CHAPTER 2: ISSUES

2.0 INTRODUCTION

Chapter 2 contains a discussion of the issues relevant to the analysis, including issues that will receive detailed environmental impact analysis in Chapter 4 (Environmental Consequences), issues that have driven the development of mitigation measures and/or standard operating procedures, and issues that will not be considered in detail, with rationale.

2.1 SUMMARY OF ISSUES

The following issues have been identified as areas of concern requiring consideration in this EA. These will be analyzed in detail in Chapter 4:

- Effects on DCCO populations
- Effects on other wildlife (and plant) species, including T&E species
- Effects on human health and safety
- Effects on aesthetic values
- Humaneness and animal welfare concerns of the methods used
- Impacts on recreation

2.1.1 Effects on DCCO Populations

A common concern among members of the public is whether wildlife damage management actions, in particular the use of lethal control and techniques like egg oiling that affect reproduction, will adversely affect the viability of DCCO populations. NEPA requires that Federal agencies consider the cumulative impacts of their proposed actions and other known impacts on the affected environment. Cumulative impacts on the regional DCCO population are addressed in the USFWS FEIS and impacts on DCCO populations in Ohio will be addressed in Chapter 4 of this EA. One impact on DCCO populations common to all the alternatives is the impact of disease.

Impacts of West Nile Virus and Newcastle Disease on bird populations

West Nile Virus (WNV) has emerged in recent years in temperate regions of North America, with the first appearance of the virus in North America occurring in New York City in 1999 (MMWR 2002, Rappole et al. 2000). Since 1999 the virus has spread across the United States and was reported to occur in 44 states and the District of Columbia in 2002 (MMWR 2002). WNV is typically transmitted between birds and mosquitoes. The most serious manifestation of WNV is fatal encephalitis in humans, horses, and birds. WNV has been detected in at least 138 species, including DCCOs (CDC 2003). Although birds infected with WNV can die or become ill, most

infected birds survive and may subsequently develop immunity to the virus (CDC 2003, Cornell University 2003). In some bird species, particularly Corvids (crows, blue jays, ravens, magpies), the virus causes disease (often fatal) in a large percentage of infected birds (Audubon 2003, CDC 2003, Cornell University 2003, MMWR 2002). In 2003, Ohio reported WNV in 79 of 88 counties, either in birds, mosquitoes, humans, or horses. Of the reports, 107 human and 106 horse cases were identified (OSU Extension Fact Sheet WNV-1000-04). Current data from the Center for Disease Control (CDC) indicates that birds have tested positive for WNV in 31 of 88 Ohio counties in 2005. Although DCCOs can be infected with WNV, they likely are not a major reservoir for the virus in Ohio and, at present, the ODH does not test DCCOs for WNV.

Exotic Newcastle Disease

Exotic Newcastle Disease (END) is a contagious and fatal viral disease affecting all species of birds, including domestic poultry and wild birds. END is spread primarily through direct contact between healthy birds and the bodily discharges of infected birds. The disease is transmitted through infected birds' droppings and secretions from the nose, mouth, and eyes. Following an outbreak of END on Lake of the Woods, Minnesota in the early 1990s, the DCCO population on the lake declined from approximately 4,800 pairs in 1989 to approximately 2,800 in 1997, but subsequently increased to just over 4,300 nesting pairs in 2004. This demonstrates the ability of DCCO populations to rebound from disease outbreaks such as END. At this time there have been no reports of END in Ohio.

2.1.2 Effects on other Wildlife and Fish Species, Including Threatened and Endangered Species

A common concern among members of the public and wildlife professionals, including the lead and cooperating agencies, is the impact of CDM methods and activities on non-target species, including T&E species. Of particular concern are the potential impacts on co-nesting colonial waterbirds (ie. great egrets, great blue herons, and black-crowned night-herons; Appendix D). Cormorant damage management may have a positive impact on co-nesting colonial waterbirds because it would reduce DCCO competition for nesting sites, or it could adversely affect other species through disturbance of nesting activities. The number of species nesting in each colony, their longevity and the stability of their populations are among the factors that are important to consider in assessing their overall contribution to waterbird conservation efforts in Ohio and the Great Lakes. Standard operating procedures (SOPs) for the EA (Chapter 3) include measures intended to mitigate or reduce the effects of CDM on non-target species populations. To reduce the risks of adverse effects to non-target species, the lead and cooperating agencies would select damage management methods that are as target-selective as practicable and apply CDM methods in ways which reduce the likelihood of disturbing, capturing or killing non-target species. The lead and cooperating agencies have agreed to consult with

one another before undertaking DCCO control activities at any of the sites in Ohio where DCCOs co-nest with other colonial waterbirds.

