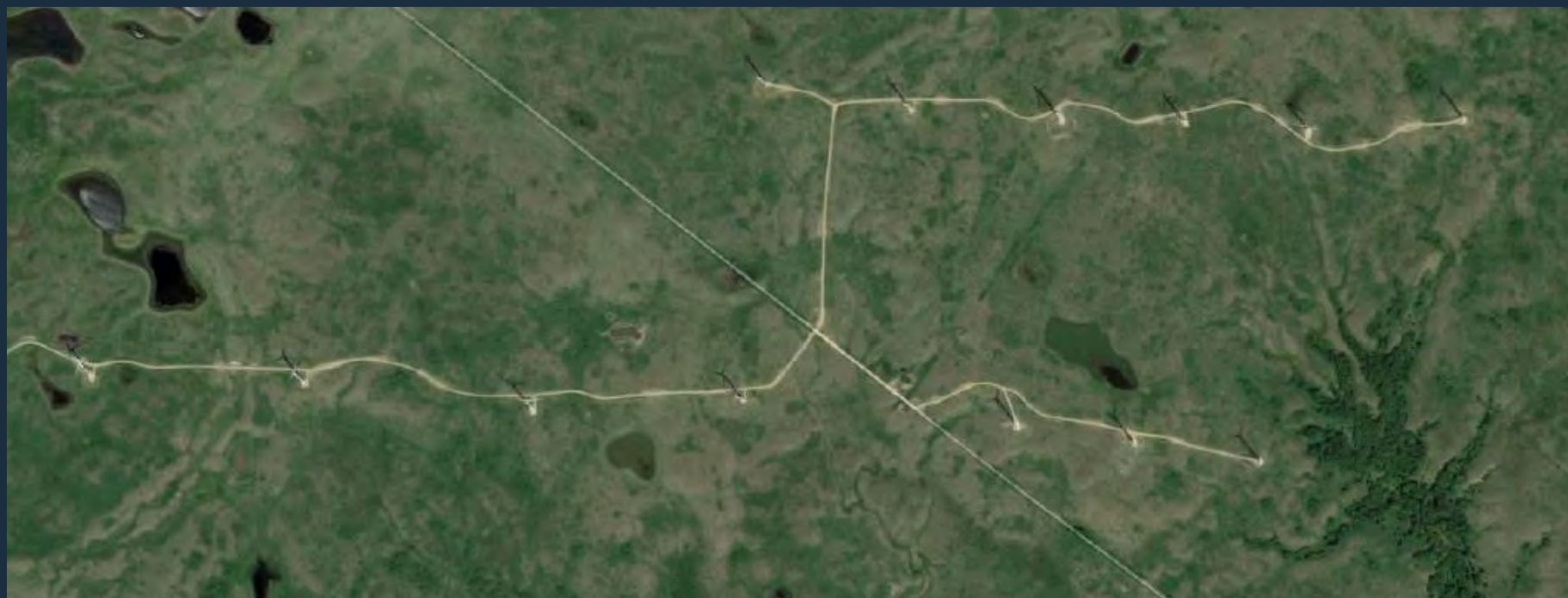
Indirect Impacts: Avoidance/Displacement

