Responsive Management

A Programmatic Evaluation of the North American Wetlands Conservation Act (NAWCA) in the United States and Canada:

Program Overview and Literature Review (Phase 1)

Conducted for the United States Fish and Wildlife Service

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Program Overview and Review of the Literature (Phase 1)

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A Programmatic Evaluation of the North American Wetlands Conservation Act (NAWCA) in the United States and Canada

Report Series:

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Introduction and Methodology

The North American Wetlands Conservation Act (NAWCA) was enacted in 1989 and provides matching grants to private or public organizations or individuals to carry out wetlands conservation projects in the United States, Canada, and Mexico (www.northamerican.fws.gov now www.birdhabitat.fws.gov). A major focus of the Act is to encourage partnerships for the conservation of North American wetland ecosystems to benefit waterfowl, other migratory birds, and other fish and wildlife (www.northamerican.fws.gov). The Act has funded 928 projects throughout the United States, Canada and Mexico (NAWWO Grant Database System now DBHC Grant Database System). These projects represent a diversity of partnerships, goals and achievements in the overall protection of wetland and wetland associated habitat for waterfowl, migratory birds and other fish and wildlife. Participating partners range from nonprofit organizations to state/federal governments to private landowners.

This report is Phase 1 out of a series of seven reports for a programmatic evaluation of NAWCA in the U.S. and Canada during its first ten years of implementation. This report constitutes a program overview and literature review as part of this evaluation. This study was conducted by Responsive Management on behalf of the United States Fish and Wildlife Service (USFWS) for the North American Wetlands Conservation Council (NAWCC).

This report included traditional approaches to creating a review of the literature as seen in Krathwahl, 1993. Three researchers worked both independently and in concert to perform targeted searches on ten specific data sources, and to perform exhaustive searches on twenty-three databases. Targeted data sources included publications from: USFWS, NAWCC, and NABCI Canada Council, Websites, *International Wildlife Law, Wildlife Society Bulletin*, and *Journal of Wildlife Management*. Databases examinations included: Cambridge-Scientific

Abstracts, Science Citation Index, General Science Index, *The Congressional Record*, the University of Virginia library catalogue, Biological Abstracts, Science Direct, and Lexis-Nexis.

In the case of database searches, non-date-constrained, Boolean searches were performed on variations of the name of the Act, the name of related Acts, abbreviations and acronyms for the Act and related Acts, and topical subject areas that reasonably could have included the Act. Most materials were obtained through libraries at Virginia Polytechnic Institute and the University of Virginia. Other materials were gathered through a variety of other sources including downloadable materials from the U.S. Fish and Wildlife Service (www.northamerican.fws.gov) Website.

All data was examined for utility, and for use in obtaining other resource materials. This data was then categorized into units of meaning using the method of constant comparison as demonstrated in Glaser & Strauss, 1971. The units of meaning guided the creation of the report, as did a number of iterations of reviews and rewrites through triangulation methods using confirmations and guidance from numerous individuals involved directly and/or peripherally in the implementation of the Act within the United States and Canada.

Although numerous literature and database searches were performed for this evaluation, there were significant gaps in available information on NAWCA. Therefore, this review also includes information gathered from personal interviews and focus groups, since several aspects of NAWCA had not been documented sufficiently in the literature.

Background

The North American Wetlands Conservation Act (NAWCA) has become one of the most successful international conservation initiatives in history and has served as a model for new

initiatives (Wilson & Ryan, 1997). Formulated in part to serve as a funding tool for the implementation of the North American Waterfowl Management Plan (NAWMP), NAWCA was passed in 1989 to help deliver funding to on-the-ground projects through the protection, restoration, enhancement, and management of an array of wetland and other important habitats for waterfowl, migratory birds, and other fish and wildlife (www.northamerican.fws.gov). The Act recognizes that the protection of migratory birds, other species, and their habitats requires long-term planning, as well as the close cooperation and coordination of management activities by the three countries involved, which are Canada, Mexico and the United States.

Project proposals must ultimately be approved by the Migratory Bird Conservation Commission, which consists of the Secretary of the Interior, the Administrator of the Environmental Protection Agency, the Secretary of Agriculture, two members from each house of Congress, and an *ex officio* member (http://ipl.unm.edu/cwl/fedbook/mbca.html). However, implementation and administration involves many active players, including the North American Wetlands Conservation Council (NAWCC) in the United States, the North American Bird Conservation Initiative (NABCI) Canada Council, the Division of Bird Habitat Conservation (DBHC) of the U.S. Fish and Wildlife Service, joint venture coordinators, numerous partners, as well as many other groups. Without the strong cooperation and initiatives of all of the involved groups, the Act would most likely not have been as successful in helping to protect and restore wetlands and wetland associated habitat.

Declines in wetland ecosystems have occurred throughout the world, but declines have been especially dramatic in the United States and Canada. For example, during the 1780's the conterminous United States contained an estimated 221 million acres of wetlands, and twenty-two states have lost 50% or more of their original wetlands since the 1780's (Wilen and Bates

1995). Waterfowl have been particularly impacted by the loss of these wetlands, and populations have consequently declined since the beginning of this century (Wilson & Ryan, 1997). The protection of waterfowl and other migratory birds is one of the major goals of international wildlife protection (Bean, 1983. Lyster, 1987). Waterfowl are considered to be one of the most prominent and economically important groups of migratory birds in the North American continent (http://abcbirds.org). Recognizing the importance of waterfowl and wetlands to North Americans and the need for international cooperation to help in the recovery of a shared resource, the Canadian and the United States governments developed a strategy to restore waterfowl populations through habitat protection, restoration, and enhancement (http://abcbirds.org). This resulted in the United States and Canada signing the North American Waterfowl Management Plan in 1986, with Mexico signing in 1994 (www.northamerican.fws.gov). The North American Wetlands Conservation Act was signed in 1989 and provided needed financial support to the Plan, as well as for other habitat enhancement activities (http://abcbirds.org).

The North American Wetlands Conservation Act has seen many accomplishments over the years. By 2001, the North American Wetlands Conservation Council (created by the Act to recognize projects for funding) had presided over the investment of $411 million in federal funds (www.northamerican.fws.gov). These federal funds have been matched by more than $1.1 billion in partner funds (totaling nearly $1.5 billion), to "protect, enhance, restore and manage an appropriate distribution and diversity of wetland ecosystems and other habitats for migratory birds and other fish and wildlife in North America" (NAWWO Grant Database System and www.northamerican.fws.gov. Note that "NAWWO" has been changed to "DBHC" but since the original source was used for this review, it will be referred to as such). Eleven years since the

first project was funded, and 1550 partners later, more than four million acres of wetlands in Canada, Mexico and the United States have been conserved (NAWWO Grant Database System).

The NAWCA program must continue to build on these accomplishments, as well as remain flexible, in order to enjoy even greater success in the future. The purpose of this program overview and literature review is to review and document the development of wetlands policy in the United States, including the role that the North American Wetlands Conservation Act has played within the realm of conservation, and to highlight past accomplishments while looking ahead to the possible future direction of the Act and program.

History of Wetlands Destruction and Conservation in the United States

Wetlands are one of the world's most diverse and biologically important ecosystems, providing both environmental and human benefits (Kesselheim et.al., 1995). Wetlands act as natural filtration systems that have the capacity to purify the water that flows through them (Wilen and Bates, 1995). Wetlands also perform support to the food chain (Wilen and Bates, 1995). Many people use wetlands for recreational activities, ranging from canoeing to birdwatching (Wilen and Bates, 1995). However, historically, wetlands have been perceived as obstacles to progress and development. Wetlands were seen as wasted, unhealthy lands, and much effort was spent in draining, dredging, filling and otherwise transforming wetlands into "useful" property (Kesselheim et.al., 1995). The Oregon Supreme Court put it succinctly in 1922, when it said, "the interest of the people of this state demands that as far as possible all the swamps, marshes, swales, and wet land that can be successfully and conveniently drained and reclaimed should be permitted to be treated…(Beck, 1994)."

