

Restoration Efforts at Atlanta Waterfowl Production Area



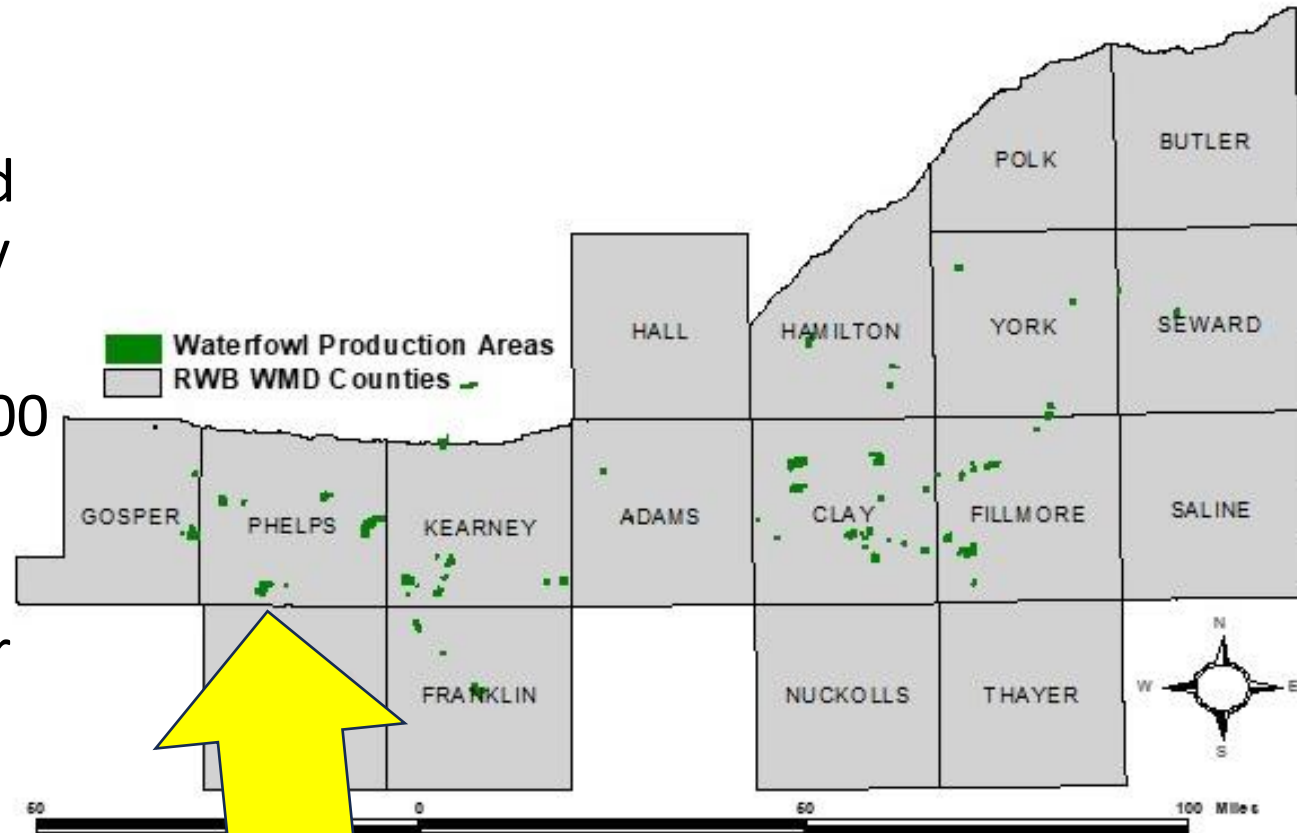
Jessica Bolser

U.S. Fish and Wildlife Service

Rainwater Basin Wetland Management District

Rainwater Basin Wetland Management District

- 63 Waterfowl Production Areas in 11 counties (most with a playa wetland basin surrounded by upland)
- Approximately 25,000 acres
- Goals: Manage grassland habitat for migratory birds and other native plants and animals
- Part of NWRS - 588 NWRs and 38 WMDs = over 100 million acres