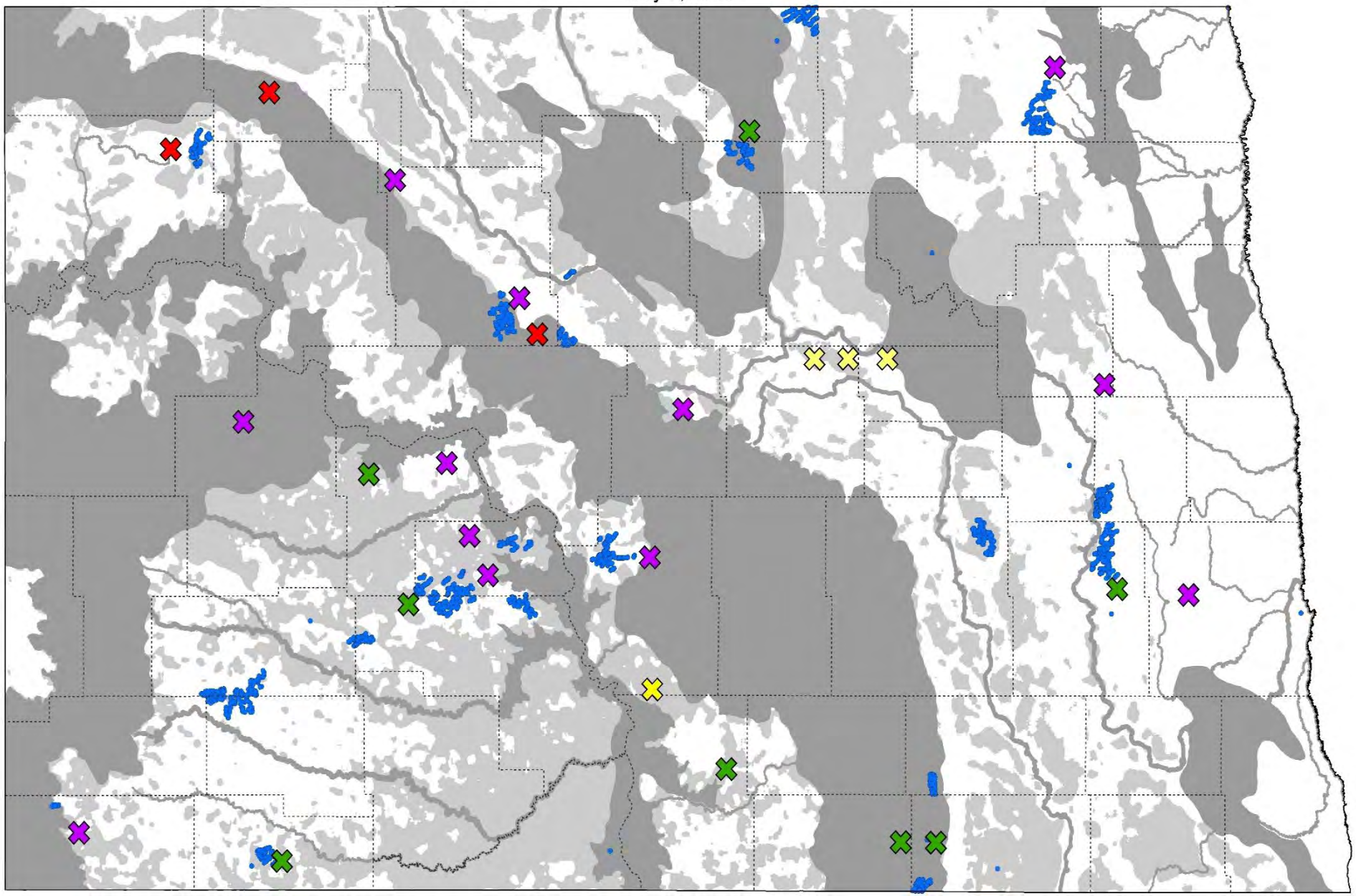
- Pertinent Studies in North Dakota
  - *Shaffer and Buhl. 2015. Effects of wind-energy facilities on breeding grassland bird distributions. Conservation Biology. 30(1): 59-71.*
  - *Significant displacement was observed for 7 species (Bobolink, Upland Sandpiper, Savannah Sparrow, Clay-colored Sparrow, Western Meadowlark, Chestnut-collared Longspur, and Grasshopper Sparrow) up to 300 meters from turbines.*



Indirect Impacts: Avoidance/Displacement

- Pertinent Studies in North Dakota
  - *Loesch et al. 2013. Effects of Wind Energy Development on Breeding Duck Densities in the Prairie Pothole Region. The Journal of Wildlife Management 77(3): 587-598.*
  - *20% fewer ducks were found breeding within a half mile of wind turbines.*

Current and Proposed Wind Farms in North Dakota Key Native Wildlife and Habitat Areas
May 1, 2019



"Waiter!
This broth tastes spoiled!"

Timeline

- **May 31, 2018:** comments due on the draft guidelines
  - *Industry top concerns:*
    - The process was not collaborative
    - Indirect impacts should not be included
    - Science is not good
    - NDGF lacks legal authority to promulgate guidelines
- **June- July, 2018:** NDWWC expands
  - *Every energy entity & Agriculture Interest Group now wants a seat at the table…*
- **July 27, 2018:** North Dakota Game and Fish Department has decided to put on hold the development of mitigation measures for wind energy.
- **August 14, 2018:** NDGF called to testify at Energy Development and Transmission Interim Committee
  - *We will still provide consultation with wind developers*
  - *We will still provide PSC with assessment of potential impacts to habitats for rare and declining wildlife*

