

EXECUTIVE SUMMARY

Adaptive Harvest Management (AHM) Task Force *Status Report - September 12, 2003*

The AHM Task Force was established in December 2002 by the president of the IAFWA to foster understanding and support for continued strategic development and implementation of AHM. The AHM Task Force met in person on January 9, June 2, and August 14, and by conference call on February 24, March 6, and March 12, 2003. Based on its discussions to date, the Task Force believes there are a number of critical issues that must be addressed before application of AHM can be improved. This report represents an initial effort to engage the larger management community in a discussion of these issues and the future direction of AHM.

The AHM process has proven to be incredibly valuable for providing structure and focus to the debate over appropriate hunting regulations. The great advantage of AHM is that it provides an objective way to propose hunting regulations in the face of professional disagreement about the effects of hunting and other factors on waterfowl abundance. Our experience with AHM since 1995 also is challenging some traditional beliefs about the process of waterfowl harvest management. This critical questioning has caused the Task Force to focus on several institutional issues that may pose the greatest challenge to the long-term success of AHM:

Harvest-management objectives.--AHM can produce optimal regulatory decisions in the face of uncertainty or disagreement about the outcomes of harvest management, but only if there is agreement about management goals and objectives. The basic objective of the AHM process since 1995 has been to maximize sustainable harvests, but many managers question whether harvest is the most appropriate way to measure management performance. Most waterfowl managers seem more interested in maximizing hunter satisfaction (and retention and recruitment), but the lack of information on the attitudes and behaviors of the nation's waterfowl hunters is a major obstacle to defining harvest-management objectives in these terms. In the short term the Task Force believes that both harvest and population size will continue to be appropriate performance measures for the AHM process. The approach taken to date in AHM has been to consider a management objective that attributes relatively high value to harvest (and thus hunting opportunity) when North American Waterfowl Management Plan (NAWMP) goals are met, and a lower value to harvest as populations fall short of the NAWMP goals. The immediate problem confronting the management community is deciding whether (and, if so, to what extent) NAWMP goals should restrict hunting opportunity in those cases where habitat conditions are insufficient to support populations at their respective NAWMP goals.

Regulating harvests.--The link between hunting regulations and resulting harvest rates is imperfect. Variation in weather and habitat conditions, timing of migration, hunter success, and other uncontrolled factors result in regulation-specific harvest rates that can vary by as much as +/- 50 percent of the mean. The implications of this variation can be profound. Generally, poor precision in regulating harvest rates leads to more conservative harvest strategies, and to strategies in which only small changes in population size are required to precipitate very large changes in the optimal regulatory choice. Because of these concerns, the Task Force believes that there could/should be some simplification of the current regulatory alternatives. In so doing, regulatory alternatives should be designed so that they result in relatively distinct ranges of harvest rates. It is also important that the same alternatives be in place long enough to measure their effects. Ultimately, however, the

specification of the regulatory alternatives must be determined in large part based on their perceived acceptance among waterfowl hunters.

Accounting for variability in waterfowl demography.-- Since its inception, AHM has focused on the population dynamics and harvest potential of mallards. Mallards constitute a large portion of the total U.S duck harvest and traditionally have been a reliable indicator of the status of many other species. However, not all duck stocks (i.e., species and populations) have the same potential as mallards to support harvest. The challenge thus confronting harvest managers is to decide how best to account for this variation in harvest potential, given existing data-collection programs, acceptable regulatory mechanisms, the desires and abilities of hunters, and legal mandates for species conservation. The AHM Working Group recently considered a number of conceptual alternatives for recognizing differences in harvest potential among waterfowl stocks. The identification of a preferred alternative is critically dependent on the extent to which managers are comfortable with hunting regulations for some species that are different from those for the general duck season.

The Task Force believes that waterfowl harvest management and the application of AHM is at a critical juncture, and it is crucial that the management community be fully engaged in determining how the key issues are addressed. Therefore, the Task Force recommends that the IAFWA, the four Flyway Councils (both Technical Committees and Councils) and the USFWS hold a special one-day conference early next year to discuss these issues and the long-term strategic direction of AHM. If there is sufficient interest among the principal stakeholders, the Task Force would take the lead in developing an agenda, securing facilities, inviting participants, and hosting the meeting.