As part of the DCCO FEIS (USFWS 2003), the USFWS completed an Intra-Service Section 7 Biological Evaluation on the management of DCCOs in the United States. Of the federally-listed bird species in Ohio, only the piping plover and bald eagle are of potential concern as both are known to occur at or near potential control sites. However, the occurrence of piping plover in Ohio is rare due to low availability of suitable habitat. An Intra-Service Section 7 Biological Evaluation was conducted for CDM activities in Ohio. All conservation measures recommended by the USFWS for the protection of T&E species in the Ohio Intra-Service Section 7 Biological Evaluation have been incorporated into this final EA. State-listed species in the area where CDM activities could be conducted include the snowy egret and cattle egret.

2.1.3 Effects on Human Health and Safety

2.1.3.1 Effects on Human Health and Safety from CDM Methods

Some people may be concerned that use of CDM methods, such as firearms and pyrotechnic scaring devices, could cause injuries to people. WS and ODW personnel occasionally use rifles and shotguns to remove or scare DCCOs that are causing damage. Shotguns may also be used on airports to scare or remove birds which pose a threat to aircraft or air passenger safety. WS frequently uses pyrotechnics in noise harassment programs to disperse or move birds away from an area. There is some potential fire hazard to agricultural sites and private property from pyrotechnic use.

Firearm use is a very sensitive issue and a concern because of issues relating to the safety and potential misuse of firearms. To ensure safe use and firearms awareness, WS employees who use firearms to conduct official duties are required to attend an approved firearms safety and use training program within three months of their appointment and a refresher course every two years afterwards. Similarly, State wildlife officials will require their personnel to be properly trained in firearm safety before participating in CDM activities. WS employees who carry firearms as a condition of employment are required to sign a form certifying that they meet the criteria as stated in the Lautenberg Amendment which prohibits firearm possession by anyone who has been convicted of a misdemeanor crime of domestic violence.

2.1.3.2 Effects on Human Health and Safety from Not Conducting CDM

The concern stated here is that the absence of adequate CDM would result in adverse effects on human health and safety, because DCCO damage

would not be curtailed or reduced to the minimum levels possible and practical. The potential impacts of not conducting such work could lead to increased incidence of injuries, illness, or loss of human lives. These potential adverse effects are discussed in Section 1.5.5.

2.1.4 Effects on Aesthetic Values

Aesthetics is a philosophy dealing with the nature of beauty, or the appreciation of beauty. Therefore, aesthetics is subjective in nature and depends on what an observer regards as beautiful. The human attraction to animals has been well documented throughout history and began when humans domesticated animals. Some members of the American public may consider individual wild animals and birds as "pets" or exhibit affection toward these animals, especially people who enjoy coming into contact with or viewing wildlife. Conversely, others may see the same species as a detriment to aesthetic values (e.g. droppings and damage to vegetation associated with large groups of DCCOs). Therefore, the public reaction to wildlife damage management is variable and mixed because there are numerous philosophical, aesthetic, and personal attitudes, values, and opinions about the aesthetic value of wildlife and the best ways to reduce conflicts/problems between humans and wildlife.

Wildlife populations provide a range of social and economic benefits (Decker and Goff 1987). These include direct benefits related to consumptive and non-consumptive use (e.g., wildlife-related recreation, observation, harvest), indirect benefits derived from vicarious wildlife related experiences (e.g., reading, television viewing), and the personal enjoyment of knowing wildlife exists and contributes to the natural ecosystems (e.g., ecological, existence, bequest values) (Bishop 1987). Direct benefits are derived from a user's personal relationship to animals and may take the form of direct consumptive use (using the animal or intending to) or non-consumptive use (viewing the animal in nature or in a zoo, photography) (Decker and Goff 1987). Indirect benefits or indirect exercised values arise without the user being in direct contact with the animal and come from experiences such as looking at photographs and films of wildlife, reading about wildlife, or benefiting from activities or contributions of animals such as their use in research (Decker and Goff 1987). Indirect benefits come in two forms: bequest and pure existence (Decker and Goff 1987). Bequest is providing for future generations and pure existence is merely knowledge that the animals exist (Decker and Goff 1987).

There is likely to be concern that CDM could result in the loss of aesthetic benefits to the public, resource owners, or neighboring residents. Potential impacts on aesthetic values include potential reductions in opportunities to view and enjoy DCCOs at specific sites where CDM is conducted, the potential that CDM might adversely affect co-nesting colonial waterbirds and reduce opportunities to view and enjoy these species, the risk that if left unmanaged, expanding DCCO populations may result in the elimination of some co-nesting

colonial waterbirds from certain sites and adversely affect bird viewing opportunities, and impact of CDM activities on opportunities to enjoy certain fishery resources.