Timeline

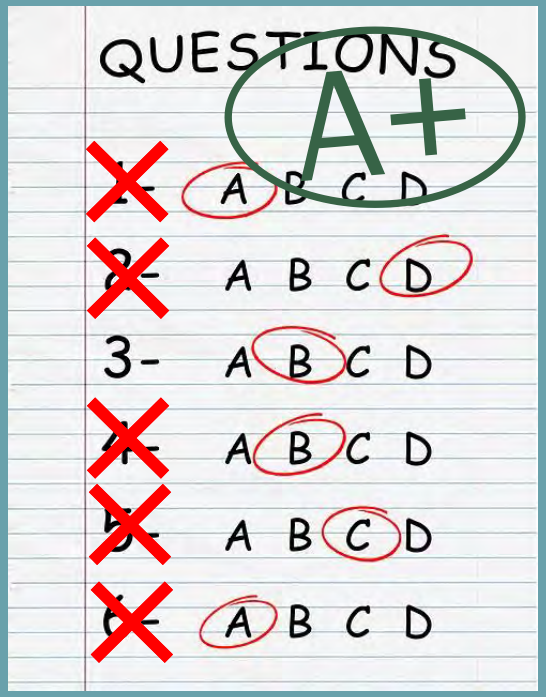
- **October, 2018:** Involvement of USFWS switched from the North Dakota area office to the South Dakota area office.
- **October, 2018 - Current:** Business as usual… with much more support.
  - *NDGF and USFWS now in lock step.*
  - *PSC continuing to seek input from both agencies on wildlife impacts of wind development.*
- **February 2019:** New legislation introduced regarding wind energy developments and mitigating negative impacts.