Adaptive Harvest Management (AHM) Task Force

Status Report

**Prepared for the Executive Committee,
International Association of Fish & Wildlife Agencies (IAFWA)**

September 12, 2003

Introduction

The AHM Task Force was established in December 2002 by the president of the IAFWA (see Appendix A for Task Force guidelines). 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)
- *Ken Williams* (U.S.G.S. Cooperative Research Units)
- *Ralph Morgenweck* (U.S. Fish and Wildlife Service)
- *Dave Case*, facilitator (D. J. Case & Associates)

Fred Johnson from the U.S. Fish and Wildlife Service and Mike Johnson from the North Dakota Game and Fish Department have provided technical support to the Task Force on behalf of the AHM Working Group.

The AHM Task Force met in person on January 9, June 2, and August 14, and by conference call on February 24, March 6, and March 12, 2003. The discussions to date have focused on the desire to clarify harvest-management objectives, to understand the social and biological implications of regulatory alternatives, and to explicitly account for species other than mallards in the AHM process. The Task Force believes that success in dealing with these issues ultimately depends on the recognition and acceptance of some important lessons garnered from our experience with the AHM process since 1995. In some cases, the Task Force believes these lessons will challenge traditional ways of thinking about waterfowl harvest management. Therefore, the Task Force is anxious to involve the larger management community in a discussion of these issues and the future direction of AHM.

The specific purposes of this report are:

1. to identify issues that should be addressed to improve application of AHM, and to strengthen support among principal stakeholders;
2. to pose some questions to the management community regarding these issues; and
3. to recommend that the IAFWA, the four Flyway Councils and the U.S. Fish and Wildlife Service hold a special conference early next year to discuss these issues and the long-term strategic direction of AHM.

Institutional Lessons from AHM

The AHM process has proven to be incredibly valuable for providing structure and focus to the debate over appropriate hunting regulations. The great advantage of AHM is that it provides an objective way to propose hunting regulations in the face of professional disagreement about the effects of hunting and other factors on waterfowl abundance. As a consequence, the overall level of contentiousness in decision-making has decreased. Obviously debate continues, but the focus has now largely turned from the proposed hunting regulations themselves to the subjective or value-based (i.e., policy) components of the decision-making process (e.g., harvest-management objectives). Addressing these kind of policy choices is always difficult, but even more so because the AHM process is challenging traditional beliefs about our collective ability to understand and influence waterfowl population dynamics, and about the potential of science in and of itself to engender policy consensus. This critical questioning has caused the Task Force to focus on several institutional issues that may pose the greatest challenge to the long-term success of AHM:

(1) *Harvest-management objectives*--Effective management planning and evaluation depends on agreement among stakeholders about how to characterize the benefits of harvest management, and how those benefits should be shared. Unresolved value judgments, and the lack of effective procedures for organizing debate, pose a serious threat to the viability of AHM (or to any other informed approach to management). Moreover, the lack of adequate information on the motivations, preferences, and behaviors of the nation's waterfowl hunters is a continuing problem in the effort to determine appropriate harvest-management objectives.

(2) *Limits to system control*--There are rather severe practical limits to the ability to predict, control, and measure harvests and, therefore, significant constraints on short-term harvest yields and the learning needed to increase long-term performance. These limits cannot be overcome completely, and the management community must somehow better balance expectations with reality in formulating regulatory alternatives and strategies.

(3) *Accounting for sources of variation in waterfowl demographics*--The history of waterfowl management has been characterized by efforts to account for increasingly more spatial, temporal, and organizational variability in waterfowl population dynamics. However, we question the wisdom of continuing this approach indefinitely, if only because resources for monitoring and assessment activities are so limited. In addition, managers must recognize that the ability to optimize harvests of various waterfowl stocks depends: (a) on the capability to harvest selectively; (b) on some understanding of each stock's dynamics; and (c) on knowledge of any interdependence in stock sizes. Managers currently face considerable challenges in meeting any of these criteria.

Coping with these three institutional issues will require innovative mechanisms for producing effective dialogue, and for handling disputes within a process that all parties regard as fair. Ultimately, the success of AHM will be enhanced to the extent that it motivates and guides this process of institutional self-examination and renewal.