Since the 1780s, about 50% of wetlands in the contiguous United States have been lost, with some states showing a 75% or greater loss of wetlands (Beck, 1994). Since 1800, Canada

has lost almost 15% of its total wetland base, with nearly a 70% loss in the central prairie slough, a 65% loss in Atlantic salt marshes, an 80 – 90% loss in urbanized regions, a 70% loss in Pacific estuarine marshes, and a 70 - 80 % loss in southern Ontario and the St. Lawrence hardwood and shoreline swamps (NAWCC Canada). With this tremendous loss of wetland habitat, combined with the drought years of the 1980s, waterfowl populations fell to precariously low levels (Responsive Management, 1995). However, waterfowl were not the only species to experience declining populations; many songbirds that also utilize wetland habitat showed decreasing numbers (Ball et.al., 1994).

In the United States, wetlands policies have been slow to develop, but have evolved from policies that supported drainage to policies that support conservation and protection. In 1913, the U.S. took its first steps when Congress exercised jurisdiction over migratory birds, declaring them to be within federal protection (Beck, 1994). At the same time, Congress also authorized the Department of Agriculture to set hunting limits (Beck, 1994). In 1916, the United States entered into the Convention Between the United States and Great Britain [for Canada] for the Protection of Migratory Birds, and in 1918 Congress enacted the Migratory Bird Treaty Act to carry out the Convention (Beck, 1994). In 1929, Congress authorized the acquisition of land to be used as sanctuaries for migratory birds, but this process lagged despite an effort in 1934 to fund the land acquisition through the sale of migratory bird hunting stamps (Beck, 1994). Ducks Unlimited was formed three years later to help address the problem of decreasing habitat (Beck, 1994). In 1937, the Pitman-Robertson Wildlife Restoration Act was passed. Congress dedicated a portion of the tax on hunting equipment to be used for acquiring waterfowl wetlands habitat (Beck, 1994). [The Pitman-Robertson Wildlife Restoration Act (1937) designated the 11 percent excise tax on “firearms, shells and cartridges” to be used for “wildlife restoration.” In the

Internal Revenue Code of 1954, Congress divided the tax and levied it at 10 percent on pistols and revolvers, retaining it at 11 percent on other firearms and ammunition. In 1970 Congress clarified that all tax revenues from guns covered in 26 U.S.C. section 4181, were designated for wildlife restoration (thus including the 10 percent tax on pistols and revolvers, and in 1972 an 11 percent tax on bows and arrows was designated.)] (Beck, 1994).

In 1970, Congress established a program that paid farmers to preserve wetlands habitat for waterfowl, as a result of the Water Bank Act of 1970 (Beck, 1994). This legislation has spawned 10-year renewable agreements with private landowners to provide waterfowl nesting and breeding areas (Beck, 1994). By that time, federal acquisition programs were so successful that some states became alarmed over the loss of agricultural land (Beck, 1994). However, many federal agricultural programs continued to encourage drainage, and federal policy still had not tipped in favor of wetlands preservation (Beck, 1994). Congress then enacted the "swampbuster" provisions and the Conservation Reserve Program in 1985, which made any farmer who grew crops on wetlands ineligible for various federal farm programs (Beck, 1994). The basic goal of the Conservation Reserve Program was to take land out of crop production, including cropped wetlands (Beck, 1994). The 1990 amendments included an environmental easement program to protect environmentally sensitive lands, which could include wetlands, and a wetland reserve program (Beck, 1994).

Years of drought during the 1980s in addition to loss of wetlands throughout North America brought waterfowl populations to precariously low numbers. In 1985, populations of mallards, northern pintails, blue-winged teal, canvasback and other ducks were at, or near, record lows (Williams et.al., 1999). These decreasing trends led to the signing of the North American Waterfowl Management Plan in 1986 by the United States and Canada (http://abcbirds.org).

This ambitious undertaking was a massive multi-national plan to recover or stabilize waterfowl populations by the end of the century and to protect, restore or enhance millions of acres of habitat (Responsive Management, 1995). In addition to setting biological goals, the NAWMP recognizes the importance of partnerships and the establishment of a comprehensive administration process to carry out its goals. The Plan was expected to cost billions of dollars, so funding was always an important concern. The primary goal of the NAWMP was to increase waterfowl populations to the levels of the 1970s (Streeter, et.al., 1993), but it had a difficult time without a continuous and reliable funding base.

The North American Wetlands Conservation Act was enacted in 1989 to provide funding for wetlands conservation in North America (Williams et. al., 1999). Although the North American Wetlands Conservation Act was not, nor was intended to be, the sole funding source for the NAWMP, it became one of the most important funding sources of the NAWMP (Responsive Management, 1995). Although distinct in their authorities and conservation focus, the NAWMP and the Act both encourage broadly based partnerships and the leveraging of partner resources for conservation of migratory bird habitats (Williams et. al., 1999). The Act provided for matching funds and afforded incentives for cooperative projects and collaborative efforts in furtherance of the North American Waterfowl Management Plan. Because of its close association with the North American Waterfowl Management Plan, NAWCA and the NAWMP have often been criticized for being just a "Duck Plan." (Streeter et. al., 1993). However, because both focus on habitat benefits to many species, the protection secured under the goals of the NAWMP as well as NAWCA also positively impact other non-waterfowl species, including shorebirds, waterbirds, amphibians, reptiles and other fish and wildlife (DBHC staff, personal communication, November, 2001 and www.northamerican.fws.gov).

The North American Wetlands Conservation Act

Political Support

President Bush signed the North American Wetlands Conservation Act (NAWCA) on December 13, 1989 with tremendous support from the United States Congress. As seen from the comments below, both the House and Senate showed a high degree of political support for the Act from the very beginning of its development.

> "H.R.2587 is supported by the administration. It was drafted, in large measure by Mr. Davis of Michigan and Mr. Conte of my own State. And it reflects, as well the hard work of conservation groups around the country such as Ducks Unlimited, the Nature Conservancy, and the International Association of Fish and Wildlife Agencies, who will act as partners with the Federal Government in fulfilling the purposes of the act. In summary, the bill is important environmentally, recreationally, and diplomatically. It is fiscally sound. And it well deserves the support of this House." [Mr.Studds, MA] Oct.10, 1989 House Debates.

> "The plan implemented by this bill calls for the protection, restoration and enhancement of more than 5.5 million acres of wetlands in the United States and Canada combined, making this plan the most far-reaching international wetlands protection program undertaken thus far. Only with this kind of a coordinated and comprehensive effort can we hope to save our waterfowl and other species dependent upon wetlands before it is too late." [Mr. Jones, NC] Oct. 10, 1989 House Debates.

> "The wetlands of this continent are libraries of nature which contain volumes of priceless genetic information. They are North America's most biologically productive areas, and roughly a third of the continent's endangered species of animals are dependent on them. From 1955 to 1975, 9 million acres of wetlands in the 48 contiguous States were drained, filled and cleared. Less than half of the original 200 million acres remain, and the destruction continues today at a rate of half a million acres per year—an area 12 times the size of the District of Columbia….Enactment of the North American Wetlands Conservation Act will help us reverse this steady downward trend in wetlands area and migratory bird numbers." [Mr. Mitchell], Nov.15,1989 Senate Debates.

