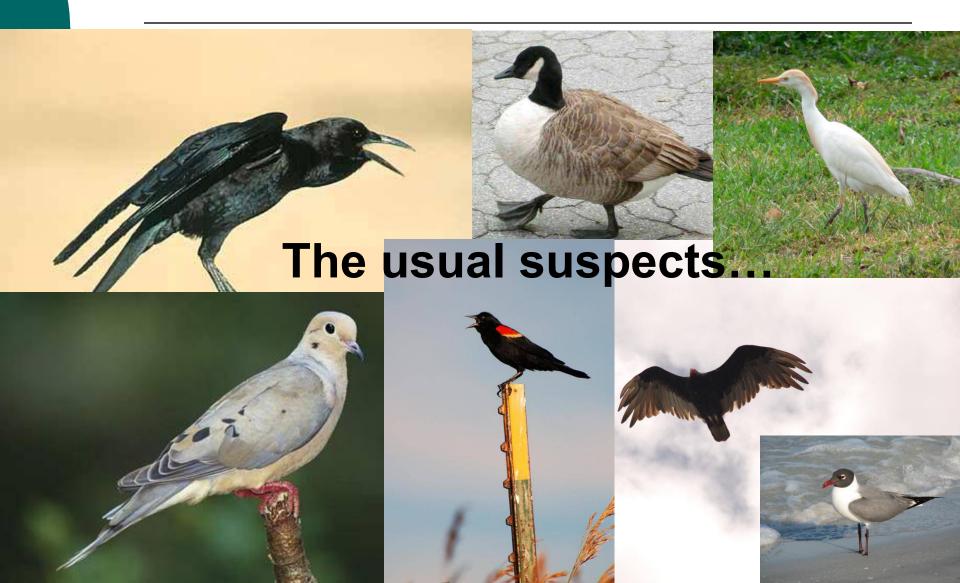


Avian Hazards at JAX





Avian Hazards at JAX





Step 1: System States

- Movement Areas
- Within the AOA
- Airport Property outside the AOA
- Off-Airport Property



Step 2: Hazards

- Geese
- Hogs
- Aerial Foragers
- Blackbirds
- Cattle Egrets
- Crows
- Coyotes
- Deer
- Dogs

- Doves
- Turkeys
- Gulls
- Mesomammals
- Songbirds
- Wading Birds
- Raptors
- Shorebirds
- Vultures



Example: Canada Geese

- Step 1: Identify System States
 - AOA
 - Airport property outside AOA
 - Off-airport property
- Step 2: Identify Hazards
 - Canada goose/geese struck by aircraft





Step 3: Identify your controls

- Engineering
 - Habitat reduction (no standing water)
 - Aquatic vegetation removal
 - Pyrotechnics/lethal control
- Warnings
 - Bird activity on ATIS
 - NOTAMS
- Administrative Procedures/Training
 - Daily wildlife inspections & reports
 - Annual wildlife hazard management training
 - Zoning recommendations for adjacent properties





Step 4: Determine Risk Factors

- Using JAA's Risk Matrix:
 - Residual Severity Catastrophic (1)
 - Residual Likelihood Extremely Remote (D)
 - Residual Risk Total 1D





Step 5: Corrective Action and Implementation

- Within AOA: Eliminate/reduce open water sources within the AOA (Planning Dept & OPS)
- Airport property outside AOA:
 Eliminate/reduce open water sources/nesting habitat (Planning Dept. & OPS)
- Off-airport property: Public outreach & education; attend zoning meetings (Planning Dept.)



Step 6: Risk Management and Risk Reduction

- Critical Control: Revised WHMP approved July 2011. Eliminating/reducing all standing water from AOA is a goal of WHMP
- Critical Control Owner: Planning Environmental Coordinator
- Hierarchy/Defense in Depth Met?Yes