Future Directions in AHM

What should be the goals and objectives of harvest management?

AHM can produce optimal regulatory decisions in the face of uncertainty or disagreement about the outcomes of harvest management, but only if there is agreement about management goals and objectives. The basic objective of the AHM process since 1995 has been to maximize long-term cumulative waterfowl harvest, recognizing of course that long-term population viability is a necessary condition for attaining that objective.

Perhaps not surprisingly, the magnitude of the waterfowl harvest may not be the most appropriate metric for the objective of the AHM process. Most waterfowl managers seem more interested in maximizing hunter satisfaction (and retention and recruitment), recognizing that these are affected only in part by harvesting success. This view is supported by human-dimensions studies that indicate hunter participation and satisfaction may *not* be increased substantially by regulations that provide for the maximum allowable harvest. As early as 1993 there were discussions within the AHM Working Group about framing objectives in terms that relate to hunter satisfaction rather than harvest. There appear to be no theoretical problems in pursuing an objective defined in these terms, but clearly there are major challenges in application. The Wildlife Management Institute (WMI) has convened a working group to explore the relationship between hunting regulations and hunter satisfaction, and ultimately they will be making recommendations about how hunter satisfaction might be explicitly considered in the AHM process.

In the short-term, however, we believe that harvest and population size continue to be appropriate performance measures for the AHM process. On the other hand, the existence of these dual, potentially antagonistic objectives (i.e., harvest and population size) leaves much room for discussion and debate. As mentioned, the pursuit of maximum harvest does not require the imposition of an explicit population goal because population maintenance is a necessary condition for maximizing long-term cumulative harvest. However, there is a tradeoff between the average size of the harvest and the average size of the population, and an objective to maximize cumulative harvest may sometimes lead to population sizes that are too low to be socially acceptable. In these cases, an explicit population goal may be imposed to constrain the level of hunting opportunity.

The approach taken to date in AHM has been to consider a management objective that attributes relatively high value to harvest when North American Waterfowl Management Plan (NAWMP) goals are met, and a lower value to harvest as populations fall short of the NAWMP goals. In the current AHM protocol, hunting regulations in the Mississippi, Central, and Pacific Flyways are based on the status of midcontinent mallards, using a harvest-management objective that proportionally reduces the value of (i.e., devalues) harvest (and therefore hunting opportunity) as the mallard population is expected to fall below the NAWMP goal. The resulting balance of harvest and population objectives results in a regulatory strategy that is more conservative than that for maximizing sustainable harvest.

The extent to which a NAWMP goal can restrict hunting opportunities depends not only the rate at which the value of harvest is reduced when populations are below goal, but also on the average population size expected under a sole objective to maximize sustainable harvest. If the expected population size under an objective to maximize sustainable harvest is higher than the NAWMP goal, then including the goal in the harvest management objective will not (on the average) restrict hunting opportunity. However, if the expected population size under an objective to maximize sustainable harvest is below the NAWMP goal, then the goal will restrict hunting opportunity to an extent subjectively imposed by managers.

The Task Force recognizes that the NAWMP provides a convenient source of population goals, but believe these goals may be somewhat problematic for use in AHM because they:

- reflect a presumed increase in the "carrying capacity" of the environment (i.e., NAWMP population goals are generally not attainable with current landscape conditions);
- are tied to "average" (yet not explicitly defined) environmental conditions;
- are implicitly tied to the harvest regime of the 1970s; and
- are not specified for all stocks of interest in harvest management.

In light of these difficulties, specific questions to the management community include:

- *Should AHM explicitly recognize NAWMP goals in the development of regulatory strategies?*
- *If so, to what degree should hunting opportunity be constrained by the NAWMP goals? And how should we account for those situations when uncontrollable environmental conditions (e.g., precipitation) are not "average?"*
- *If the NAWMP goals should not be considered, then how would we communicate the apparent disconnect between the two principal programs for waterfowl management? And how would we ensure that general duck-hunting regulations based on mallards are not overly liberal for some duck species or stocks?*

In considering these questions, the Task Force suggests that NAWMP goals might be useful in AHM under the following conditions:

- if maximum sustainable harvests will result in a lower population than socially desired, or
- if the effects of a particular harvest regime on average population size cannot be reliably assessed, or
- if the use of a NAWMP goal for one waterfowl stock reduces the potential for excessive harvest on another stock.