> "This legislation would commit the United States to the protection of migratory bird habitat—not just in this country—but throughout this continent. It would provide for the first time—the structure and funding needed to carry out the North American Waterfowl Management Plan. The alarming decline in our continent's waterfowl is not a mystery. It is the inevitable result of wetlands destruction. The legislation recognizes that long-term conservation of migratory birds and habitat for these species will require the

> coordinated action and support of governments at all levels, private organizations, landowners and other citizens. President Bush has said that the thrust of the legislation is sound and that he would like to sign a bill this year." [Mr.Baucus] Nov.15, 1989 Senate Debates.

> "It makes sense because it creates a fair and open program of wetland acquisition. I say fair and open, Mr.President, because it is important that this Nation's precious ecosystems be preserved through open negotiation and through willing and just compensation. There is no place in wetland preservation for punitive action or forced mitigation of cropland to wetland, either by bureaucratic interpretation or overzealous executive action. Mr. President, I have seen this latter approach to so-called wetland preservation. I have seen it attempted under the guise of the swampbuster provisions of the Food Security Act of 1985. This sort of wrong-headed and prejudiced environmentalism was never the intent of Congress nor of the Secretary of Agriculture when the legislation was written and the regulations promulgated. I see this legislation we have before us as unencumbered with penalties or punitive action. It moves to unite public and private action in a funded and innovative partnership, the goal of which is to restore disappearing wetlands and declining waterfowl populations." [Mr.Grassley, IO] Nov.15,1989 Senate Debates.

There was only some minor concern expressed over the funding aspect of the Act.

> "Mr. Speaker, everybody thinks that this is a good bill and that its purposes are essential at this time. However, I rise to express some budget concerns regarding H.R.2587, the North American Wetlands Conservation Act. This bill creates new budget authority of $1 million in fiscal year 1990 which was not anticipated in the fiscal year 1990 budget resolution. The spending in this bill increases to $9 million by fiscal year 1993. These amounts, although not large, will make it even more difficult to reach increasingly stringent Gramm-Rudman deficit targets in future years. I also believe that the funding mechanism created by this bill, where unused trust fund balances are invested in government securities and the interest earned can be obligated without appropriation action, sets an undesireable precedent for possible future legislation. The interest earned on the trust fund balances, which can be directly spent and become an outlay of the Federal Government, is paid by Federal interest payments on the public debt. Unfortunately, our deficit position, and our budget process has set committees scrambling to get around, under and over appropriations restrictions. Our committees, faced with needs they consider compelling, have tried to establish new entitlements, to levy new taxes disguised as fees, to expand uses of current trust funds, and a variety of other devices. The device in this bill, the automatic use of interest on the unused balances of the Pittman-Robertson trust funds, is clever, but a bad precedent. Our Appropriations Committee has the jurisdictional responsibility to confirm the judgment of authorizing committees. It should retain that responsibility." [Mr.Frenzel, MN] Oct.10,1989 House Debates.

Comments from President Bush at the White House signing further demonstrated the strong support that helped to fuel the design and subsequent passing of the North American Wetlands Conservation Act:

> "…The North American Wetlands Conservation Act, is sound legislation. And this bill will provide a steady source of funds for the purchase of critical wetlands in the United States, Canada and Mexico…And I am very pleased that the 101st Congress, as one of its first major environmental acts, ended its first session by passing this bill. This bill is an excellent first step in reaching our national goal of no net loss of wetlands. Over the years we've witnessed a steadily declining duck population and a pattern of wetland losses throughout North America. These disturbing trends have been exacerbated by draught in recent years. And this dwindling duck population is largely attributable to the steady loss of wetland areas that we've experienced. Currently we are losing—the United States is losing nearly 400,000 acres of wetlands annually. In response to these trends, the United States and Canada signed an accord in 1986, known as the North American Waterfowl Management Plan. And this historic agreement proposed an innovative international partnership in wildlife conservation. This bill that I'm signing here today will help us implement this cooperative plan and protect our waterfowl population…This entire process has been a splendid example of great good that we can accomplish when we approach our problems in a genuine spirit of bipartisanship….And now, on with the business at hand. It is my honor to sign S.804, the North American Wetlands Conservation Act." (December 13, 1989 White House Signing Ceremony)

Purpose and Objectives of NAWCA

The North American Wetlands Conservation Act is based on the following three principles: to encourage partnership among public agencies and other interests 1) to protect, enhance, restore and manage an appropriate distribution and diversity of wetland ecosystems and other habitats for migratory birds and other fish and wildlife in North America, 2) to maintain current or improved distributions of migratory bird populations and, 3) to sustain an abundance of waterfowl and other migratory birds consistent with the goals of the North American Waterfowl Management Plan and the international obligations contained in the migratory bird treaties and conventions and other agreements with Canada, Mexico and other countries

(www4.law.cornell.edu/uscode/16/ch64.text.html). The Act relies heavily on the formation of partnerships among public agencies and other interests to fulfill its overall mission.

As defined by the United States Legislature, "acquisition" of wetlands includes the purchase of easements and must be administered for the long-term conservation of the wetlands and fish and wildlife. "Restoration" projects are those that rehabilitate a naturally occurring but degraded wetland ecosystem. "Enhancement" projects are those that modify a wetland ecoystem to improve its value for migratory birds and other fish and wildlife." (Nov.15, 1989 Senate Debates).

Aside from the obvious purposes as stated by the Act, another intention of Congress was to provide public access to the lands that were protected. "Wetlands conservation projects should allow for public access to the extent that allowing such access does not interfere with the acquisition, restoration, management or enhancement of the wetland ecosystems and other habitat, and to the extent that allowing such access is compatible with the long-term conservation of the wetlands ecosystem, other habitat and the fish and wildlife dependent thereon. In some cases, habitat conservation may preclude public access. When access is provided to land acquired in fee using Federal funds, it should not be discriminatory based on membership to a club or otherwise. However, limitations on the number of people permitted access or the time of year at which access is permitted may be appropriate." (Nov.15,1989 Senate Debates) Public access is seen as a highly favorable outcome of wetland habitat protection, as recreational users may hunt, boat, hike, birdwatch, etc. in these areas where permitted.

Purpose and Objectives of the North American Wetlands Conservation Council

In addition to the main purposes, as stated in the legal language of the Act, the North American Wetlands Conservation Council adopted several objectives. These objectives were most recently articulated by the North American Wetlands Conservation Council (NAWCC) in 1995 (RFQ No. 982101Q035). The primary objectives are:

1) To increase fiscal resources for wetland conservation,

2) To increase and expand conservation partnerships,

3) To increase the quantity, quality and security of wetlands habitats,

4) To maximize the effectiveness of wetland conservation projects, and

5) To review and monitor the process of securing funding for the Act.

An additional objective that was recommended by the Interim Steering Committee for consideration by the full Council based on actions and priorities since 1995 is:

6) To cooperate with and support the objectives of major continental bird initiative plans—the North American Waterfowl Management Plan, Partners In Flight, the National Shorebird Plan, and the North American Waterbird Conservation Plan for the conservation of wetland and associated migratory bird habitat.

The development of the last objective has encouraged discussions regarding how far (or if) NAWCA should expand beyond its focus on wetlands and wetland dependent migratory birds to other habitats and species *not* dependent upon wetlands. Much debate has been sparked surrounding the question of what the real intent of the Act is, as articulated by Congress when it was written and developed (Responsive Management, 2002a). Clearly, as seen in the statements of the House and Senate presented above, one of the primary intentions was to protect wetland habitat for waterfowl. The difficulty arises because the Act is written broadly, which may allow

for broader interpretations of the stated purposes. However, this cannot be concluded with any degree of certainty, and legal interpretations are also likely to vary.

