examine the potential effectiveness of this regulation, particularly in regards to how the harvest of species of concern under this proposal might compare to a closed season or a season within a season.

Finally in regards to concerns about closed seasons, the Tech Section generally agreed with the Task Force's conclusion on this issue. It was noted the open cells in the matrix, which are interpreted by many to be closed season prescriptions, exist because the Service is obligated to explicitly consider a closed season and the current restrictive alternative is not sufficiently restrictive under some conditions (e.g., very low pond and/or very low population numbers) to adequately restrict harvest. The Tech Section concurred with the Task Force that "closed seasons" should not be excluded from the AHM process because this is a fundamental regulatory alternative and removing this alternative might appear to be arbitrarily eliminating an alternative for responsible management, which could open the Service to a legal challenge.

The Chair thanks Dave Graber for taking excellent notes of the meeting.

Committee members present: Guy Zenner (IA) and Scott Baker (MS) Co-Chairs, Andy Raedeke (MO), Rocky Pritchert (KY), Steve Cordts (MN), Chuck Sharp (AL) and all other state Tech Section Representatives.

**Pacific Flyway Council's Vision and Goals for AHM Refinements
And
Response to June 29, 2004 Task Force Recommendations**

The Pacific Flyway Council appreciates the efforts of the Task Force and the opportunity to comment on the preliminary recommendations contained in the June 29, 2004 report. Council supports the recognition of the need for future AHM refinements to be consistent with long-term conservation of waterfowl populations using extant capabilities for science-based monitoring of key habitats and populations. Task Force consideration of previous input is appreciated.

The purpose of this document is to provide the Pacific Flyway Council's vision and goals for refining the AHM process and to respond to the AHM Task Force's June 29, 2004 preliminary recommendations to the International Association of Fish and Wildlife Agencies. It was developed by a subcommittee of Council members using input from members of the Technical Committee following discussion of the issues at the Council's July 23 meeting. The contents of this document are intended as advice to the Task Force and not formal comment to the US Fish and Wildlife Service on the AHM process.

Since the Task Force is primarily focusing on policy issues, the Pacific Flyway Council's input is offered at that level. However, there are significant issues requiring further technical analysis to make sure the policy implications meet the Council's intent. As a result, this document contains input related to technical concerns of interest to both the Council and Technical Committee for further Task Force consideration. Although there are mixed opinions among members, Council recognizes that there are multiple policy objectives involved in the overall management of waterfowl and their habitats. Providing hunting opportunity and managing waterfowl harvest are important objectives considered in developing regulations. However, until such time as the waterfowl management community thoroughly assesses and better understands contemporary elements of hunter satisfaction in all four flyways, it will be difficult to gain consensus on this issue.

In the meantime, Council supports optimum hunting opportunity balanced with practical trade-offs necessary to allow the AHM process to function with existing population surveys and harvest monitoring capabilities. The waterfowl management community currently lacks the ability to monitor and detect population changes as well as predict harvest at the level of precision implied in the existing AHM process and models. Changes to the system are needed to allow it to function with extant monitoring capabilities and to allow managers to make decisions at an appropriate level of precision and confidence. These basic changes are also needed to improve public understanding of the basic concepts involved in the AHM process. Improving the hunting public's understanding is expected to increase support for its continued use and refinement.

To assist the Task Force in putting the Council's comments and long-term views in perspective, the following vision statement and goals are provided:

Vision

The Pacific Flyway Council envisions the AHM process as a scientifically based, objective and cost-effective means for making annual decisions regarding waterfowl hunting season selections generally understood and widely accepted by the Flyways and waterfowl hunters.

Goals

The AHM process should:

Use scientifically based and professionally accepted methods to annually set appropriate waterfowl hunting seasons and bag limits using the best available habitat and population trend information;

Contain specific models for Western Mallards and Pintail as soon as practical;

Predict, within reasonable limits, the effects of proposed hunting harvest on waterfowl populations and ensure populations are sustained;

Provide a reasonable range of alternative regulation packages reflecting practical and measurable differences in waterfowl populations linked to respective harvest opportunities;

Balance optimum hunting opportunity with the need for clear, simple and enforceable regulations;

Be consistently applied in order to learn from experience over time and continuously improve the process and supporting models through periodic review and refinement; and

Provide a biologically sound foundation to support waterfowl hunting in the proposed update of the Programmatic EIS for hunting of migratory birds.

Comments on Policy Issues and Recommendations

With the background provided previously, the Pacific Flyway Council provides the following comments on the Task Force's Key Policy Issues as follows:

Harvest Management Objectives

The Pacific Flyway Council agrees that maximizing sustainable waterfowl harvest is not the most important waterfowl management policy objective. High levels of hunter satisfaction and public support for critical programs to conserve waterfowl populations

and habitats are more important policy objectives than maximizing harvest. From the Technical Committee's perspective, a system based on the number of hunting days is probably more important to most hunters than an objective of maximizing harvest. However, an objective for maximum harvest results in providing the most hunting opportunity, and over time, requires the most productive population commensurate with habitat conditions. The Task Force needs to more clearly distinguish between data driven objectives related to maximizing harvest annually and the relatively subjective issues involved in hunter opportunity and satisfaction. A clear and reasonable basis is needed for trading off biologically supported harvest potential and associated hunting opportunity for tangible AHM program benefits. An example is reducing the season length under the Liberal option. If reducing the maximum season length from 107 days to 93 days resulted in benefits of reducing harvest pressure on duck stocks below population objectives and eliminated the need for seasons within seasons for Pintail and Canvasbacks in most years, it would be worth considering that level of reduction in maximum hunting opportunity.