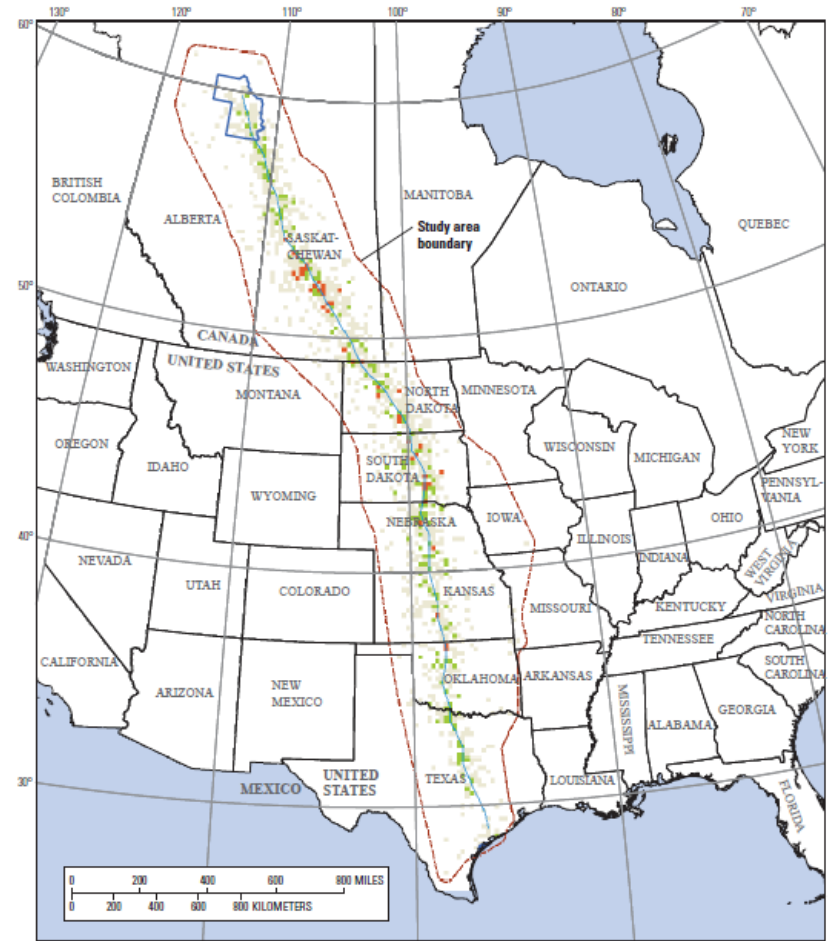


**NATIONAL
WILDLIFE
REFUGE SYSTEM**

Heart of the Central Flyway



8 Whooping Crane Stopover Site Use Intensity Within the Great Plains



Base map from Esri and is used herein under license (500 meter resolution).
 Universal Transverse Mercator projection, zones 13-14 N
 North American Datum of 1983 (NAD 83)

EXPLANATION

- Whooping crane migration corridor
- Low intensity
- Core intensity
- Extended-use core intensity
- Centerline

Figure 5. Areas within the migration corridor of whooping cranes identified with varying levels of stopover site use intensity (category definitions shown in table 1).

