

The Sea Duck Joint Venture

Reversing the Trend

A North American Waterfowl Management Plan Conservation Partnership

WHY A SEA DUCK JOINT VENTURE?

The 15 species of waterfowl known as sea ducks constitute 42 percent of the duck species breeding in North America, yet they are the most poorly understood group of waterfowl. Basic natural history information is lacking for some species, and there are few reliable population indices or estimates of annual survival for most of the species. However, the information we do have tells us this: most of the populations are in trouble—some in severe trouble. The eastern population of harlequin ducks has been listed as endangered in Canada, and spectacled eiders and the Alaskan breeding population of Steller's eiders have been listed as threatened in the United States.

To prevent more sea duck populations from attaining the status of harlequins and eiders, we must meet a number of challenges:

- insufficient knowledge of basic sea duck biology,
- habitat changes on breeding and wintering grounds,
- environmental contaminants affecting survival and productivity, and
- the inability to accurately measure harvest.

The large number of sea duck species, the vastness of their geographic range, and the complexity of issues affecting their conservation make sea duck management a task beyond the capability of one government agency, or even a single country. However, indicated population declines in 10 of the 15 species dictate that action must be taken now.

The Sea Duck Joint Venture, formed under the auspices of the North American Waterfowl Management Plan, intends to reverse the declines. To succeed, we must expand our partnership and gather the information needed to turn the status of this unique group of birds around.

In this document, we explain the situation surrounding sea duck declines, identify the challenges and needs in reversing the trends, and offer the solution required for success. We would like you to become a part of the solution by joining us in our effort to conserve sea ducks. We are going to make a difference.

THE SITUATION

The 15 species of sea ducks found on the continent are the most poorly understood group of North American waterfowl. Even the most basic natural history information is unknown for some species, most notably for black and surf scoters. There are few reliable population indices or estimates of annual productivity for any of the species.

One problem is that surveys are not designed to accurately estimate the harvest of most sea duck species. Most of our knowledge of sea ducks is based upon localized studies, which may not be applicable across the range of the species studied.

The life cycles of sea ducks may also be problematic for their long-term well-being. Sea ducks have long life spans. Most species do not reach sexual maturity until they are 2- or 3-years-old. Their reproductive success is low even in relatively stable environments. Changes occurring in environments inhabited by sea ducks do not bode well for these birds.

Many traditional wintering areas have become urbanized and industrialized, and breeding habitats are being lost or degraded. Thriving predator populations are placing increased pressure on the annual production of a number of sea duck species, and many indirect factors, such as bioaccumulation of chemical contaminants, may be negatively affecting survival and production in some populations. A concerted effort to understand how these factors interact is essential to the conservation of sea duck populations.

Continentially, sea ducks represent less than 5 percent of the total waterfowl harvest. This is one reason why their conservation has historically been a low priority among waterfowl managers. Sea ducks received no special consideration under the original, 1986 North American Waterfowl Management Plan (Plan), because populations were thought to be stable. However, very little data existed at that time. Since then, the eastern population of harlequin ducks has been listed as endangered in Canada, and spectacled eiders and the Alaskan breeding population of Steller's eiders have been listed as threatened in the United States.

Analysis of existing survey and harvest data along with new surveys and studies conducted during the 1990s indicate population declines in 10 of the 15 species of North American sea ducks. In 1997, federal, state, and provincial agencies and non-governmental conservation organizations together proposed that an international Sea Duck Joint Venture be formed to address the decline of this group of birds. In 1998, the Plan Committee endorsed the concept as the best vehicle to coordinate the conservation of sea ducks.

THE CHALLENGES

Sea ducks breed in low densities in remote parts of the continent. Historically, the logistical considerations for working on sea ducks have precluded the gathering of

adequate information on distribution, abundance, and population dynamics for most of the species, and even the most basic natural history information is lacking for some of the species. For example, at the time of publication of *Ducks, Geese and Swans of North America* (F.C. Bellrose, 1980), the sum total of our knowledge of surf scoter nesting ecology was based on the study of one nest.

Population Estimates and Delineation

The Challenge: Specific breeding, molting, migration, and wintering sites and species affinities among those sites are poorly known.

Historic population estimates for most sea duck species were based on wide extrapolations from limited surveys. Accurate determination of population trends remains difficult because traditional waterfowl surveys are not designed to determine trends in sea ducks. Recently, the use of more targeted techniques for some species of sea ducks has resulted in more accurate population estimates.

The Need: Monitoring techniques and population estimates need to be developed and implemented for all North American sea ducks.

Population Dynamics

The Challenge: Causes of documented and suspected population declines are largely unknown.

The relative importance of factors affecting mortality of sea ducks is poorly understood and likely varies among species and populations. Most sea ducks are known to have long life spans and low annual productivity. Factors that negatively affect adult survival and production of young—especially those which may have intensified in recent years—need to be identified so that strategies can be formulated to effectively manage these birds.

The Need: Expansion and refinement of the basic biological-information base is needed to better understand the population dynamics of sea ducks.