Budget and Funding of NAWCA

The primary source of funding for the Act is through direct appropriations by Congress. Because of this, funding has varied considerably since NAWCA was enacted, but has shown continual growth since it was implemented. The Act authorizes up to $50 million per year (amended in 2000 from $30 million per year) for North American wetlands conservation projects through 2003 (www.northamerican.fws.gov). Funding varies per year, but in Fiscal Year 2001, Congress appropriated $40 million, which was the highest amount that had been appropriated in the history of NAWCA. Additional funding comes from moneys received from fines, penalties, and forfeitures under the Migratory Bird Treaty Act of 1918 as well as from interest that has accrued on the fund established under the Federal Aid in Wildlife Restoration Act of 1937 (Pittman-Robertson) (www.northamerican.fws.gov). The Act converts the Pittman-Robertson account into a trust fund, with the interest available without appropriation through the year 2006 to carry out the programs authorized by the Act. (http://laws.fws.gov/lawsdigest/nawcact.html). Amendments to the Federal Aid in Sport Fish Restoration Act of 1950 directed a portion of the moneys collected from Federal fuel excise taxes on small gasoline engines be allocated for use under the Act for coastal ecosystem projects in the United States. Over the past four years, an average of about $44 million has been available annually from all of these sources (www.northamerican.fws.gov). Despite the continued funding support from Congress, the possibility of the funding being decreased is an issue of high concern (Responsive Management, 2002a). Although many accomplishments have been achieved within the realm of habitat and

species protection, there is still much more work to be done, and in many ways will be limited by the level of funding that is received each year.

Distribution of NAWCA Funds

NAWCA requires that at least 50% but not more than 70% of the funds received are to be allocated to Canada and Mexico each year (http://laws.fws.gov/lawsdigest/nawcact.html). The available funds for each year are divided between the three countries, with the United States currently receiving 50%, Canada receiving 45% and Mexico receiving 5% for Fiscal Year 2001 –2002 (DBHC staff, personal communication, November, 2001). The range in the percentage of funds that can be allocated to projects in Canada and Mexico is intended to provide some flexibility in any given year with respect to whether projects are funded in the United States or in Canada and Mexico. However, consistent with the Plan's recommendations that the United States provide 75 percent of the amount needed to improve waterfowl habitat on 3.6 million acres in Canada, it is intended that amounts allocated for projects outside the United States should approach 70 percent over time (Nov.15,1989 Senate Debates). The allocation of funds outside of the United States has not changed, except for Fiscal Year 2001 – 2002, as noted above. Previously, the funding allocation was such that Canada received 50%, the United States received 45%, and Mexico received 5% (www.northamerican.fws.gov).

In Canada, the funds are further divided, based on a priority system that was developed to further the goals of the North American Waterfowl Management Plan, and these percentages have remained the same over the years but can be adjusted since they are based on biological information that can change (Secretariat and NABCI Canada Council, 2000 and DBHC staff, personal communication, March 2002). The Prairie Habitat Joint Venture receives 77% of the funding, of which Alberta receives 40%, Saskatchewan receives 40% and Manitoba receives

20% (Canadian Wildlife Service, personal communication, September, 2001). The Eastern Habitat Joint Venture receives 17% of the funding, of which Ontario receives 50%, Quebec receives 25%, New Brunswick receives 10%, Nova Scotia receives 7%, Prince Edward Island receives 5% and Newfoundland receives 3% (Canadian Wildlife Service, personal communication, September, 2001). The Pacific Coast Joint Venture receives 6% of the funding, of which British Columbia receives the entire portion (Canadian Wildlife Service, personal communication, September, 2001). This priority system was designed based on the geographical location of the most highly valuable waterfowl habitat. Please see *Table 1* below.

Table 1: NAWCA Funds Distribution in Canada.

NAWCA Funding Allocation within Canada	
Eastern Habitat Joint Venture (17% of NAWCA funds)	Ontario (receives 50% of EHJV funds)
	Quebec (receives 25% of EHJV funds)
	New Brunswick (receives 10% of EHJV funds)
	Nova Scotia (receives 7% of EHJV funds)
	Prince Edward Island (receives 5% of EHJV funds)
	Newfoundland (receives 3% of EHJV funds)
Pacific Coast Joint Venture (6% of NAWCA funds)	British Columbia (receives 100% of PCJV funds)
Prairie Habitat Joint Venture (77% of NAWCA funds)	Alberta (receives 40% of PHJV funds)
	Saskatchewan (receives 40% of PHJV funds)
	Manitoba (receives 20% of PHJV funds)

Several criticisms have arisen against the priority system for funding distribution in Canada, including criticisms from stakeholders that support the other bird conservation initiatives and smaller, less established organizations. Some of these stakeholders feel that there are high quality projects in the provinces that receive only small amounts of funding, such as Newfoundland or Nova Scotia, and they feel that these projects essentially have no chance of being funded through NAWCA because of the framework of the current NABCI Canada Council proposal submission and review system (Responsive Management, 2002a and DBHC staff, personal communication, March 2002). However, despite this concern, there is much support for the system currently in place in Canada because the distribution of the funds is known with certainty each year, which allows for more accurate and long term planning (Secretariat and NABCI Canada Council, 2000 and Responsive Management, 2002a).

Implementation of NAWCA in the United States

In the U.S., the Act establishes a nine member North American Wetlands Conservation Council to review and recommend grant proposals to the Migratory Bird Conservation Commission for funding (www.northamerican.fws.gov). NAWCC members with permanent seats include the Director of the U.S. Fish and Wildlife Service and the Executive Secretary of the National Fish and Wildlife Foundation. (www.northamerican.fws.gov). Members that serve 3 - year terms include the Directors of fish and wildlife agencies from four states (one from each flyway), three non-governmental organization representatives (each from a different non-governmental organization that is an active partner in wetlands conservation), and an alternate (www.northamerican.fws.gov and DBHC staff, personal communication, November, 2001). These members are appointed by the Secretary of the Interior (www.northamerican.fws.gov). The three major non-governmental organizations that are represented on the NAWCC are Ducks

Unlimited, the Nature Conservancy and the Land Trust Alliance, with Pheasants Forever serving as an alternate (www.northamerican.fws.gov and DBHC staff, personal communication, November, 2001 and March 2002). The Secretary may also appoint non-voting *ex officio* members to represent non-governmental organizations, of which there are currently two members, The Conservation Fund and the National Audubon Society, as well as *ex officio* members from Canada and from Mexico (www.northamerican.fws.gov and DBHC staff, personal communication, November, 2001).

All positions on the NAWCC are voluntary in nature, thus showing the dedication and commitment that each acting member has to helping carry out the overall mission of NAWCA. The NAWCC evaluates project proposals submitted from all three countries provided for under the Act before recommendation to the Migratory Bird Conservation Commission for approval. (www.northamerican.fws.gov). The NAWCC and staff evaluate all proposals from Canada, Mexico and the United States based on their technical merit (as described later in this report, under "Project Scoring") and whether they coincide with the overall goals of the NAWCA.

NAWCA and the Joint Ventures

The joint ventures that were established under the NAWMP are also one of the major delivery mechanisms of NAWCA projects. The joint ventures are biologically driven, landscape oriented partnerships that allow NAWCA to be implemented on a regional level (www.northamerican.fws.gov and DBHC staff, personal communication, November, 2001). The NAWMP Committee endorses the joint ventures and reviews and approves joint venture implementation and evaluation plans (www.northamerican.fws.gov). The success of the joint ventures is based on the partnerships formed between federal, state, provincial, tribal and local governments, businesses, conservation organizations, and individual citizens, an approach also

adopted by the NAWCA (www.northamerican.fws.gov and DBHC staff, personal communication, March 2002). In the United States, the following habitat joint ventures have been established:

1) the Atlantic Coast Joint Venture
2) the Central Valley Joint Venture
3) the Gulf Coast Joint Venture
4) the Intermountain West Joint Venture
5) the Lower Mississippi Valley Joint Venture
6) the Nebraska Rainwater Joint Venture
7) the Pacific Coast Joint Venture
8) the Playa Lakes Joint Venture
9) the U.S. Prairie Pothole Joint Venture
10) the Upper Mississippi/Great Lakes Region Joint Venture.