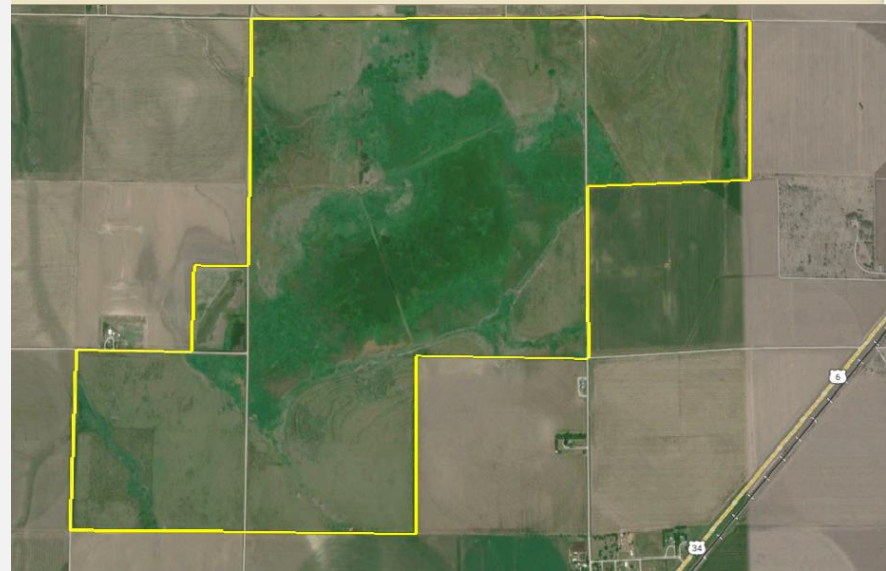
Source: Pearse et al 2015

Atlanta Waterfowl Production Area

- Purchased in 1964
- 1,146 acres
- Previously farmed, but frequently flooded
- Initial management by USFWS was more “hands off”
- More intensive management began in the 1990s
 - Seeding back to native prairie
 - Cattle grazing to mimic historical disturbance
 - Reduction in irrigation pits in the watershed



ATLANTA



Atlanta Waterfowl Production Area

- Challenge: Atlanta WPA did not exhibit increased ponding frequency, duration, or area.