Where any of these conditions are met, it also would be important to ensure that hunting opportunity is constrained in a way that is deemed socially acceptable, and that there is an accounting for those situations when environmental conditions are below average (i.e., when population goals cannot be met regardless of hunting regulations).

What should the set of regulatory alternatives look like?

Throughout the process of defining regulatory alternatives, managers should be aware that the link between hunting regulations and resulting harvest rates is imperfect. Even repeated experience with particular regulatory alternatives has failed to eliminate the high degree of uncertainty regarding the extent to which realized harvest rates are commensurate with expectations. Variation in weather and habitat conditions, timing of migration, hunter success, and other uncontrolled factors result in regulation-specific harvest rates that can vary by as much as +/- 50 percent of the mean. Additional uncertainty is introduced when there is little or no prior experience with particular regulatory alternatives, such as some of those in use since 1997. Moreover, most empirical assessments have raised doubts about managers' capability to manipulate harvest pressure independently on multiple waterfowl stocks using conventional regulatory tools.

The implications of these sources of uncertainty can be profound. Generally, less precision in the prediction of harvest rates leads to more conservative and more "knife-edge" harvest strategies. Strategies are characterized as "knife-edge" when only small changes in system state (e.g., population size) are required to precipitate very large changes in the optimal regulatory choice. Conservative harvest strategies, with frequent annual changes in hunting regulations, are not likely to win favor among waterfowl hunters. It is not yet clear, however, that the waterfowl management community is prepared to acknowledge the inherent limitations in its ability to control and predict harvests, and to develop regulatory alternatives that help avoid the most undesirable consequences of those limits.

In practice, the design of regulatory alternatives for AHM has been heavily influenced by tradition, where the historic motivations and rationale for regulatory choices often are unknown or outdated. Therefore, there is a strong temptation among managers to promote non-traditional regulatory alternatives that influence the amount and distribution of hunting opportunity in ways that are deemed more desirable. And there's the rub: the design of regulatory alternatives inherently involves subjective, value-based judgments. In the end, managers from various parts of the country must understand how hunter satisfaction is influenced by the nature of regulatory alternatives and seek solutions that meet the needs of diverse interests.

After considerable discussion, the Task Force has concluded that there could/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:

- 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.
- 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.
- The regulatory alternatives should reflect the preferences and skills of hunters, an acceptable distribution of hunting opportunity, and law-enforcement capabilities.

The Task Force also notes that concern has been expressed within the waterfowl management community about prescriptions for closed seasons arising from the AHM process. Prescriptions for closed seasons exist because the U.S. Fish and Wildlife Service is always obligated to consider a closed season, and because the current restrictive alternative is not sufficiently restrictive under

some resource conditions (in other words, a closed season is the default prescription in the absence of a regulatory alternative that will produce harvest rates that are low enough). Some of the concern about closed seasons was alleviated this year with the prohibition on closed seasons whenever the midcontinent mallard population is at least 5.5 million. However, the prescription for closed seasons may again be an issue as other waterfowl stocks are explicitly considered in the AHM process.

Ultimately, the specification of the regulatory alternatives will be determined in large part based on their perceived sociological consequences. Specific questions for the management community include:

- *What are the minimum season lengths, bag limits, and framework dates needed to ensure that States retain an interest in establishing open hunting seasons?*
- *Are current Flyway differences in regulatory alternatives acceptable?*
- *Are less complex regulations (e.g., fewer species restrictions within the total bag limit) desirable?*
- *Which is more preferred: infrequent, but large changes in annual regulations or more frequent, but smaller changes in annual regulations?*
- *Are aggregate bag limits (e.g., one hen mallard or one pintail) an acceptable means to reduce harvest pressure on particular stocks?*
- *Would States be willing to give up days in the liberal alternative to foster annual stability in regulations, and to help ensure that there are no closures or partial-season closures on some species?*
- *How often should the regulatory alternatives be reviewed, and what should be the criteria for modifying them?*

How should AHM account for species other than mallards?