Final Product

| Document Date: Ma | rch 11, 2011 | | | | | | | | - | | | Ш | | | | | | | | | |
|--|-----------------------------------|--|--|--|---------------------------------------|-----------------------|--|--|----------------------------------|---|----------------------|-----|---------------------|--|---|---|--|---|--|---|--|
| Step 1: Identify your System State/ Tasks / Activities | | Step 2: Stentifyyour Hazards and Threats | | | | rels | Controls: Refer to Part 139 if Applicable (place an "X" if a control exists.) Less Effective Controls | | | Step 4: Determine Risk Factors and Eval | | | uale Risk | Step 5: Corrective Action and Implementation | | | Step 6 Risk Management and Risk Reduction | | | | |
| Department | System State/ Tasks/Activities | Mazaré (What could go wrong) | Chuse | Effect / Scenario / outcome (Worst Case(S)) | Controls: Elimination/Substitution | Controls: Engineering | Controls: Warnings Controls: (dministrative/Procedures/tra | ining Controls: Personal (PPE) Equipment (PPE) Description of Controls | Residual Severity | | Residual Likelihood | | Residual Risk Total | Corrective Actions | Correction (CA) Assignment to (by Department) | Critical Centrol (Y. If Residual Severity is Canastrophic or Serious, or If Residual Risk is High) | Describe the Critical Control) (add to impercision, festing or observation) | Critical Control Owner (by Tale) | Control Catogory (based on Corrective Action) | HierarchylDstense in Depth Met (If No. then add additional controls via CAs is Step 5) | COUNTY AND ADDRESS OF THE PARTY |
| sperations, JAAPD, Larving, Widlife constants, Facilities, AVG, USDA | AOA | Waterford (Goese) Fight hazard | wedlands vegetation, grass and open water | mass casualites, aircraft damage, damage reputation, operations interruption | | x | x x | euthanasta, pyretechnic and horaty impertions, modification, NOTAMS, feocing, rest and egg destruction, shooting | , daily sabitat Catastropi | io 1 | Extremely Remote | D | w. | Assess wetlands in the ADA for etimination potential and anodification | Planning/OPS | Y | Currently the wödlife plan is under revision. Midgation strategy will be based on WHA. Target date is 6/2011. | Planning Evironmental Coordinator | Pending outcome of VINA | Y | |
| gerations, JAAPD, Saming, Wildlife consultants, Facilities ANG, USDA | Property outside AOA | Waterfunt (Geece) ffgts hazard | wetlands vegetation, grass and open water | nnass casualites, aircraft damage, damage reputation, eperations interruption | | x | x x | euthanasia, daily and he inspections, habitat modification, NOTAMS, and egg desiruction, sh | wat | ie 1 | Extremely Remote | D | | Assess habital on property for elimination potential and modification | Planning/OPS | ¥ | Currently the wildlife plan is undo cruision. Mitigation strategy will be based on WHA. Target date is \$72011. | Planning Evinormental Coordinator | Pending outcome of WHA | | _ |
| Specations, JAAPD, Isrning, Wildlife cosultants, Facilities, ANG, USDA | Outside property | Waterfood (Goese) Fight hazard | wetlands vegetation, grass and open water | mass casualities, aircraft damage, damage reputation, operations interruption | | x | x x | euthanasia, zoning recommendations | Catastropi | le 1 | Extremely improbable | | | Public cutreach and education | Planning P90 | • | Person to be involved with community as far as off property land use and zoring. | Engineering Planning | | | |
| Operations, JAAPD, Harning, Wildlife consistants, Facilities, ANO, USDA | Reversed acras | Hog Strike | Breaches in perimeter fence, wetlands | Aircraft damage and loss of life, injury | | x | x x | shooting, trapping, dail inspection, game came | fence is Hazardou | 2 | Remota | c | | Oury the fence, fix gaps in fence & fence gates, assess habitat | Facilities of Pitanning | * | Ope assesses habitat daily (for. Manager Operations), Burled Anne is a thrave capital projectly (Emicoremental Planning Coordinator), Verk order system used to coordinate rappir and track daily sill completion under 130 category (Director of Facilities) | Br. Manager of Operations. Environmental Stanning Coordinator, Director of Facilities | | | |
| operations, Planning. Undate Consultants, actities | AOA | Antal Foregots | open space for hawking insects, nesting opportunities | aircraft damage, damage reputation, operations Internation | | x | x | pyrotechnics, vegetatio management | Major | 3 | Remote | c | ж | spreying Inaceticides over open grass finids, destroying nestifeggs whenever found, accluding block from mesting in facilities (leeping doors closed, all minimum gaps, etc.) | Facilities J. JAA. P.D. | | Facilities contracts perticitie spraying services annually as needed. Facilities corrects access points for binds to rest in buildings. | Director of Facilities | | | |