The newest joint venture to be formally recognized by NAWCA is the San Francisco Bay Joint Venture, which was previously listed as a Waterfowl Habitat Area of Concern. The Pacific Coast Joint Venture is international in scope, as its boundaries extend northward into Canada. In addition to the habitat joint ventures, there are three species joint ventures, including the Arctic Goose Joint Venture, the Black Duck Joint Venture, and the Sea Duck Joint Venture (Secretariat and NABCI Canada Council, 2000). These joint ventures focus primarily on research, monitoring, and identifying management strategies to maintain healthy populations of the species that they represent (Secretariat and NABCI Canada Council, 2000). However, projects within these three joint ventures do not receive any funding through NAWCA (Responsive Management, 2002a).

Each joint venture has a Management Board, served by a joint venture coordinator, which serves as the first level of screening of projects that are submitted by potential grantees. The Management Boards review proposals submitted by grantees from their respective Joint Venture, and ranks the proposals based on their merit. The Joint Venture internal ranking process is an integral part of the review process that weighs heavily in the NAWCC's decision to recommend or not recommend a proposal for approval to the Migratory Bird Conservation Commission (DBHC staff, personal communication, March 2002). For this reason, proposal writers are strongly encouraged to communicate with their respective Joint Venture Coordinator, as this type of collaboration usually improves the quality of the project, thus making the possibility of funding much more likely (DBHC staff, personal communication, November, 2001).

The accomplishments of the joint ventures are immense in scope, and build on partner relationships to carry out the mission of each joint venture. The joint ventures were customized for local considerations. However, the concepts of 1) intensive management of private and public lands supporting high waterfowl production, 2) enhancement and protection of large scale wetlands, 3) the development of habitat programs which complemented agricultural practices as well as soil and water conservation and 4) the review of government policies in agriculture and land use to affect widespread landscape change were all held in common (McKeating and Trottier, 1991 in Responsive Management 1995).

Partnerships

Partnerships within the joint ventures are the fundamental component of NAWCA, and are what have made the tremendous amount of habitat protection that has occurred possible. Many different types of groups have worked together, including private landowners, NGOs, federal agencies and private businesses. Partners' motives for involvement range from pure

interest in wetlands conservation to the need for a business to improve its environmental record. With over 900 projects completed since 1991, NAWCA has provided funding to a diverse set of projects and has allowed a variety of partners to work together (NAWWO Grant Database System). For instance, in the Playa Lakes Joint Venture, partnerships with private industry have proved to be of importance. Phillips Petroleum Company and Kaiser-Francis Oil Company were just two of the corporations that joined in on a project to improve habitat conditions on the Howe Wildlife Management Area near the Texas panhandle (USFWS, et.al. "Birdscapes", Winter 2001). The construction on this project allowed for a previously existing, ten acre wetland to triple in size, and the water control structures installed allowed water levels to be managed year round (USFWS, et.al. "Birdscapes", Winter 2001).

In the Lower Mississippi Valley Joint Venture, wetland degradation, especially the destruction of bottomland hardwoods, has been extensive (USFWS, et.al. "Birdscapes", Winter 2001). A public-private partnership developed, between Ducks Unlimited, the Arkansas Game and Fish Commission, Natural Resources Conservation Service, private donors and the National Wild Turkey Federation, resulting in restoration work in the White River basin (USFWS, et.al. "Birdscapes", Winter 2001). The White River basin is an important winter habitat area for waterfowl, and contains the second largest contiguous block of forested wetlands in the United States (USFWS, et.al. "Birdscapes", Winter 2001).

The Atlantic Coast Joint Venture has also been a model of environmental protection. In South Carolina, 300,000 acres of habitat for the Bald Eagle, Wood Stork, Red-cockaded Woodpecker, Swainson's Warbler and Mississippi Kite were protected in the Ashepoo, Combahee and Edisto (ACE) Basin partially through the efforts of NAWMP programs (Hohmann, 1989). Building on the success of NAWMP, several NAWCA projects have been

funded nearby in the ACE Basin, including enhancement and acquisition work (Responsive Management, 2002b).

Projects that spanned state and national boundaries were also used to develop models of large-scale management protocols. As experience with the NAWMP grew, so did expertise in the management of wetlands in general (Berry & Buechler, 1993). This model was used not only for agricultural development, but also as a guide for highway construction through wetlands and emphasized the importance of cooperative efforts and collaboration (Berry & Buechler, 1993).

The role of the private landowner in these partnerships was viewed as critical to the success of carrying out NAWCA and the NAWMP. It had long been recognized in wildlife management programs that collaboration with private landowners, particularly agricultural and rural lands, was essential to large scale land use planning, habitat protection and restoration (Marsh, 1984. Leopold, 1931, 1948 and n.d. Osborn, 1949 in Responsive Management, 1995).

NAWCA Grant Administration

One of the major strengths of the NAWCA program is that almost all of the funds are applied to on the ground habitat protection, with only a small percentage being dedicated to administration. Currently, the United States uses four percent of the funds for all phases of grant administration for grants in all three countries, while Canada uses about 1.5 percent for grant administration (Responsive Management, 2002a and DBHC, personal communication, March 2002). "Up to 4 percent of each fiscal year's funds may be used for administrative purposes. To the extent that these funds are not needed for these purposes, the Secretary of the Interior should make them available to conduct, in conjunction with the States and other entities, evaluations of the efficacy of the wetlands conservation projects carried out under this legislation with respect

to their effect on the production and survival of migratory birds and other fish and wildlife." (Nov.15,1989 Senate Debates).

U.S. Standard Grants Program

Since 1991, more than 1,435 partners have been involved in 804 Act-supported projects (www.northamerican.fws.gov). Grants are normally limited to $1 million and partners are required to match the grant request at a 1 to 1 ratio (www.northamerican.fws.gov). The technical scoring process places emphasis on achieving a higher match ratio, where a 2:1 or higher match gains maximum points (www.northamerican.fws.gov). However, the matching ratio is often 2.5 to 1, which indicates how successful the program has been in leveraging dollars for projects on the ground (Responsive Management, 2002a,b). In Canada, a major difference is that partners are also required to have a U.S. non-federal match component (Responsive Management, 2002a).

A grant total of $240.1 million in the United States, $153.4 million in Canada and $12.7 million in Mexico in grants has been invested in wetlands conservation under the Act (www.northamerican.fws.gov). Total matching partner contributions have amounted to $842.2 million in the United States, $237 million in Canada and $17 million in Mexico (www.northamerican.fws.gov). About 2.5 million acres in the United States, 5.1 million in Canada and 427 thousand in Mexico have been affected (www.northamerican.fws.gov).

Interviews with various stakeholders reveal an opinion that the Standard Grant application can be complicated and very time consuming (Responsive Management, 2002b). Some stakeholders also feel that unless they belong to an organization that has the time and resources to put into completing an application of such magnitude, they are more likely to be "shut out" of the process because they do not have the expertise to complete the application in such a way that will maximize the likelihood of funding. Several attempts have been initiated by

the NAWCC and the U.S. Fish and Wildlife Service to improve and streamline the process of submitting a grant proposal (Responsive Management, 2002). In addition, workshops have been held in order to solicit input from potential grantees regarding ways in which the process could be improved for them (Responsive Management, 2002).