Since its inception, AHM has focused on the population dynamics and harvest potential of mallards, especially those breeding in midcontinent North America. Midcontinent mallards constitute a large portion of the total U.S duck harvest and traditionally have been a reliable indicator of the status of many other species. However, not all duck stocks (i.e., species and populations) have the same potential as midcontinent mallards to support harvest. Moreover, in recent years there has been a growing disparity between midcontinent mallards and some duck stocks in population status. As a consequence there is considerable interest in developing an AHM approach that explicitly recognizes and accounts for stock-specific variation in harvest potential.

Throughout the history of duck-harvest management, there has been a persistent effort to account for increasingly more sources of variation in harvest potential. This tendency was justified, at least to some degree, by a gradual accumulation of information that allowed managers to identify sources of variation at progressively finer scales. However, there is reason to question the efficacy of continuing this trend indefinitely. The challenge now confronting duck-harvest managers is to decide what level of management resolution is appropriate given existing data-collection programs, acceptable regulatory mechanisms, the desires of hunters, legal mandates for species conservation,

and the likely magnitude of spatial, temporal, and organizational variability in duck harvest potential.

Variation in harvest potential among duck stocks means that the dual management goals of minimizing the potential for over-exploitation and maximizing hunting opportunity can be accomplished only to the extent that regulations are effective at directing harvest pressure among stocks in the appropriate manner. This in turn depends on an understanding of the patterns of variation in duck harvest potential, and on the willingness and ability of hunters to comply with stock-specific regulations. In those cases where stocks with different harvest potentials are exposed to a common set of regulations, we must be able to discern the effect of those regulations on the less productive stock(s), and ensure that any constraint on hunter opportunity is sufficient to prevent long-term resource depletion. Unfortunately, the capability of extant monitoring and assessment programs to predict and discern regulatory impacts is limited.

The AHM Working Group recently considered a number of conceptual alternatives for multi-stock AHM. These alternatives were:

- Continue the current approach based on mallards (midcontinent, eastern, and western stocks), but constrain the use of hunting regulations that would be expected to result in population levels of other species below their respective NAWMP goals; an important feature of this alternative is the option to have independent season or bag limits for stocks of special concern (e.g., pintails); or
- Specify two groups of ducks based on relative differences in harvest potential, and then have independent regulations for the two groups; in contrast to the first alternative, there would be no independent seasons (i.e., all stocks eventually must be assigned to one of the two groups); or
- Set a general duck season based on the stock(s) with the lowest harvest potential.

These alternatives were discussed at length at the Working Group meeting in April 2003, but they have not been sufficiently reviewed by the management community at large. Specific questions for the management community that can help identify a preferred approach include:

- *Should we continue to base the choice of regulatory alternative on the status of mallards and, if so, how should we account for those stocks with lower harvest potential? Or would one of the other alternatives described by the AHM Working Group be more appropriate?*
- *Regardless of the general approach, for which species (if any) would separate hunting regulations (including species-specific season lengths, bag limits, and framework dates) be acceptable?*
- *If the length of the general duck season were based on a single species like mallards, for which species (if any) would bag limits that varied annually be acceptable?*
- *For which species (if any) would periodic closed seasons be acceptable?*
- *Should further divisions within Flyways be considered at this time as a means to address geographic differences in harvest derivation or other regional issues? If so, where?*

Recommendation for an AHM Conference

The Task Force believes that waterfowl harvest management and the application of AHM is at a critical juncture, and it is crucial that the management community be fully engaged in designing the future of AHM. Therefore, the Task Force recommends that the IAFWA, the four Flyway Councils (both Technical Committees and Councils) and the USFWS hold a special conference early next year to discuss these issues and the long-term strategic direction of AHM. The Task Force feels it is vitally important for the broader management community to participate in the same type of in-depth discussions that the Task Force has had over the last several months. If there is sufficient interest among the principal stakeholders, the Task Force would take the lead in developing an agenda, securing facilities, inviting participants, and hosting the meeting. The Task Force suggests holding a 1-day meeting as early as possible in 2004 in or near a hub-airport. Remote participation in the meeting would be made possible through conference call and/or video conferencing and/or the Internet.