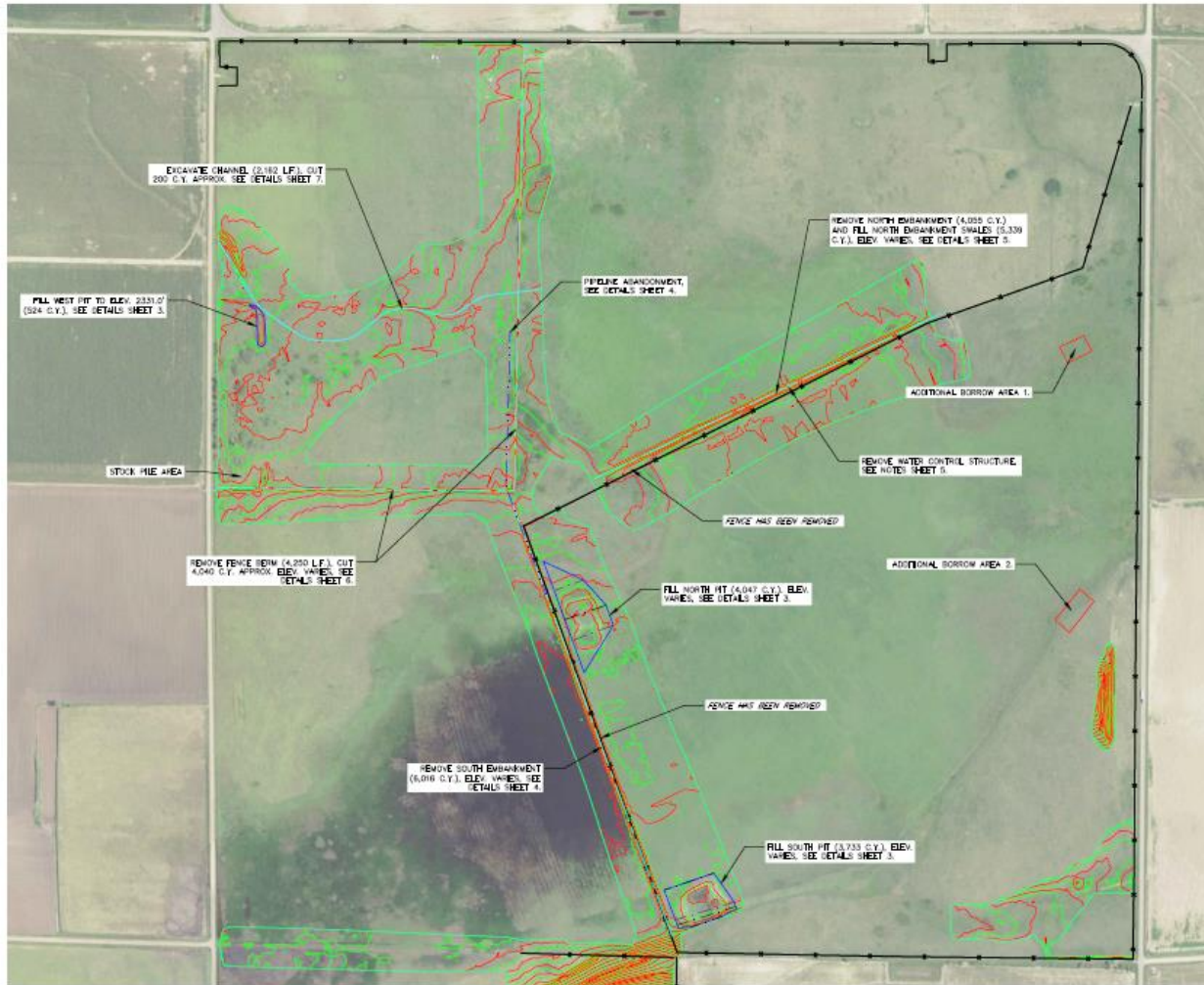
Less valuable for migrating water birds

- Restoration experts came together to evaluate the wetland and the watershed
- Recommendations:
 - Remove areas of excessive sediment
 - Remove and reshape terraces and other runoff restriction areas
 - **Watershed approach:** 31 irrigation reuse pits within the identified
 - Prioritization developed to identify high storage capacity pits, and those closest to the wetland

Nebraska Environmental Trust Grant 14-143 (2013-2017)



Berm removal and waterway cleanout



EARTHWORK QUANTITIES		
ITEM	CUT VOLUME C.Y.	FILL VOLUME C.Y.
NORTH EMBANKMENT REMOVAL	4,055	0
SOUTH EMBANKMENT REMOVAL	6,016	0
FENCE BERM REMOVAL	4,040	0
CHANNEL EXCAVATION	200	0
NORTH EMBANKMENT SWALES	0	5,339
NORTH PIT	0	4,047
SOUTH PIT	0	3,733
WEST PIT	0	524
STOCK PILE	0	668
TOTAL	14,311	14,311

GENERAL NOTE: BEFORE THE START OF CONSTRUCTION, THE OWNER OF ANY UTILITIES INVOLVED MUST BE NOTIFIED. THE EXCAVATOR/CONTRACTOR IS RESPONSIBLE FOR GIVING THIS NOTICE BY CALLING THE UTILITY'S HOTLINE AT (800) 331-5666 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

BORROW AREA NOTE: SUITABLE MATERIAL FOR ALL PIT FILLS SHALL BE OBTAINED FROM THE CHANNEL. EXCAVATED EMBANKMENT REMOVALS AND FENCE BERM REMOVALS, IF MATERIAL WOULD SHOWN DESIGNATED ADDITION BORROW AREAS MAY BE USED. CARE SHALL BE TAKEN NOT TO OPEN UP ANY SAND LODES THAT WILL INCREASE SEepage FROM ANY EXCAVATION AREAS. PRIOR TO EXCAVATING ADDITIONAL BORROW AREAS, 4" OF TOP SOIL WILL BE STRIPPED AND STOCKPILED IN A NON-IMPLOD AREA. FINISHED SLOPES SHALL BE 10:1 OR FLATTER AND 4" OF TOPSOIL SHALL BE RESPAREAD OVER THE SLOPE. THE TOPT OF TOPSOIL WORK ON THE ADDITION BORROW AREAS SHALL BE COVERED INCIDENTALLY TO SITE PREPARATION.

SEEDING AND MULCHING NOTE: THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN ADEQUATE SEED BED TO ALLOW SEEDING WITH STANDARD SEEDING EQUIPMENT. THIS WILL INCLUDE USE OF A BARRAGE OR OTHER MEANS IN ORDER TO LEAVE A SMOOTH, TRACE-FREE FINISH. BACK DRAGGING WITH A DOZER IS NOT AN ACCEPTABLE FINISH.