U.S. Small Grants Program

The Small Grants Program was conceived by the NAWCC in 1995, and implemented in 1996, as an adjunct to the Standard Grants Program. Since 1996, 121 projects, involving 367 partners have been funded (www.northamerican.fws.gov). Partners added more than $37.6 million to more than $4.8 million in grants to conserve habitats (www.northamerican.fws.gov). The Small Grants program supports projects that are less complex, and often more locally focused than those in the Standard Grants program. Unlike the Standard Grant limit at $1 million, Small Grants may not exceed $50,000 (www.northamerican.fws.gov). Funding priority is given to projects that have a grantee or partners that have not participated in an Act-supported project before (www.northamerican.fws.gov).

The principal objective for the Small Grants Program is to promote long-term wetlands conservation activities through encouraging participation by new wetlands conservation-oriented grantees and partners who may not otherwise be able to compete in the Standard Grants Program (Responsive Management, 2002a and DBHC, personal communication, March 2002). Whether or not Small Grant recipients are in fact moving on to Standard Grants is unknown and is an issue of interest that should be explored further.

Though small in name and somewhat in dollar limit, Small Grants projects are sometimes quite large in terms of dollar amounts and the scopes are required to be broad (DBHC, personal communication, March 2002). That is, it is not unusual to find Small Grants projects totaling in

the millions and, in most situations, Small Grants are part of more comprehensive efforts to deal with landscape habitat protection needs (DBHC, personal communication, March 2002). The application process for a Standard Grant is substantially more complex than with Small Grants and, if there is any impediment to the movement of Small Grant partners to the Standard Grant Program, it is often cited by Small Grants partners to be the single most important reason for not moving their habitat conservation objectives up a notch in the NAWCA program (DBHC, personal communication, March 2002).

Recently, the North American Wetlands Conservation Council solicited voluntary assessments of the Small Grants Program from the then-existing pool of grantees (NAWCC 1999 and DBHC, personal communication, March 2002). Although only seventeen grantees responded, a majority of the respondents indicated a high level of satisfaction with the overall process (NAWCC 1999). Most of the respondents had experienced some association with other grants programs (DBHC, personal communication, March 2002).

Project Scoring for Standard Grants in the U.S.

Both Standard Grant and Small Grant proposals are evaluated according to certain biological criteria set forth in the Act, resulting in each proposal receiving a technical assessment score ranging from 0 to 100. Generally, projects that do not score at or close to 60 do not receive funding. Projects are first ranked within their respective Joint Venture before they are submitted to NAWCC staff. The Joint Ventures' internal ranking of proposals is an integral part of the review process that weighs heavily in the NAWCC's decision to recommend or not recommend a proposal for approval to the MBCC (DBHC, personal communication, March 2002).

The technical scoring assessment for the Standard Grants Program consists of the following seven questions:

1) How does the proposal contribute to the conservation of waterfowl habitat?

2) How does the proposal contribute to the conservation of other wetland-dependent or wetland-associated migratory birds?

3) How does the proposal benefit the North American Waterfowl Management Plan and contribute to sites that have been recognized for wetland values?

4) How does the proposal relate to the national status and trends of wetland types?

5) How does the proposal contribute to long-term conservation of wetlands and associated habitats?

6) How does the proposal contribute to the conservation of habitat for federally listed, proposed, and candidate endangered species; state-listed species; and other wetland dependent fish and wildlife?

7) How does the proposal satisfy the partnership purpose of the North American Wetlands Conservation Act (www.northamerican.fws.gov)?

Proposal writers must provide detailed qualitative and quantitative data to support their answers to these questions, as well as explaining linkages between the proposal sites and conservation objectives of the four major bird conservation initiatives. In addition to answering these seven questions, letters from partners must be included that demonstrate the partner's commitment to providing matching funds.

Points are assigned to each question category, which are further broken down into subcategories. Questions 1, 2, 3, and 5 offer a maximum of 15 points. Questions 4 and 6 offer a maximum of 10 points and Question 7 offers a maximum of 20 points. Proposal writers are encouraged to contact numerous organizations, such as state fish and wildlife and natural

resource agencies, non-governmental organizations, federal agencies and joint venture coordinators concerning questions that they may have.

In 2001, several changes were made to the Standard Grant instructions regarding point scoring. Several minor changes occurred, but one change that is of interest involves a new question in which the writer must explain the general linkages between the proposal site(s) and the conservation objectives of the North American Waterfowl Management Plan, Partners in Flight, the National Shorebird Plan and the North American Waterbird Conservation Plan. This reflects the interest in expanding NAWCA to more fully incorporate the objectives of the other bird conservation initiatives within wetland ecosystems projects, which has been met with both enthusiasm and criticism (Responsive Management, 2002a).

Implementation in Canada Compared to the United States

The Canadian process differs considerably from that of the United States, although many of the players have similar roles and responsibilities. One difference is that each joint venture in Canada receives the same percentage of NAWCA funds each year. This is due in part because prior to the implementation of NAWCA, priority program elements and important wetland locations had already been identified through NAWMP (Secretariat and NABCI Canada Council, 2000). The North American Wetlands Conservation Act guaranteed financial support for NAWMP in Canada, as well as other wetland habitat projects (Secretariat and NABCI Canada Council, 2000). Historically, as previously mentioned, the ratio for funding among the Joint Ventures is 77% for the Prairie Habitat Joint Venture, 17% for the Eastern Habitat Joint Venture and 6% for the Pacific Coast Joint Venture (Secretariat and NABCI Canada Council, 2000). The ratios were based on the relative importance of each joint venture in the provision of waterfowl habitat (Secretariat and NABCI Canada Council, 2000). The allocation of funding to

each province within each JV is determined in a similar manner (Secretariat and NABCI Canada Council, 2000). Proposal preparation begins once each province knows its level of NAWCA and match funding for a particular window (Secretariat and NABCI Canada Council, 2000). When preparing proposals, writers are guided by provincial implementation plans, which are designed to meet NAWMP and provincial priorities, goals and objectives (Secretariat and NABCI Canada Council, 2000 and Canadian Wildlife Service, personal communication, May 2002).

A major difference between the process in the U.S. and Canada is the emphasis on individual/discreet projects in the U.S., and an emphasis on programs in Canada (DBHC, personal communication, March 2002). In Canada, programs are established based on identified geographic priority areas (DBHC, personal communication, March 2002). Projects are developed within that particular landscape even though individual tracts may not be known at the time of proposal submission to the NAWCC in the U.S. (Secretariat and NABCI Canada Council, 2000 and DBHC, personal communication, March 2002). The advantage of the program approach is that conservation efforts are based on wide-spanning, broad, visionary, pre-established priorities with long-term goals (Secretariat and NABCI Canada Council, 2000).

Another difference between the process in the United States and Canada is requirement for partner funds. In the United States, partners contribute funds at a minimum 1:1 ratio of federal (NAWCA) funds to partner funds. To count towards the 1:1 ratio, the partner funds must come from a non-federal source. In Canada, U.S. Federal NAWCA funding coming to Canada must be matched at least at a one to one ratio with U.S. non-federal dollars (www.terreshumidescanada.org/nawca.html). These may come from state, NGO, private or other sources. Canadians who wish to participate in the program must coordinate their fundraising activities through the NAWMP Coordinator – International Association of Fish and Wildlife

Agencies (www.terreshumidescanada.org/nawca.html). In addition, Canadian proposals must include at least a 25% Canadian funding component, although a higher ratio is preferred (www.terreshumidescanada.org/nawca.html).