Appendix A

Adaptive Harvest Management (AHM) Task Force

Guidelines

January 20, 2003

The AHM Task Force was established in December 2002 by Brent Manning, president of the International Association of Fish and Wildlife Agencies.

Mission

The mission of an AHM Task Force is to foster understanding and support for continued strategic development and implementation of AHM. The Task Force will focus primarily on policy issues, recognizing of course that strategic direction must be consistent with capabilities for science-based monitoring and assessment of the waterfowl resource. Any strategic guidance for AHM also will acknowledge the dependency of waterfowl population abundance on both harvest and habitat availability, the need for direct involvement of the Flyway Councils, and the need for comprehensive, integrated approaches to migratory bird conservation.

Tasks

The AHM Task Force will focus on the following key policy topics:

Harvest-management objectives: Currently, the basic management objective of the AHM process is to maximize cumulative harvest over an infinite time horizon (recognizing that long-term resource conservation is required to accomplish this objective). In one case (midcontinent mallards), an additional objective is to maintain population size at or above the goal of the North American Waterfowl Management Plan (NAWMP). Are the size of the harvest and NAWMP population goals sufficient for defining the objectives of duck harvest management, or should the objectives be broadened to include other interests such as hunter satisfaction, the distribution of hunting opportunity, or the frequency of regulatory changes?

The set of regulatory alternatives: Because AHM helps ensure resource protection through an optimal use of specified regulatory alternatives (whatever they may be), proposals to modify the set of regulatory alternatives primarily involve social trade-offs. In this light, how many regulatory alternatives should there be? Among the alternatives, what are desirable or acceptable ranges of season lengths, bag limits, and framework dates? How often should the set of regulatory alternatives be reviewed and what are appropriate criteria for modifying them?

The specification of management scales: The harvest potential of duck populations is highly variable among years, across space, and among species. The degree to which AHM accounts for these sources of variation is largely a subjective decision, but one that can strongly influence both the benefits and costs of management. The challenge for managers is to decide what level of management resolution is appropriate given extant monitoring and assessment programs, acceptable regulatory mechanisms, the desires of hunters, and legal mandates for species conservation.

Communications: The other major element of the Task Force's agenda will involve communication efforts designed to facilitate the development of useful policy guidance. Pro-active communication efforts have been critical to the success of AHM and were the principal focus of the original AHM Task Force in 1995. The Task Force would be responsible for helping to identify stakeholders and target audiences, key messages, necessary actions, and required funding to enhance the long-term success of AHM.

The Task Force will review alternative approaches to these issues and make recommendations to the USFWS and Flyway Councils for further consideration.

Task Force Composition

Individuals have been appointed to the Task Force based on their ability to contribute to the group's mission. Experience with the history and institutional mechanisms of waterfowl management were prerequisites. The Task Force is relatively small, open-minded, and able to embrace a nationwide perspective. The Task Force will look for strategic approaches that can be embraced across Flyways. Members include:

- *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)
- *Ken Williams* (USGS Cooperative Research Units)
- *Ralph Morgenweck* (U.S. Fish and Wildlife Service)
- *Dave Case*, facilitator (D. J. Case & Associates)

The Task Force will seek the input of others as needed to carry out its work.

Operating Procedures

The AHM Task Force will be analogous to the AHM technical Working Group, in that it will be an advisory body without decision-making powers. Like the AHM Working Group, the Task Force will assemble information, review and discuss alternative approaches, and make non-binding recommendations to the IAFWA and Flyway Councils. The Task Force will rely heavily on the AHM Working Group and technical/study committees of the Flyway Councils for help in assessing the biological and regulatory implications of alternative policy choices. The Task Force also will work closely with the IAFWA and Flyway Councils to establish priorities and timetables for deliverables.

The Task Force will coordinate closely with WMI, which has initiated a federal-aid project to help understand the relationship between waterfowl hunting regulations and hunter satisfaction and participation. An important goal of the project is to determine how this information can be used to support conservation programs like AHM. The project will involve formation of a "think tank" to help frame the issue and to create a sense of direction for future work. As manager of the WMI project and as facilitator of the Task Force, Dave Case will ensure that the two efforts are closely coordinated and mutually reinforcing. The WMI project already is being coordinated closely with the AHM Working Group.