| Operations, Planning, Vidife Consultants, acilities | AOA | Blackbirds | wetlands vegetation, vegetation in ditches | enass casualites, aircraft damage, damage reputation, operations interruption | | x | x x | occasional wetland veg removal (cattals, dische ponds, etc.) | tation k, Hazardou | . 2 | Extremely Remote | D | 10 | aore frequent vegetation removal on AGA, applying herbicide to slow vegetation re-growth | Facilities | | Airfield grass and attrachtants are cut on a predetermined schedule | Director of Facilities | | | |
| Operations, Planning. Widdie Consultants, Facilities | Property outside AOA | Blackbirds | wetlands vegetation, vegetation in ditches | mans cassaltes, aircraft damage, damage reputation, operations interruption | | x | x x | occasional wetland veg removal (cattalis, dische ponds, etc.) | K. Hazardoù | | Extremely Improbable | | | asore frequent vegetation removal on property; applying hosticide to slow vegetation re-growth | Facilities | | | | | | |
| Operations, Flanning, AAPO, Wodde Consultands, Facilities | АОА | Cattle Egrets | moving, abundance of Insects, open grass fields | alreraft damage, damage reputation, operations andemoption | | x | x x | pyrotechnics, vegetatio management | Hazardou | | Entremely Remote | D | 10 | maintain an incremediate grass height of 6-12 inches; seour balds only at right or in early secreting that evening hours, prays insecticides during spring/summer; reinforce pyrotechnics with occasional lethal control | JAA PDY Facilities | | Airfield grass and altrachtants ar- cut on an established schedule | Director of Facilities | | | |
| Operations, Flaming, Widdle Consultants, 'actities | дод | Crons | water source, human waste, small marroals, bird's nesting, insects | alreralt damage, damage reputation, operations Interruption | | x | × | pyratechyles | Magor | , | Estremely Improbable | | | occasional reinforcement with lethal control (shooting); Reep all human waste (trash) contained | JAA POY Opul Facilities | | | | | | |
| perations, Planning. Vidine Consultants, actities | Property outside AOA | Crows | water source, burnan waste, small mammals, bird's nesting, insects | alveraft damage, damage reputation, operations interruption | | x | x | Vegetation managemen | Major | , | Extremely Improbable | . E | | occasional reinforcement with inthal control (shooting); Beep all human waste (trash) contained | JAA PDY Opul Facilities | | | | | | |
| Operations, Planning, JANPO, Wedite Consultands, Pacificus | Movement areas | Coyotes | breaches in perimeter ferrer, mes cerammals (food source) | mass casualites, alreadt damage, damage reputation, eperations biterruption | | x | x x | shooting, daily fance impection, game dame | Hazardou | , 2 | Remote | c | rc | Bury the fince, fix gaps in fince & socie gates, atmitted to the seasonals from AOA | Excitition of Planning Opel JAA PD | ¥ | Ope a seeses habited daily (Ex- thanaged Operations). Burst of fannes is a fixture capital project(s), (Emderomental Flanning, Coordinates). Work order system used to occurrent present and track daily until completion under 139 category (Director of Facilities). | Er. Manager of Operations. Environmental Planning Coordinates. Director of Facilities | | | |
| Operations, Flanning, JAAPD, Widdie Consultants, Facilities | Movement areas | Door | treaches in perimeter fence, wooded are s inside perimeter feoce | mass casualites, abrerelt damage, damage reputation, operations interruption | | x | x x | shooting, pyretechnics, fence inspection, game cameras. | daily Catastropi | fc 1 | Remote | c | | Make our Efonce is secure and all an aggregistic holigit, eliminate all wooded areas institutioning the perimeter funce | Facilities/ Flaming/ Ops | ¥ | Ope assesses habited daily gits: Manager Operations). Work order system used to coordinate repair and track daily urtill conglish under 130 salegory (Director of Facilities) | Sr. Manager of Operations. Emvironmental Planning Geordinator, Director of Facilities | | | |
| Operations, Planning, JAAPO, Wodde Consultants, Facilities | Movement areas | Dog | berathes in perimeter fence, wooded areas inside perimeter fence | mass casualites, ahreaft damage, damage reputation, operations interruption | | x | × | scare tactics, chasing, inspections | Hazardoo | . 2 | Remote | c | | Make sure frence is recoure and at an appropriate height, eliminate all wooded areas institutioning the perimeter fence | Facilities of Flameloge Ops | | Ops assesses habitat daily (Ile. Manager Operations). Burled fence is a future capital projectly (Ilm/cromental Planning) Coordinates). Work codes system used to coordinate repair and test of daily until completion unde 139 category (Director of Facilities). | * Br. Manager of Operations. Environmental Flurring Coordinato. Director of Facilities | | | |