There is also the possibility that increased volumes of DCCO droppings in water and on vegetation could decrease the aesthetic value of recreational areas. The highly acidic feces of DCCOs is detrimental to the survival of trees and other plant life. Based upon survey information provided by Wires et al. (2001), biologists in the Great Lakes region reported that DCCOs have an impact on herbaceous layers and trees. Impacts to trees were reported mainly due to guano deposition, and resulted in tree die off at breeding colonies and roost sites. The loss of trees and ground vegetation at the island and inland sites may be displeasing to many people.

Additionally all of the DCCO colonies within the state are surrounded by public waters which receive significant recreational use. Boaters, swimmers and fisherman may all be affected by heightened levels of guano in the water.

2.1.5 Humaneness and Animal Welfare Concerns of Methods Used by WS

DCCO control methods, especially lethal control, may raise issues about humaneness and animal welfare. The issue of humaneness and animal welfare, as it relates to the killing or capturing of wildlife is an important but very complex concept that can be interpreted in a variety of ways. Schmidt (1989) indicated that vertebrate pest damage management for societal benefits could be compatible with animal welfare concerns, if " . . . the reduction of pain, suffering, and unnecessary death is incorporated in the decision making process."

Suffering is described as a " . . . highly unpleasant emotional response usually associated with pain and distress." However, suffering " . . . can occur without pain . . . ," and ". . . pain can occur without suffering . . ." (AVMA 1987). Because suffering carries with it the implication of a time frame, a case could be made for " . . . little or no suffering where death comes immediately . . ." (CDFG 1991), thus shooting with firearms would generally meet this criteria.

Defining pain as a component in humaneness of WS methods appears to be a greater challenge than that of suffering. Pain obviously occurs in animals. Altered physiology and behavior can be indicators of pain, and identifying the causes that elicit pain responses in humans would " . . . probably be causes for pain in other animals . . ." (AVMA 1987). However, pain experienced by individual animals probably ranges from little or no pain to considerable pain (CDFG 1991).

Pain and suffering, as it relates to WS damage management methods, has both a professional and lay point of arbitration. Wildlife managers and the public would be better served to recognize the complexity of defining suffering, since " . . .

neither medical [n]or veterinary curricula explicitly address suffering or its relief" (CDFG 1991).

Therefore, humaneness, in part, appears to be a person's perception of harm or pain inflicted on an animal, and people may perceive the humaneness of an action differently. The challenge in coping with this issue is how to achieve the least amount of animal suffering within the constraints imposed by current technology and funding.

2.1.6 Effects of Carcass Disposal

Some individuals may be concerned about the fate of DCCO carcasses and about the impacts of carcass disposal on soil, water and air (odor) quality.

2.1.7 Effects of CDM on Recreation

Both Green Island and WSI are closed to public access, but sport fishing and pleasure boating are popular activities in the surrounding area. CDM on and around the islands could affect boaters with noise from firearms or pyrotechnics. Additionally, boat traffic could be temporarily prohibited near the islands during shooting operations. USFWS, ODW, and WS could plan for operations to occur at dates and times when recreational watercraft numbers are lowest on the lake.

It is also possible that increased volumes of DCCO droppings in water and on vegetation could decrease the aesthetic value of recreational areas. The highly acidic feces of DCCOs are detrimental to the survival of trees and other plant life. Based upon survey information provided by Wires et al. (2001), biologists in the Great Lakes region reported DCCOs as having an impact to herbaceous layers and trees. Impacts to trees were reported mainly from guano deposition, and resulted in tree die off at breeding colonies and roost sites. The loss of trees and ground vegetation at the island and inland sites may be displeasing to many people.

Additionally, all of the DCCO colonies within the state are surrounded by public waters which receive significant recreational use. Boaters, swimmers and anglers may all be affected by heightened levels of guano in the water.

If no control is conducted, boaters may observe fewer species and numbers of colonial waterbirds and/or increased degradation of island vegetation. The potential aesthetic loss of colonial waterbird species is discussed in section 2.1.4.

2.2 ISSUES CONSIDERED BUT NOT IN DETAIL WITH RATIONALE

2.2.1 Impacts on Biodiversity

The proposed program does not attempt to eradicate any native species of wildlife. Any CDM actions would be conducted in accordance with international, Federal and State laws, and regulations enacted to ensure species viability. Effects on target and non-target species populations because of WS' lethal CDM activities are minor, as shown in Section 4.1.1 and 4.1.2, and therefore will not result in significant nationwide or statewide impacts on biodiversity (USDA 1997, Revised).