For most Council members, it's a matter of degree and specifics when it comes to tradeoffs involving moving away from maximizing the potential harvest and hunting opportunity objectives under AHM. Practical benefits are needed to balance modest reductions in harvest potential with overall process refinements. The willingness to trade off some harvest potential has been demonstrated by some states adopting more restrictive regulations than allowed under the Federal framework in recent years. Concerns for excess hunting pressure on locally produced waterfowl and hunter satisfaction measures were usually cited as justification for not pursuing maximum harvest opportunities.

Accounting for Sources of Variation in Waterfowl Demographics

The Pacific Flyway Council supports incorporating appropriate models for Western Mallards and Pintails into the AHM process as soon as possible. This has been a consistent and longstanding Council position with continental implications. Combined with other refinements, this modification would help address some of the most important issues related to harvest management now relying primarily on performance of Mid-Continent and Eastern Mallards. Investing in expanded efforts for these two important species could result in cost-effective improvements to the process. Council recognizes the need to set priorities for the limited staff and financial resources available now and in the future. However, these are currently the most important species level needs for the Pacific Flyway.

Limits to System Control

The Pacific Flyway Council recognizes the importance of learning based on use of a consistent process over an appropriate timeframe. Unfortunately, a number of factors have led to significant changes in the AHM process and its implementation over the last 5 years. Some of these changes were the result of a lack of understanding and support for the process and they came at a cost to the learning process. Regardless of specific

features of AHM, Council supports the need to consistently use the system over an appropriate timeframe in order to test and evaluate its performance and make future refinements.

Recommendations

The Council provides the following comments on the Task Force's specific recommendations in the order in which they appear in the June 29, 2004 report:

1. Use of the North American Plan Population Objectives

The Pacific Flyway Council shares the Task Force's belief that waterfowl harvest and habitat management are linked. Council also agrees the professional waterfowl management community needs to use the best available information to clarify and better inform the public and agency decision-makers of the intent of the Plan's population objectives as potential habitat capacity targets under "optimum" environmental conditions in restored habitats. This policy issue involves more of a communication challenge than a biological problem. The existing AHM process includes biologically conservative models constraining harvest including "additive mortality" features. In other words, the hunting harvest prescribed under AHM does not limit future waterfowl population productivity. Therefore, Council recommends the Task Force, flyways and the Service cooperate to develop a shared vision of the role of population objectives (targets) in the Plan and their specific relationships with harvest management mechanisms in the AHM process. That vision could then be consistently conveyed to all interested parties.

2. De-couple the NAWMP Goal

With respect to the recommendation to temporarily "de-couple" the Plan's population goal for Mallards from AHM, Council believes this issue is related to the root problem discussed in the response to recommendation 1 above. From the Technical Committee's perspective, this recommendation lacks sufficient details to analyze its potential effects. Questions were raised as to how long the "de-coupling" would last as well as how it would be reinstated. The Council is concerned that without better definition of roles and relationships between the Plan goals for habitat capacity and AHM constraints on harvest, a temporary action will not be effective in addressing the potential communication challenge at hand. A long-term solution of developing harvest constraint mechanisms based on objective criteria and specific population monitoring programs such as the annual breeding population in traditionally surveyed areas could provide a more meaningful measure of population sustainability in terms of harvest management. In the meantime, Council recommends the Task Force work with the AHM Working Group and the Service to consider options involving changes in the existing objective function to improve overall AHM system performance.

3. Regulatory Alternatives

In general, the Council supports the Task Force's recommendation to simplify the set of regulatory alternatives. It also supports considering the criteria identified as important by the Task Force in making changes. Reviewing the alternatives for potential changes every 5 years along with zones and splits is reasonable.

4. Number of Regulatory Alternatives

The Council could not reach consensus on the number of regulatory alternatives to consider without obtaining additional background information defining the alternatives. From the policy level, the Council supports the concept of minimizing partial seasons on pintails and canvasbacks. We would also support other changes to alternatives that are consistent with the goals previously stated in the introduction to this document. Conceptually, those values might be addressed by a new 2 alternative proposal, with a standard season approximately 93 days long with a 7-bird daily bag limit and a restrictive season approximately 72 days long with a 5-bird daily bag limit in the Pacific Flyway. Another package might provide a standard package at 93 days, combined with two other alternatives to address extremely high or low population levels. Another alternative would be retention of the current liberal and restrictive alternatives, but restructure the moderate package to be more restrictive and provide greater separation in harvest rates. Without analysis it cannot be confirmed if these alternatives are technically valid. Council would support developing the details for these scenarios, compared to the existing alternatives and those proposed by the Task Force, for further review as soon as practical. We believe that USFWS should evaluate these scenarios including the task force's 38/60 day alternatives.

Because one of our primary interests is avoiding partial seasons for pintail and canvasback, we would like an evaluation of how often partial seasons would likely be triggered for each scenario. As noted above, if reducing the maximum season length from 107 days to 93 days resulted in eliminating the need for seasons within seasons for pintail and canvasback in most years, it would be worth considering that level of reduction in maximum hunting opportunity. Therefore, it is our recommendation that potential changes occur after the evaluation and further analyses are completed, which would provide the basis for additional flyway council review and input on "costs/benefits".

5. With the inclusion of the packages noted in response 4 above, Council supports this recommendation.
6. Council supports this recommendation.
7. With the qualifications noted in response 4 above and recognizing the need for objective criteria to determine which species warrant separate harvest strategies, Council supports this recommendation.