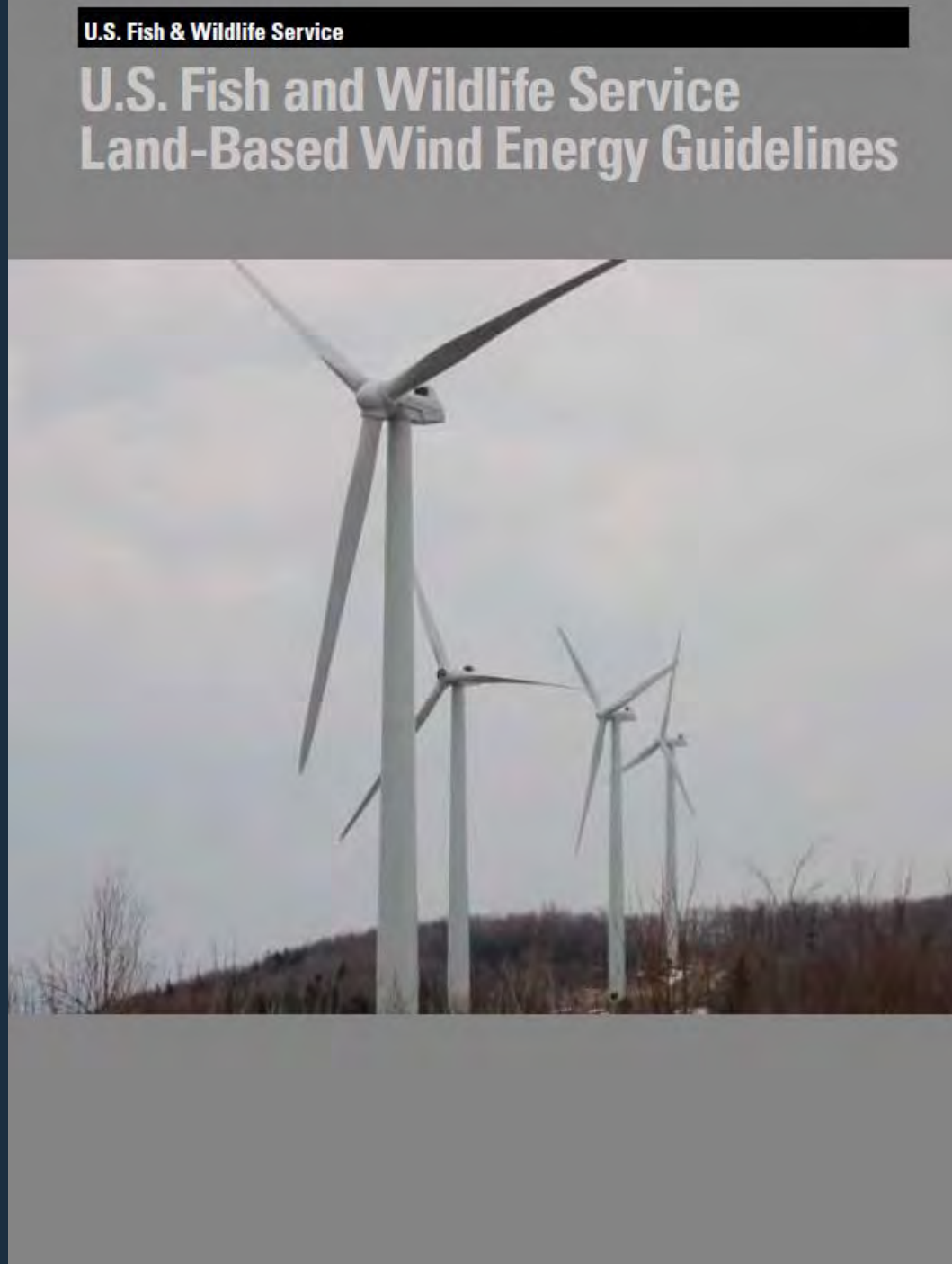
2019 Legislation

- The commissioner, who shall serve as the chairman
- The governor or the governor's designee
- The majority leader of the house of representatives, or the leader's designee
- The majority leader of the senate, or the leader's designee
- One member of the legislative assembly from the minority party, selected by the chairman of the legislative management
- One individual appointed by the lignite energy council
- One individual appointed by the North Dakota corn growers association
- One individual appointed by the North Dakota grain growers association
- One individual appointed by the North Dakota petroleum council
- One individual appointed by the North Dakota soybean growers association
- One individual appointed by the North Dakota stockmen's association
- One individual appointed by the North Dakota farm bureau
- One individual appointed by the North Dakota farmers union
- The chairman of the public service commission or the chairman's designee
- The state engineer or the state engineer's designee
- The director of the department of transportation, or the director's designee
- One representative of an investor - owned utility company
- One representative from the North Dakota association of rural electric cooperatives
- Two individuals from the energy community appointed by the commissioner
- The director of the game and fish department, or the director's designee
- The director of the department of environmental quality, or the director's designee

LESSONS LEARNED

If a developer is given the opportunity to score themselves, they will always get a passing grade.





United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services

3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

IN REPLY REFER TO:
2018-CPA-0037

The project is still located in an area of high resource value, and significant impacts to those resources are still anticipated, with no mitigation plan in place to offset those resource impacts. Thus, the Service continues to recommend relocation of this project to an area with fewer natural resources. If development at this location is pursued, a robust mitigation plan is needed to avoid, minimize, and compensate for direct

We reiterate the importance of the following comments provided by the NDGFD…

We reiterate the importance of the following comments provided by the NDGFD in their response letter to this project dated May 22, 2018, specifically: "*the proposed project area is some of the "best of the best" prairie-wetland habitat in North America*", and "*Native prairie is the most endangered habitat type in North Dakota and, as a grassland state, the majority of our native wildlife species are linked to prairie. Disturbance, fragmentation, and loss of native prairie have adversely impacted a wide variety of species and these negative impacts will only continue to compound as more development takes place on the landscape.*"

It is critical for wildlife agencies (and conservation partners) to be in agreement.

Stay rooted in the science

The Journal of Wildlife Management; DOI: 10.1002/jwmg.481

Research Article

Effect of Wind Energy Development on Breeding Duck Densities in the Prairie Pothole Region

CHARLES R. LOESCH,[1] *Habitat and Population Evaluation Team, U.S. Fish and Wildlife Service, 3425 Miriam Avenue, Bismarck, ND 58501, USA*
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RONALD E. REYNOLDS,[2] *Habitat and Population Evaluation Team, U.S. Fish and Wildlife Service, 3425 Miriam Avenue, Bismarck, ND 58501, USA*
JEFFREY S. GLEASON,[3] *Kulm Wetland Management District, U.S. Fish and Wildlife Service, 1 First Street SW, Kulm, ND 58546, USA*
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SCOTT E. STEPHENS,[4] *Great Plains Regional Office, Ducks Unlimited, 2525 River Road, Bismarck, ND 58503, USA*
MICHAEL A. ERICKSON, *Kulm Wetland Management District, U.S. Fish and Wildlife Service, 1 First Street SW, Kulm, ND 58546, USA*