Proposals are screened several times before they are ultimately forwarded to the NAWCC in the U.S. for review. The first level of screening is by the provincial steering or technical committee (Secretariat and NABCI Canada Council, 2000). These committees are composed of government and non-government partners, and they review the proposals from both a policy and technical perspective. Proposals are reviewed to ensure that they meet NAWCA requirements, that they are financially sound, that appropriate scientific and technical expertise has been used to guide proposed activities, that they fit within and support 5 year plans, that they are guided by relevant provincial policies and programs and that they are in compliance with Section 402 of the U.S. National Historic Preservation Act (Secretariat and NABCI Canada Council, 2000).

The next level of screening is the Joint Venture Implementation Board (Secretariat and NABCI Canada Council, 2000 and DBHC, personal communication, 2001). In addition to providing another level of technical review, the Board ensures that proposals support the strategic direction developed within the Joint Ventures. One aspect that the JV Board assesses is whether the proposal is comprised of the right mix of activities, and whether the ratio of funding for each activity is appropriate (Secretariat and NABCI Canada Council, 2000). JV Board members may request that changes be made in proposals before they are forwarded to the NABCI Canada Council Secretariat.

The Secretariat then primarily performs a technical review of the proposals and ensures that they follow the requirements set out in the Canadian Solicitation Package, that the presentation is of high quality and that the funding, activities and acreages referred to within

each proposal are consistent (Secretariat and NABCI Canada Council, 2000). The Secretariat reviews the proposals that are submitted by all of the provinces and prioritizes the proposals before they are forwarded to the NABCI Canada Council. The Secretariat forwards the Executive Summaries to the NABCI Canada Council, which is the final stage of review before the package is sent to the NAWCC. NABCI Canada Council sends the package to the Chief of the USFWS, Division of Bird Habitat Conservation for distribution to NAWCC staff. NAWCC staff meets with Canadian representatives from the Secretariat, JVs and grantees so that questions may be answered about the proposals. Once the staff has completed their review, they forward the Executive Summaries of the proposals to the NAWCC (Secretariat and NABCI Canada Council, 2000).

In the United States, there is more competition for grant dollars among the partners than in Canada. This is due in part, to the smaller number of conservation organizations and potential partners in Canada, as well as the priority system set up to allocate the funds that come from the United States. In the United States, a new organization has a much easier time "breaking into" the system and receiving a grant. However, in Canada, the primary grantees are essentially three organizations: Ducks Unlimited Canada, the Nature Conservancy of Canada, and Wildlife Habitat Canada. Potential new participants are encouraged to work with existing partners to develop proposals together, rather than having many small proposals submitted (Secretariat and NABCI Canada Council, 2000). In the United States, in contrast, there are well established organizations that receive many grants, but the process is not as limiting to other groups and all potential partners are encouraged to apply for grants.

The Canadian process follows a more structured framework than the process in the United States, and whether one process is better or more efficient than the other is difficult to

conclude. Each system has been said to suit the culture and political environment of its respective country (Responsive Management, 2002a). In the early 1990s, a process similar to that of the United States was in place in Canada, but it was not highly supported (Responsive Management, 2002a). Canadian implementers disliked the focus on individual projects because of the time constraints involved with submitting the proposal and not knowing with certainty whether a certain parcel of land could be purchased when the proposal was being written. The problem was that a proposal would be submitted for a project, but then for various reasons, a particular parcel of land could no longer be purchased. Canada would then have to go back to the United States and either request an extension, or would no longer be able to carry out the proposal. Because of these inherent difficulties, the idea of the "program" in Canada was developed. Proposals could then be submitted to the United States with the notion that certain parcels of land might not be secured at that exact time, but that the land might become available over the course of the year. Program development has also led to more extensive landscape planning, in terms of achieving overall goals of biodiversity. Many of the sites in Canada are much smaller than the projects in the United States, but project sites are developed based on what the overall landscape is desired to look like. For example, nesting pairs of waterfowl require many shallow water ponds separated by vegetation. Therefore, one of the goals has been to work with landowners and other organizations to protect, manage, enhance and in may cases create these types of breeding areas, so that the overall landscape becomes dotted with these ponds, in order to maximize overall benefits to waterfowl, as well as other wetland dependent migratory birds (Responsive Management, 2002b).

Each major partner in Canada takes on a predominant role in habitat protection. For example, Wildlife Habitat Canada works predominantly with private landowners to improve

stewardship, and focuses almost entirely on enhancement projects. Many of these projects involve the placement of water control structures, or redesigning previously drained wetland areas to hold water once again. Several projects are designed with the goal of setting up fencing around wetlands to prevent cattle from using the wetland. Ducks Unlimited Canada is the largest and probably most influential NGO in Canada, focusing 50:50 on securement and development (similar to restoration in the United States) (DBHC staff, personal communication, November, 2001). Also similar to the United States, the Nature Conservancy of Canada focuses on mostly acquisition of lands and securing conservation easements. With distinct roles, each organization has a definite part in working towards the overall program goals.

Since funding appropriations may vary considerably by year, Canada has set up this system to make the most of the funds that it receives each funding window. Knowing ahead of time how the funds are divided between the joint ventures, provinces and grantees, long term planning processes may be put in place. This system also allows for more integrative approaches to achieving the goals of NAWCA, especially regarding the objectives of the other bird conservation initiatives. Since funding appropriations have increased so dramatically within the past year, implementers in Canada would like to use the extra funds (over the base amount of approximately $15 million) for project sites that more fully incorporate the goals of the other bird conservation initiatives (Responsive Management, 2002b).

Habitat and Species Benefits / Project Evaluations

One of the most important considerations regarding the success of NAWCA is how it is impacting both the habitat and species that it aims to protect. Trend data may provide some indication as to whether the Act is accomplishing its goals, although it is difficult to conclude with certainty that any improvements are due entirely to the legislation. For example, many

biologists argue that good weather conditions have helped to bring about increases in waterfowl populations (Responsive Management, 2002a). However, according to recent surveys, waterfowl populations have increased for almost all targeted species, except for the Pintail and Scaup. The May 2000 breeding bird surveys found an estimated 41.8 million ducks in the surveyed area, while in the 1970s, an average of 36.1 million birds were estimated in the same survey (USFWS-NAWMP fact sheet 2000). The 2000 numbers are 4 percent lower than 1999's record high estimate of 43.4 million ducks, the highest estimate since the survey began in 1955 (USFWS-NAWMP fact sheet 2000). Populations for 8 of the 10 principal duck species surveyed are at or above NAWMP goals, including the mallard, gadwall, American wigeon, green-winged teal, blue-winged teal, shoveler, redhead and canvasback (USFWS-NAWMP fact sheet 2000). The variation in numbers between 1999 and 2000 supports the idea that environmental conditions play an important role in waterfowl population numbers, but this is not known with any certainty.

Although much of the focus of NAWCA has been on benefits to waterfowl and wetland dependent migratory birds, many other species have also benefited from wetland habitat protection. Wetlands, or riparian habitats, are of importance to a wide variety of species (Murphy, 1991 in Responsive Management, 1995). Issues of importance to the NAWMP were the protection and management of shorebirds, endangered species, amphibians, insects and mammals (Murphy, 1991 in Responsive Management, 1995). However, available data is much more limited for these other species, as much of the focus has been on collecting data on waterfowl.

One of the inherent questions that often arises is, how should impact of the NAWCA program be measured? Waterfowl populations and shear numbers of acres protected are

something that the public can readily identify with, and can be relatively easily measured. However, of equal importance is to know how those acres are doing over time in terms of production, as well as how the habitat fits into the overall goal of biodiversity conservation (Responsive Management, 2002a,b).