Final Product

| Department | System State/ Tasks/Activities | Hazard (What could go wrong) | Cause | Effect Scenario outloons (Prorst Case(S)) | Controls: Elimination/Substitution | Controls: Engineering | Controls: Warnings Controls: | Administrative Procedures fra Innia Controls: Personal Protective Equipment (PPE) | Description of Controls | Residual Severity | | Residual Likelihoed | | Residual Risk Total | Complex Actions | Correction (CA) Assigned to (by Department) | Critical Control (Y. If Residual Soverity is Catastrophic or Sorious, or if Residual Risk is High) | Describe the Critical Centrol? Sad to impaction, testing or phenomenation) | Critical Coeffed Owner (by Tabe) | Control Category (based on Corrective Action) | Herarchy/Defense in Depth Ret (If No, then add additional controls via CAs is Slap 5) | Risk Reduction Target |
|---|-----------------------------------|--|---|---|---------------------------------------|-----------------------|---------------------------------|--|---|-------------------|---|---------------------|---|---------------------|--|---|--|---|--|--|--|-----------------------|
| Operations, Flanning. Wodife Consultants, Facilities | AOA | Doves/Pigeons | nesting oppounturities (buildings/structures), bare ground, available grit, short grass | alveraft damage damage regolation, operations interruption | \$ | x | | × | chasing | Major | 3 | Remote | c | 10 | Rensove all nests/nesting materials/leggs from facilities & structures; maintain informediate grass help/d of 6-12 inches; eliminate bare areas and loose gravel | Facilities | | Currently the wildlife plan is under revision. Milipation strategy will be based on WMA. Target date is 6/2011. | Planning Evironmental Coordinor | Pending outcome of WHA | | |
| Operations, Planning, JAAPD, Wildlife Consultants, Facilities | Movement areas | Turkeys | tersches in perimeter fance, wooded areas Inside perimeter fence | mass casualites, alrendit damage, damage regulation, operations interruption | | x | | x | chasing, pyrotechnics, sheeting | Hazardous | 2 | Remote | c | (6 | Make sure fence and gates are secure (no breaches or gaps), etiminate all wooded areas inside/along the perimeter fence | Facilities! Planning! Ope | · v | Opa assesses habitat daily (Sr. Manager Operations). Work ending system used to coordinate regule and tract daily until congletion under 139 category (Director of Facilities) | Planning Evironmental Coordinates | Pending outcome of WHA | | Y |
| Operations, Planning, JAAPO, Wildlife Consultants, Facilities | AGA | Cults | low areas of standing water, open areas for roosting | mais casualites, alcraft damapa, damapa reputation, operations interruption | | x | x | x | chasing, shooting, pyretechnics | Hazardous | 2 | Ramote | с | | obtain permits to fill areas that collect water during teavy rain | Planning | * | Currently the wildlife plan is unde revision. Mitgation strategy will be based on WHA. Target date is 6/2011. | Planning Evironmental Coordintor | Pending outcome of WHA | | Y |
| Operations, Flanning, JAAPD, Wilding, Generalizants, Facilities | AOA | Mescrumenals: raccoses, sturks, armoditos, feral cals, for, opessums | breaches in perimiter fence, available water sources, furman waste, small mainmals, call feed, insects, dense vegetation/woodbands inside the perimeter fence | pireraft damage, damage regulation, operations letteruption | 5 | × | | x | chasing, shooting, pyrotechnins, trapping, relevating | Kajor | 3 | Probable | 8 | | ofminate fonce breaches, bury portmeter fonce, seep all task evolutions, keep dozes desired on all facilities, remove wooded areas from hadde the perimeter flonce | Facilities/ Planning/ Ope | Y | Ops assesses habitat disty (Sr. Manager Operations), Week ender system until the coordinate registrated and track disty until completion under 135 category (Director of Facilities) | Sr. Manager of Operations. Emircomental Planning Coordinates, Director of Facilities | | | v |
| Operations, Planning, Wildlife Consultants, Facilities | AOA | amuli, perching sonybirds: robins, meadowlarks, mockingbirds, sperrows, stc. | pershing & nesting opportunities; weedy vogetation that produces seeds, fruits, cuts, & berdies; short grass | gireraft damage, damage regulation, operations laternuplion | s | x | | × | vegetation maintenance, ppredectarios | Bajor | 3 | Remote | c | | emove snocessary perciting structures from artifact, buttal perciting deliberates on unavoidable shouthers (e.g., naving) slips, ett.); remova all route secured, mobilities in before-sizing any should be 12 boths; mahdain a derive sizing any should be 12 boths; mahdain a derive sizing size compared any experiment of the compared any experiment of securing any size of specimized any experiment of size of specimized and specimized size of specimized specimiz | Facilities Planning Opel JAA PD | | Opi assessies habitat dishy (Ec. Managar Operations), Werk ender synites used to coordinate regain services (Asia) until completion under 13) eatagory (threater of Facilities) | St. Manager of Operations. Environmental Planning Coordinator, Director of Facilities | | | ٧ |