Habitat Requirements

The Challenge: Urbanization and industrialization are encroaching on wintering and breeding habitats.

Sea ducks use very different habitats during their annual cycle. The non-breeding period (approximately 9 months) is spent primarily in marine environments. During this period, sea ducks often are found in large aggregations and are more vulnerable to threats. They occupy a wide range of aquatic habitats—bays, lagoons, estuaries, deep ocean waters and large fresh-water lakes and rivers.

In addition to directly killing birds, catastrophic events, such as oils spills, can have major, long-term effects on localized wintering habitats. As petroleum development expands in far-northern areas, the potential increases for spills in breeding, molting, and migration habitats.

Shoreline development for recreational, industrial, and aquaculture purposes may also affect habitat suitability and availability. Recreational development on the offshore islands of Atlantic Canada and the New England states is a concern for both breeding and wintering common eiders.

Forestry and hydroelectric development may affect the availability of suitable breeding habitat for goldeneyes, scoters, and harlequin ducks. Habitat destruction by overabundant snow goose populations may have implications for oldsquaw and king eiders. There is also the potential for climate change due to global warming to affect habitat quality and distribution of sea ducks.

The Need: The distribution and population delineation of wintering sea ducks needs to be clearly defined to help identify potential threats and how to avoid or mitigate them.

Sustained Yield

The Challenge: The level of harvest by sport and subsistence hunters is poorly known.

While sea duck harvest occurs at lower levels than for other waterfowl, their populations and reproductive potentials are also lower. Sea ducks are a significant component of subsistence harvest in the north, and sport harvest opportunities remain relatively liberal in some jurisdictions.

The Need: Accurate harvest estimates must be developed for sea ducks, and research conducted to determine the effects of harvest on populations.

Environmental Contaminants

The Challenge: For the most part, the effect of environmental contaminants on sea ducks is unknown, but it is believed that they are contributing to population declines.

Contaminants have been found in tissues of some sea ducks species at concentrations known to affect survival and reproduction in other birds. Their longevity and dependence on benthic organisms, coupled with their tendency to overwinter in some of the most industrialized bays in North America, make sea ducks susceptible to bioaccumulation of contaminants such as heavy metals.

Direct mortality of spectacled, common, and Steller's Eiders from lead poisoning has been documented on Alaskan breeding grounds. Offshore oil production, oil spills, and chronic exposure to low levels of petroleum contamination from bilge dumping are important concerns on both coasts.

The Need: Research documenting contaminants levels in key species needs to be conducted to determine the extent of the problem and to design remedial actions.

THE SOLUTION

Existing stakeholders believe a Sea Duck Joint Venture is the best means of addressing the issues facing this group of birds. Why?

- The number of species involved is large, their life histories are diverse, and sea ducks occupy broad geographic ranges.
- Coordinated efforts in Arctic and coastal ecosystems can provide opportunities to leverage dollars and to pool staff and knowledge.
- International cooperation is essential to achieve conservation goals.
- Coordinated management across flyways and provinces is required.
- The Plan's joint-venture-conservation model has a history of success.

Sea Duck Joint Venture partners will coordinate a review of species' status and information needs based on available data. This data will be used to establish immediate research and conservation priorities for each of the 15 species. From that point, Joint Venture partners will develop a plan to refine the information base to better articulate long-term conservation strategies.

Vision

By 2005, Sea Duck Joint Ventures partners are the recognized experts in sea duck biology, making significant contributions toward improving the management and status of sea duck populations throughout their ranges.

Mission

Sea Duck Joint Venture partners promote the conservation of North American sea ducks by providing greater knowledge and understanding for effective management.

Scope

The Sea Duck Joint Venture will focus on the conservation needs of all sea ducks that occur in North America. Partnerships with adjacent circumpolar countries sharing these populations may be developed at the project level, where partners will consider issues of population dynamics and habitat quantity and quality.

Goals and Objectives

The Sea Duck Joint Venture's goals and objectives are grouped into four categories: knowledge, communication, partnerships, and conservation actions.

Knowledge: Joint Venture partners will support the development of knowledge and understanding critical to sea duck conservation in North America by

- defining and refining population segments for management,
- gathering information to better understand the biology of sea ducks throughout their annual cycles,
- consolidating existing information on demographics, population trends, and migration routes,

- identifying and quantifying production and mortality factors,
- identifying information gaps,
- prioritizing and coordinating research activities,
- improving monitoring capabilities to address information needs,
- conducting innovative multi-disciplinary research and monitoring projects, and
- designing a process for ongoing review of Joint Venture progress and direction.

Communications: Joint Venture partners will increase the awareness of sea duck issues by

- establishing a outreach plan,
- soliciting information and concerns from all potential stakeholders, with emphasis on including indigenous peoples,
- conducting outreach activities within waterfowl management agencies,
- conducting outreach activities with private-sector entities whose activities affect sea ducks,
- reporting research results and current population trends to the conservation community, scientific community, and waterfowl managers in a timely manner and on a regular schedule, and
- integrating outreach activities with other Plan and flyway efforts.