ABBREVIATING LIST

- B/C = BUILDING CORNER
- BR = BRIDGE
- BTM = BOTTOM
- CL = CENTER LINE
- CP = CORRUGATED METAL PIPE ARCH
- CPA = CORRUGATED METAL PIPE ARCH
- CONG. = CONCRETE
- CR = CURB
- E = EXISTING COORDINATE OR EAST
- ELEV. = ELEVATION
- EMR = EMBANKMENT
- EMW = EDGE OF PROJECT
- EX = EXISTING
- EXST. = EXISTING
- FD = FILL/DIG SECTION
- FI = FENCE
- GL = GRADE
- G.W. = GUT WIRE
- HW = HATCH
- LAT = LATITUDE (NAD83)
- LONG = LONGITUDE (NAD83)
- L.F. = LINEAL FEET
- MISC. = MISCELLANEOUS
- N = NORTHING COORDINATE OR NORTH
- NPS = NON-PLANNED END SECTION
- O.C. = ON CENTER
- O.C.E.W. = ON CENTER EACH WAY
- ONE = OVERHEAD ELECTRIC
- P.I. = POINT OF INTERSECTION
- P.I. = POINT OF INTERSECTION
- P.T. = POINT OF TANGENCY
- RCP = REINFORCED CONCRETE PIPE
- RD = ROAD
- RMA = REMOVE
- REGD. = INCLUDE
- R.O.W. = RIGHT OF WAY
- S = SOUTH
- SEC. = SECTION
- SHD. = SHOULDER
- SLP. = SLOPE
- STICL. = STIPPLES
- STR. = STRUCTURE
- TEL. = TELEPHONE/COMMUNICATIONS
- UG = UNDERGROUND
- V = VEGETATION
- W = WEST OR WEST
- WCS = WATER CONTROL STRUCTURE
- WL = WATER LEVEL
- WS = WATER SHOT

NOTE: NOT ALL ABBREVIATIONS IN THE LIST APPEAR ON THE SHEET

NOTE: PARKING AREA LOCATED 0.5 MILES SOUTH OF THE INTERSECTION
 SURVEY CONTROL POINT
 01-316-2015
 2" ALLOWANCE CAP ON #6 REBAR



- GENERAL NOTE:**
- ONE FOOT CONTOUR INTERVAL SHOWN.
 - 2014 1 METER RESOLUTION AERIAL IMAGERY IS SHOWN.
 - ITALICIZED TEXT DENOTES EXISTING FEATURES OR EXISTING ELEVATION.
 - SPOT ELEVATIONS INDICATED BY + SYMBOL ARE RANDOMLY LOCATED AND ARE BASED ON SURFACE MODEL ELEVATIONS.

OVERALL PLAN VIEW
 SCALE 1"=300'

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HORIZONTAL AND VERTICAL CONTROL (SPS SOLUTION) COORDINATES ARE UTM ZONE 14 (SPS) COORDINATES IN US FEET (DMS). THEY WERE ESTABLISHED FROM THE NAD83 DATUM WITH INFORMATION FROM A TRIMBLE R10 SURVEY GRADE GPS RECEIVER ON SEPTEMBER 30, 2015 AT DUCKS UNLIMITED CONTROL POINT DU-316-10 AND DUCKS UNLIMITED CONTROL POINT DU-316-15 AND DUCKS UNLIMITED CONTROL POINT DU-316-20.