ABSTRACT Industrial wind energy production is a relatively new phenomenon in the Prairie Pothole Region and given the predicted future development, it has the potential to affect large land areas. The effects of wind energy development on breeding duck pair use of wetlands in proximity to wind turbines were unknown. During springs 2008–2010, we conducted surveys of breeding duck pairs for 5 species of dabbling ducks in 2 wind energy production sites (wind) and 2 paired reference sites (reference) without wind energy development located in the Missouri Coteau of North Dakota and South Dakota, USA. We conducted 10,338 wetland visits and observed 15,760 breeding duck pairs. Estimated densities of duck pairs on wetlands in wind sites were lower for 26 of 30 site, species, and year combinations and of these 16 had 95% credible intervals that did not overlap zero and resulted in a 4–56% reduction in breeding pairs. The negative median displacement observed in this study (21%) may influence the prioritization of grassland and wetland resources for conservation when existing decision support tools based on breeding-pair density are used. However, for the 2 wind study sites, priority was not reduced. We were unable to directly assess the potential for cumulative impacts and recommend long-term, large-scale waterfowl studies to reduce the uncertainty related to effects of broad-scale wind energy development on both abundance and demographic rates of breeding duck populations. In addition, continued dialogue between waterfowl conservation groups and wind energy developers is necessary to develop conservation strategies to mitigate potential negative effects of wind energy development on duck populations. © Published 2012. This article is a U.S. Government work and is in the public domain in the USA.

KEY WORDS *Anas discors*, *A. platyrhynchos*, blue-winged teal, breeding population, mallard, Prairie Pothole Region, wind energy development, wind turbines.

Millions of glaciated wetlands and expansive grasslands make the Prairie Pothole Region (PPR) the primary breeding area for North America's upland nesting ducks (Batt et al. 1989). Wetland and grassland loss in the PPR due to settlement and agriculture has been extensive (Dahl 1990, Mac et al. 1998), and conversion to agriculture continues to reduce available habitat for breeding waterfowl and other wetland- and grassland-dependent birds (Oslund et al. 2010, Claassen et al. 2011). During recent years, anthropogenic impacts in the PPR have expanded to include energy development (e.g., wind, oil, natural gas; see Copeland et al. 2011: table 2.1). From 2002 to 2011, industrial wind energy production has increased 1,158% (i.e., 769–9,670 MW), 205% during the past 5 years (United States Department of Energy [USDOE] 2011). Impacts from wind energy development including direct mortality from strikes and avoidance of wind towers and associated infrastructure have been widely documented for many avian species, including raptors, passerines, upland gamebirds, shorebirds, and waterfowl, as well as bats (Drewitt and Langston 2006; Arnett et al. 2007, 2008; Kuvlesky et al. 2007).

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Additional supporting information may be found in the online version of this article.

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DON’T WASTE YEARS ON AN UNSUCCESSFUL COLLABORATIVE EFFORT.

…but if you do go the collaborative route,
choose wisely who all has a seat at the table.

There needs to be a more concerted effort to educate the public nation-wide.

[redacted]
They sure weren't concerned when the oil drilling and pipelines started now they want to act concerned? Ok sure

13h Like Reply 2

[redacted]
But oil rigs their good👷 takes a special kinda of stupid.

1h Like Reply 1

[redacted]
Environmental impact? What, do they think it's going to stop the wind? Sounds more like someone on the PSC got paid.

15h Like Reply 4

[redacted]
Because coal and oil don't impact the environment... really?

18m Like Reply

[redacted]
Never mind the fragmentation of wildlife habitat from the 15300 well pads, or the pending 50k wells that are planned! What a joke! Build a refinery on the buffer zone of a National Park, dont do any wildlife impact studies for any of that though!

21h Like Reply 9

PROGRESS

During our discussion on February 26, 2019, our consulting team of Atwell, WEST, and AECOM outlined our methods and rationale, including our use of best available science as referenced by the NDGFD and the U.S. Fish and Wildlife Service (USFWS) in recent correspondence. We confirmed that both direct and indirect impacts were considered, discussed methods for addressing impacts to native prairie or grasslands regardless of patch size, and discussed potential mechanisms to implement conservation actions funded by the voluntary offset package. At the end of our discussion, NDGFD requested additional information on our methods for deriving the voluntary offset package and additional detail regarding potential valuation approaches including restoration and reconstruction.