| Operations, JAAPD, Planning, Wildife Goesultants, Facilities | AOA | Wading birds: Egrets, storks, Bits, herons | Standing water, vegetation surrounding standing water, wetlands | mass casualites, alireraft damage, damage reputation, operations interruption | | x | | x | pyrotechnics, occasional wedland vegetation removal | Hazardous | 2 | Remote | c | | regularly remove all wetland vegetation from in & around standing water, apply berticide to related vegetation re-growth place natting over areas of standing water, pagly non-lettal chamileals to water that repel birds; obtain permit to fit wetlands; use occasional lethal control to reinforce pyrotechnics | Facilities/Planning/JAA-PO | Y | Currently the wildfule plan is under revision. Mitigation strategy will be based on WHA. Target date is \$2015. | Planning Evidenmental Coordinate | Pending exicome of VHA | | Y |
| Operations, JAAPD, Planning, Wildlife Consultants, Facilities | жол | Raptors: engles, hawks, & kestrels | small mammals, perching & nesting opportunities | mais casualites, aircraft damage, damage reputation, operations interruption | | x | | × | pyrotechnics | Hazardous | 2 | Remote | c | | Keep perheater fence free of vegetation, efficients woodsands inside perheater fence, lental per soling detirerate on unweight his fence, lental per soling detirerate on unweight his fence lental per soling detirerate on unweight his fence was per unnecessary perching structures, remove all brush & sheubs lension perimeter fence | Facilities | Υ | Currently the widdlife plan is under prevision. Midgation strategy will be based on WMA. Target date is \$2011. | Planning Evironmental Coordinator | Pending outcome of WHA | | Y |
| Operations, JAAPO, Planning, Wildlife Consultants, Facilities | JAA property outside | Raptors: eagles, hanks, & Sestrals | small mammals, perching & nesting apportunities | mass casualtes, aircraft damage, damage regulation, operations interruption | | × | | × | (Vegetation management | Hazardous | 2 | Extremely Remote | D | | install penching deliterents on unwritifishle structure, remove all snags (dead trees) in om wooded areas, remove found raptor exits (secacy Bald Eaglig), remove unicessary penching structures, remove unkept bouth & shruks | Facilities | | Ops assesses habitat daily (8r. Manager Operations), Work order 5ystem used to coordinate regain and track daily until completion under 139 category (Director of Facilities) | Sr. Manager of Operations. Environmental Planning Coordinator. Director of Facilities | | | |
| Operations, Planning, Wildlife Consultants, Facilities | ADA | Shorebirds: players & Bildeer | areas of trare ground, low areas of temporary standing water, nesting opportunities | abreraft damage, damage regulation, operations letteroption | | x | | x | chasing, pyrotechnics | Minor | | Probable | 8 | 48 | Eliminate bure areas on AOA, remove any found nests, obtain permits to fill low areas that collect standing water during heavy rain events | Eschibed Planning | | Opa assesses habitat dally (fir. Manager Operations). Work order system used to coordinate repair and track dally until completion under 13t category (thractor of Facilities) | Sr. Manager of Operations. Environmental Planning Coordinator. Director of Facilities | | | |
| Operations, JAAPD, Placeing, Vildife Consultants, Facilities | AOA | Vultures | thermals, carrion | mass casualities, alterallt damago, damage regulation, operations interruption | | × | x | x | pyrotechnics | Catastrophic | 1 | Remote | c | | reinforce pyrotechnics with lethal control; hung a dead vulture effigy upside down from a high point on the ADA; remove and bury all 4 arrion immediately | Facilities I JAA PDI Ops | ¥ | Currently the middle plan is unde- revision. Midgation strategy will be based on WHA. Target date is \$72011. | Planning Evironmental Coordinate | Pending outcome of VMIA | | * |
| Operations, JAAPO, Planning, Wildlife Consultants, Facilities | JAA property outside AOA | Vultures | therenals, carrion | mass casualitus, aircraft damage, damage reputation, operations interruption | | x | x | x | Vegetation management | Hazardous | 2 | Extremely Remote | 0 | 10 | reinforce pyrotectrics with lethal control; remove and bury all carrion immediately | Facilities JAA PDI Ops | | Currently the wildlife plan is under revision. Milipation strategy will be based on WMA. Target date is \$22011. | Planning Eviconmental Coordintor | | | |

Project Will Select Annual Selection (Selection Selection Selectio



Questions?