Terrace removal

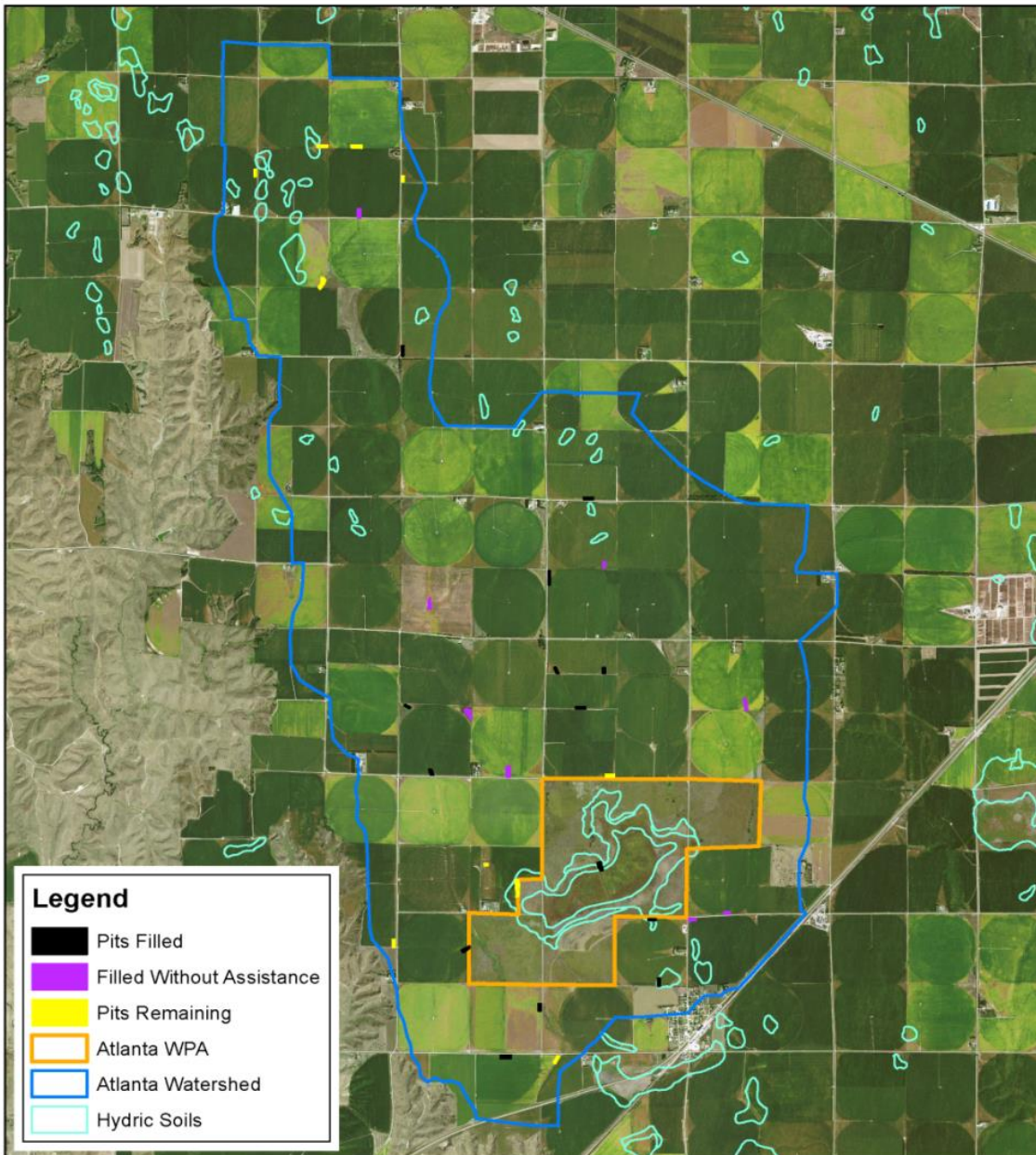
- 7.15 miles removed



Irrigation Reuse Pit Fills in the Watershed

- 37,800 cubic yards were removed from the WPA to fill irrigation reuse pits
- 2 pit fills were funded as part of a Watershed Restoration Initiative grant (NET 13-119)
- 11 pit fills in the watershed and 2 on the WPA were grant-funded
- Technical assistance was provided to additional landowners who were interested in filling their pits, 8 additional pits.

Total: 21 pit fills



0 0.475 0.95 1.9 2.85 Miles



- Increased runoff into the wetland by 97.3 acre feet
- Equivalent to 22 days of pumping
- Savings of \$7,400 each year



2018 PFW Project with Neighbor (to the West)

- Goal: Restore 12 acres of wetlands on private land, and 25 acres of wetlands on the WPA
- Remove trees from pit, shave down terraces
- Excavate sediment from hydric soils (16,403 cubic yards)
- 2 Pit fills
- Landowner installed new pivot tires to minimize impact to the wetland



Water Infrastructure Improvements

- Diesel well replaced with high-capacity electric submersible well
- Underground pipe from the well to the wetland soon to be installed!
- Improved ability to provide seasonal flooding to the basin



Grazing Infrastructure





Alone we can do so little, together we can do so much.
(Helen Keller)

We Thank Our Partners