- June 20, 2018: NDWWC meeting Xcel Energy said the science is not good enough and if indirect impacts were to be discussed, industry would walk away from the collaborative.
- March 5, 2019: NextEra provides an offset package for both direct and indirect impacts for a project sited in an extremely resource rich area.

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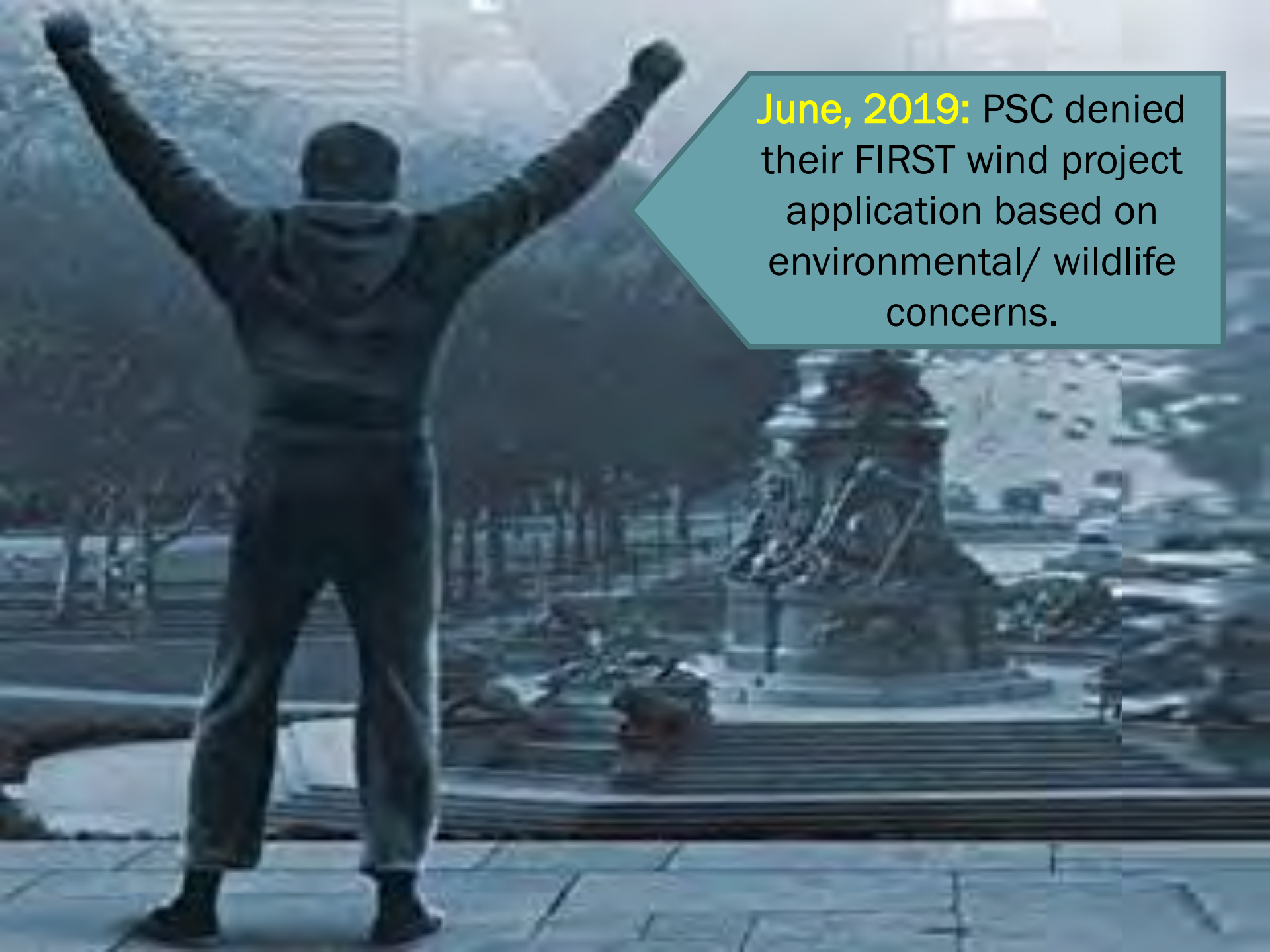
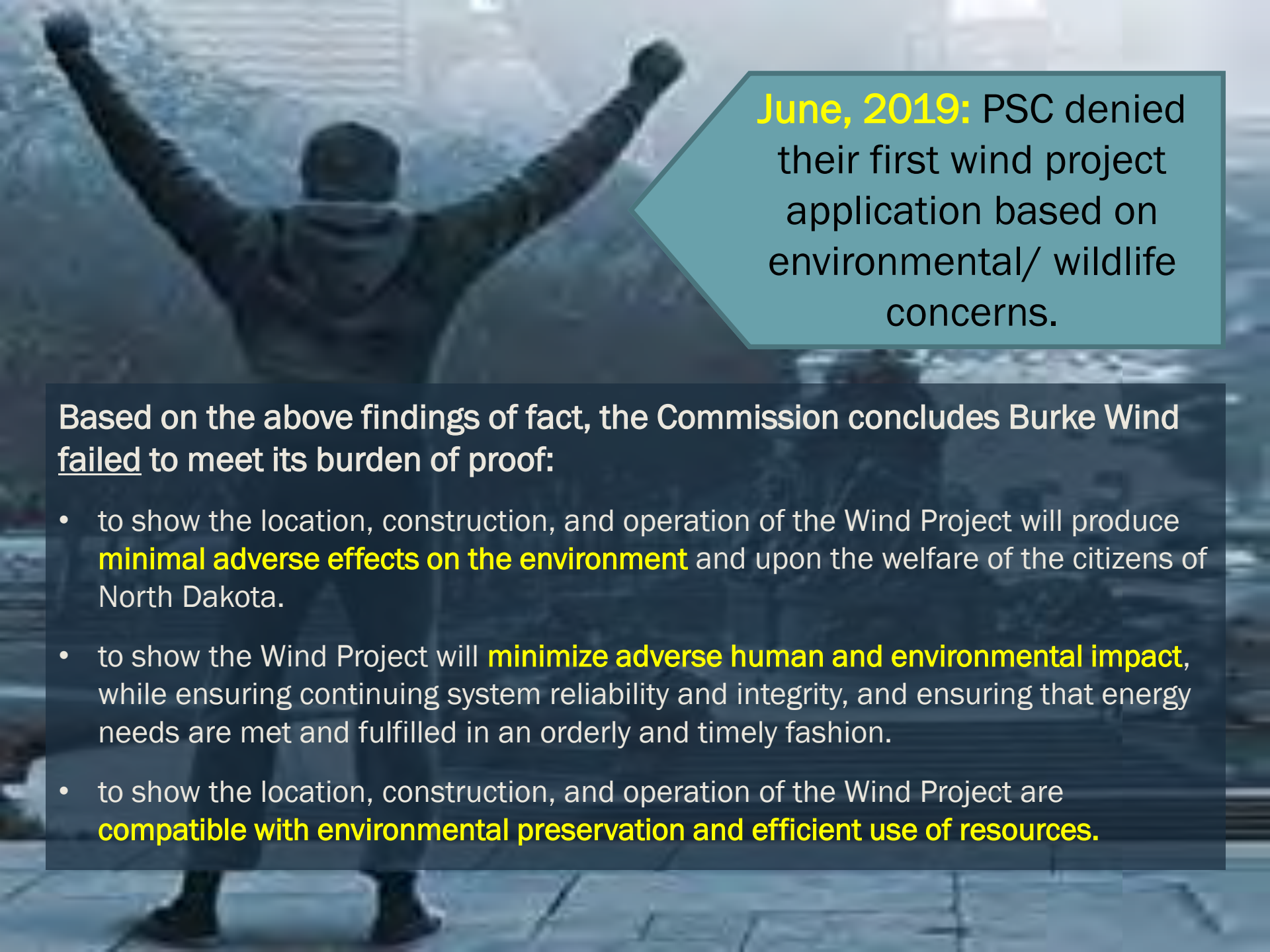

June, 2019: PSC denied their FIRST wind project application based on environmental/ wildlife concerns.



June, 2019: PSC denied their first wind project application based on environmental/ wildlife concerns.

Based on the above findings of fact, the Commission concludes Burke Wind failed to meet its burden of proof:

- to show the location, construction, and operation of the Wind Project will produce **minimal adverse effects on the environment** and upon the welfare of the citizens of North Dakota.
- to show the Wind Project will **minimize adverse human and environmental impact**, while ensuring continuing system reliability and integrity, and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.
- to show the location, construction, and operation of the Wind Project are **compatible with environmental preservation and efficient use of resources.**


Questions?