Partnerships: The Joint Venture will build its partnership by

- providing a forum for discussion of issues,
- identifying existing commitments and activities,
- maintaining and enhancing traditional partnerships,
- developing non-traditional partnerships,
- seeking new funding and political support, and
- recognizing contributions made by partners.

Conservation Actions: Joint Venture partners will advance sea duck conservation by

- making management recommendations through the Joint Venture's Management Board for consideration by appropriate agencies, Plan habitat joint ventures, and landowners,
- working with industry and others who affect sea ducks to advance conservation activities,
- promoting broader-based appreciation of sea duck resources to support sustainable consumptive and non-consumptive uses, and
- supporting and integrating activities with terrestrial and marine initiatives having common goals.

SEA DUCK JOINT VENTURE ORGANIZATIONAL STRUCTURES AND FUNCTIONS

The Joint Venture is guided by an international management board, which receives technical advice from a Continental Technical Team and two Coastal Scientific Advisory Teams. As appropriate, it will work with existing Plan joint ventures, flyway councils, and governmental and non-governmental organizations to plan for and implement sea duck

conservation.

Sea Duck Joint Venture Management Board

The Management Board will be comprised of no more than 18 members, with representation being divided approximately evenly between the United States and Canada. Each country will independently select its members. Approximately one-third of the seats will be filled by non-governmental representatives and will include indigenous peoples. Members will elect co-chairs, one from each of the two countries, for one 3-year term. Each member organization will be asked to reconfirm its commitment every 3 years.

Management Board Responsibilities

- Provide leadership and determine the official positions of the Joint Venture.
- Develop and maintain overall strategy.
- Facilitate strategic-plan implementation by seeking new partners and increasing funding.
- Act as liaison with the Plan Committee.
- Develop new partnerships.
- Review, endorse, and forward recommendations for consideration by appropriate agencies or organizations.
- Promote Joint Venture activities.
- Periodically evaluate the Joint Venture's progress towards its goals and modify its approach accordingly.

Coastal Scientific Advisory Team

The Joint Venture will have two international Coastal Scientific Advisory Teams, one representing the Atlantic Coast, and the other, the Pacific Coast. Each team will be comprised of four members from governmental agencies represented on the Joint Venture management board, academia, and non-governmental groups. Team leaders will be nominated by team members for approval by the Management Board. The Canadian Central Arctic Region will have one representative on each Coastal Scientific Advisory Team.

Coastal Scientific Advisory Team Responsibilities

- Interact with other countries on regional issues—the Pacific Coast team with Russia, the Atlantic Coast team with Greenland and St. Pierre and Miquelon.
- Provide expertise to develop draft status reports and management plans for individual species.
- Promote partnership development at regional level.
- Facilitate strategic-plan implementation at regional level.
- Prioritize informational needs.
- Develop a communications network among sea duck researchers.
- Recommend research and management projects and actions to the Continental Technical Team.

Continental Technical Team

The Continental Technical Team will consist of no more than 12 members, who will be nominated by the two Coastal Scientific Advisory Teams for approval by the Management

Board. Continental Technical Team members must be from organizations seated on the Management Board. The Management Board may appoint additional members for specific needs, for example, outreach and fund-raising. The chairperson of each of the Coastal Scientific Advisory Teams will come from the Continental Technical Team.

Continental Technical Team Responsibilities

- Provide technical support to the Management Board.
- Act as liaison between Coastal Scientific Advisory Teams and the Management Board.
- Develop draft Joint Venture strategic, implementation, and evaluation plans for Management Board review.
- Coordinate species teams to prepare status reports.
- Identify issues of mid-continent concern—primarily Arctic and Great Lakes—for Management Board consideration.

Joint Venture Coordinators

The Joint Venture will have two coordinators. The Pacific Coordinator will be located in the United States, and the position will be funded by the U.S. Fish and Wildlife Service. The Atlantic Coordinator will be located in Canada, with that position funded by the Canadian Wildlife Service. The Pacific Coordinator is the secretariat for the Pacific Coastal Scientific Advisory Team, and the Atlantic Coordinator is the secretariat for the Atlantic Coastal Scientific Advisory Team. Both coordinators will provide support to the Continental Technical Team and the Management Board, but cannot chair any Joint Venture committee. Coordinators also will provide for information exchange with the other Plan joint ventures and waterfowl management agencies.

FUNDING

Funding for Sea Duck Joint Venture activities will be shared by governmental agencies, non-governmental organizations, industries, and community groups having a stake in the well-being of sea ducks and the marine environment. Initially, federal, state, and provincial governments, and waterfowl conservation organizations will provide funding and staff to produce status reports and identify informational needs. Project proposals developed from this information base will need funding and staff support from such interests as oil, gas, and shipping industries, indigenous peoples, and marine conservation groups.

SEA DUCK JOINT VENTURE MANAGEMENT BOARD FOUNDING MEMBERS

Jon Andrew, Co-chair, Chief, Office of Migratory Bird Management - Region 9
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George Finney, Co-chair, Director, Atlantic Region
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