2.2.2 A "Threshold of Loss" Should Be Established Before Allowing Any Lethal CDM

WS is aware that some people feel Federal wildlife damage management should not be allowed until economic losses reach an arbitrary predetermined threshold. Such policy, however, would be difficult or inappropriate to apply to human health and safety situations. Although some damage can be tolerated by most resource owners, resource owners and situations differ widely and a set of wildlife damage thresholds would be difficult to determine or justify. WS has the legal authority and direction to respond to requests for assistance, and it is program policy to aid each requester to minimize losses. WS uses the Decision Model thought process discussed in Chapter 3 to determine appropriate strategies.

In a ruling for Southern Utah Wilderness Alliance, et al. vs. Hugh Thompson, Forest Supervisor for the Dixie National Forest, et al., the United States District Court of Utah denied plaintiffs' motion for preliminary injunction. In part the court found that a forest supervisor needs only show that damage from wildlife is threatened to establish a need for wildlife damage management (Civil No. 92-C-0052A January 20, 1993). Thus, there is judicial precedence indicating that it is not necessary to establish a criterion such as percentage of loss of a particular resource to justify the need for wildlife damage management actions.

2.2.3 Cormorant Conflict Management as proposed in the preferred alternative is contrary to the purpose and mission of a National Wildlife Refuge and Wilderness area.

WSI is a Federal Wilderness Area and National Wildlife Refuge. Some individuals may be concerned that the CDM allowed under the Preferred Alternative would compromise the wilderness characteristics of the site. Others may feel that a National Wildlife Refuge should be a sanctuary for all species and that it is inconsistent with the purpose of a "refuge' to allow the killing of DCCOs.

WSI was designated a migratory bird refuge in 1937 to protect the heron rookery located there, and designated as a Federal wilderness in 1975 primarily because of its value as a heron and egret rookery. The USFWS, National Wildlife Refuge System, draft Wilderness Stewardship Policy Part 610 establishes a Non-degradation Principle (USFWS 2000*b*). This concept specifies that, at the time of wilderness designation, the conditions prevailing in an area establish a benchmark of that area's wilderness values, and that the USFWS will not allow these conditions to be degraded. Securing "an enduring resource of wilderness" by maintaining and restoring, where appropriate, a wilderness area's biological integrity, diversity, environmental health, and wilderness character is one of the key guiding principles for wilderness management established by the USFWS (2000).

The CCP for the Refuge establishes a number of wildlife and habitat goals including: 1) a wildlife management goal to preserve and protect the largest wading bird colony within the Great Lakes ecosystem in accordance with the national wilderness designation; and 2) a habitat management goal to provide habitat conditions favorable to colonial nesting wading birds without compromising the wilderness integrity (USFWS 2000*a*). The habitat management goal included an objective of maintaining nesting habitat for approximately 1,000 great blue herons, 800 great egrets, 500 black-crowned night-herons and 1,500 DCCOs (1998 population levels).

The WSI population of breeding DCCOs exceeded the CCP management goal in 1999 and has continued to increase (Figure 1-3). However, as discussed in Sections 1.5.1 and 1.5.6.1, the increasing DCCO population appears to be having a negative effect on the vegetation at WSI which is essential habitat for the great blue herons, great egrets and black-crowned night-herons on the refuge. Observations of vegetation damage on WSI, and the results of high DCCO nesting populations on Middle Island and East Sister Island, have led the lead and cooperating agencies to conclude that allowing current high or increasing numbers of DCCOs to persist on the refuge without some level of management will ultimately result in decreased habitat quality for herons and egrets and may ultimately result in a decline in the ecological health and biodiversity of the refuge. Reducing the density of breeding DCCOs at WSI to between 1,500 and 2,000 pairs will meet the CCP objectives for the DCCO population and allow the refuge to meet its management goals for herons and egrets. The USFWS Wilderness Area Management Policy allows for the inclusion of wildlife damage management in Wilderness Management Plans (6 RM 8).

WSI is closed to the public, so the Preferred Alternative will not adversely impact the public's recreational use of the site.

2.2.4 There are effective mechanisms in place to address DCCO damage to property and aquaculture facilities and to reduce risks from DCCOs at airports. There is no need to expand DCCO removals for these issues.

CDM activities have been conducted in the state prior to the completion of this EA. The anticipated level of take for management of DCCO damage to property, aquaculture and DCCO related risks to human health and safety is not anticipated to change from the current level if the preferred alternative is adopted (See description of alternatives in Chapter 3 and anticipated DCCO take in Section 4.1.1). The EA analyzes the environmental impacts of alternatives for managing all types of DCCO damage to provide a cumulative impact analysis for all CDM in Ohio and to allow the agencies to review and reconsider alternatives for existing CDM programs. CDM activities are only conducted when a need for action has been confirmed and only at the location where the damage is occurring. The EA does not propose or anticipate broad-scale statewide reductions in DCCO numbers.