Currently, the only stringent requirement for monitoring and evaluation of how projects are doing, and whether or not they really were valuable and worth the money is that partners must submit a final report once their project is completed. Also, as written in the language of the Act, a report must be submitted by the NAWCC to the Migratory Bird Conservation Commission that involves "a biennial assessment of 1) the estimated number of acres of wetlands and habitat for waterfowl and other migratory birds that were restored, protected or enhanced during such two-year period by Federal, State and local agencies and other entities in the United States, Canada and Mexico, 2) trends in the population size and distribution of North American migratory birds and 3) the status of efforts to establish agreements with nations in the western hemisphere; and projects, including an accounting of expenditures by Federal, State and other United States entities, and expenditures by Canadian and Mexican sources to carry out these projects." (http://laws.fws.gov/lawsdigest/nawcaact.html)

Although partners are required to complete a final report, some stakeholders have commented that the quality of the reports varies considerably, with some partners submitting only "fact sheet" type reports with only short summaries of what they accomplished, while others have submitted binders, with detailed summaries (Responsive Management, 2002a). Currently, the United States Fish and Wildlife Service tracks project proposals with a central database of proposal activities, but as of yet, actual accomplishments of projects have not been computerized (NAWWO Grant Database System).

An interesting evaluation measure that Wildlife Habitat Canada undertakes is to shift responsibility for monitoring and evaluation onto the landowner that received the grant money. Every year, the landowners receive a monitoring card in the mail and are encouraged to fill it out and send it back. Although these monitoring cards are fairly simple and not very technical, landowners are provided the voluntary opportunity to track species that they view on their land, any nesting behavior, as well as general changes that occur on the project site. This program is set up much like the Breeding Bird Survey, where the public is engaged in species monitoring. Although not yet *required* of landowners to fill out and return the monitoring cards, Wildlife Habitat Canada is working towards making it a mandatory component of the program. As a relatively new program, this information is now being compiled by Wildlife Habitat Canada and will be used to analyze trend data, and track the benefits that accrue on specific project sites. In return, this also creates educational opportunities for the landowner, who often learns as he/she works and is able to engage family members in learning as well (Responsive Management, 2002b).

The Future of NAWCA

Benefits of NAWCA

As expressed by the United States Legislature, "where possible, wetlands conservation projects should preserve habitat in perpetuity for fish and wildlife conservation. Easements to conserve wetland ecosystems for 25 years or more, while less desirable than perpetual easements, also would be consistent with the legislation's requirement for long-term conservation. In some cases, purchase of easements to conserve habitats for less than 25 years, or even for 10 years or less, may be appropriate if the purchase is likely to result in the landowner agreeing to a longer term conservation agreement at the expiration of the initial

easement." (Nov.15, 1989 Senate Debates) Whether or not the benefits of NAWCA projects will be sustained in perpetuity is a complex question, depending on the current environmental climate, as well as the land use practices of landowners and private business. Generally, the landowners that become involved in the NAWCA program are interested at the outset, so they are fairly unlikely to change their attitude entirely about wetlands conservation and try to "undo" their projects. What sometimes happens, however, is a negative change caused by private business affecting NAWCA projects. However, because of the profile that NAWCA has, it is not uncommon for mitigation negotiations to take place, resulting in even more land being protected. For example, the Vancouver Airport in Canada was planned for expansion, and it was going to affect a nearby NAWCA project site (Responsive Management, 2002a). The ultimate result was that the project was impacted, but in return the airport had to agree to protect what resulted in ten times the habitat in another area (Responsive Management, 2002a).

Influence on How People Think

One measure of NAWCA's influence is to consider whether the Act has helped to increase the general public's awareness about wetlands and the importance of wetlands conservation. Currently, there is no documentation that directly links NAWCA with changing peoples' attitudes and awareness. However, studies conducted by Responsive Management, such as "Indiana Residents' Opinions on and Attitudes toward Wetlands Conservation (Responsive Management, 1995)" and "Public Awareness of and Attitudes Toward Waterfowl and Wetlands (Responsive Management, 2001)" have some interesting conclusions that may be used to gauge NAWCA's influence as well as how to best promote NAWCA to the public beyond the groups that have already been involved.

Overall, a majority of Indiana residents moderately or strongly support efforts to protect Indiana's wetlands (80%). The importance of wetlands to the general population was also evident in the Ducks Unlimited Study. Sixty-four percent of U.S. adult residents (18 years and older) felt that it was very important to protect and conserve wetlands, while an additional twenty-seven percent felt that it was somewhat important (Responsive Management, 2001).

In the Indiana study, respondents were asked where they receive information about wetlands. Of the different types of sources of information, newspapers received the highest percentage (39%). Respondents were also asked which source they consider to be the most credible source of information about wetlands, and the source that received the highest percentage was the Indiana DNR (43%), followed by private conservation groups (21%), the USFWS (19%), farmers (9%), none of these (5%), friends or family (3%) and celebrities (1%).

A comment that is often brought up by some stakeholders is the need to better communicate the work that NAWCA has done, in order to promote the program to potential grantees that are currently not applying for grants. In focus groups and interviews conducted with numerous stakeholders, the general perception is that the public is largely unaware of NAWCA, and therefore has had little effect on how people think about wetlands and wetlands conservation (Responsive Management, 2002a). However, according to public opinion and attitude surveys, a majority of the general population supports the idea of wetlands conservation.

NABCI and the Other Bird Conservation Initiatives

One of the important questions to consider is where NAWCA should go in terms of the four major continental bird conservation initiatives, including the Partners in Flight Plan (land bird protection), the North American Waterbird Conservation Plan, the NAWMP and the

National Shorebird Plan. NABCI, or the North American Bird Conservation Initiative, is essentially a planning forum and an agreement among organizations and agencies to 1) increase the effectiveness of existing and new initiatives, 2) enhance coordination, 3) foster greater cooperation among the nations and peoples of the continent and 4) build on existing structures such as joint ventures, and stimulate new joint ventures and mechanisms as appropriate (www.bsc-eoc.org). To date, the work of NABCI has been overseen by a CEC-sponsored working group consisting of three government and non-government representatives from each of the countries, each active in national bird conservation initiatives, which has served as an interim Tri-National Steering Committee for the NABCI (www.bsc-eoc.org). The vision of NABCI-U.S. is all-encompassing, to "achieve regionally-based, biologically-driven, landscape-oriented partnerships that deliver the full spectrum of bird conservation across the North American continent and that support simultaneous, on-the-ground delivery of conservation for all birds (www.nabci.org)." In Canada and the United States, steps have already been taken to work with NABCI, with the North American Wetlands Conservation Council (Canada) actually renaming itself to be called the NABCI Canada Council.

Conclusion

The North American Wetlands Conservation Act of 1989 is an indispensable tool that has provided benefits to migratory birds and other fish and wildlife through the conservation of wetland ecosystems and associated habitat. Although the focus of the Act has predominantly been on waterfowl and wetland dependent migratory birds, other benefits to fish and wildlife are likely to accrue as long as high quality habitat is protected (Responsive Management, 2002a). NAWCA is a successful program for a number of reasons, including the partnerships that have

developed, the cost-effectiveness of the program, as well as the sheer number of acres that have been protected.

Partnerships are one of the major strength of the Act, as the entire program is built upon partner implementation. NAWCA is unique in its level of cost-effectiveness, as partners must match, at a minimum, a ratio of 1:1 federal dollars to partner dollars. This tremendous leveraging effect has enabled nearly four million acres of wetlands and wetland-associated habitats to be protected for the good of waterfowl, other migratory birds, the environment, and for human recreation in the United States, Canada, and Mexico.

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