

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET NO. HP22-002

**IN THE MATTER OF THE APPLICATION of NAVIGATOR HEARTLAND
GREENWAY, LLC FOR A PERMIT UNDER THE SOUTH DAKOTA ENERGY
CONVERSION AND TRANSMISSION FACILITIES ACT TO CONSTRUCT THE
HEARTLAND GREENWAY PIPELINE IN SOUTH DAKOTA**

Direct Testimony of Hilary Morey
On Behalf of the Staff of the South Dakota Public Utilities Commission
May 25, 2023

1 **Q: State your name.**

2 A: Hilary Morey

3

4 **Q: State your employer.**

5 A: State of South Dakota, Department of Game, Fish, and Parks

6

7 **Q: State the program for which you work.**

8 A: Division of Wildlife, Terrestrial Resource Section

9

10 **Q: State the program roles and your specific job with the department.**

11 A: The role of the Terrestrial Resources section is to study, evaluate, and
12 assist in the management of all wildlife and associated habitats in South
13 Dakota. Management includes game and non-game wildlife populations,
14 habitat management on public lands and technical assistance and habitat
15 development on private lands, population and habitat inventory, and
16 environmental review of local and landscape projects. As the
17 environmental review senior biologist, I coordinate reviews of various
18 development projects within the state of South Dakota to assist
19 developers with compliance with state wildlife laws and to serve as
20 stewards of our state's outdoor resources.

21

1 **Q: Explain the range of duties you perform.**

2 A: Duties include coordinating environmental review evaluations related to
3 terrestrial and aquatic wildlife and associated habitats and drafting
4 responses with department staff for projects. I also represent the
5 Department on state and national committees. I am a co-principal
6 investigator on two State Wildlife Grants that are researching the effects of
7 wind energy development on species of greatest conservation need. I also
8 assist in field work and wildlife surveys where needed. My resume is
9 attached as Exhibit_HM-1.

10

11 **Q: On whose behalf was this testimony prepared?**

12 A: This testimony was prepared at the request of staff at the South Dakota
13 Public Utilities Commission.

14

15 **Q: What role does the Department of Game, Fish and Parks have in the**
16 **permitting process of a pipeline project?**

17 A: Game, Fish and Parks has no regulatory authority when it comes to
18 permitting of pipeline projects. The agency's role is to consult with
19 developers and provide wildlife survey data, spatial data, peer reviewed
20 literature, and recommendations on how to minimize or avoid potential
21 impacts to wildlife and associated habitats to enable developers to make
22 informed decisions related to natural resources.

23

1 **Q: Have you reviewed the Application and attachments? How else did**
2 **you learn details around the proposed project?**

3 A: Yes, I have reviewed relevant sections of the application and attachments.
4 GFP was first contacted by the developer in October 2021 regarding the
5 Navigator Heartland Greenway (NHG) pipeline.

6

7 **Q: Did GF&P provide comments and recommendations to Navigator**
8 **Heartland Greenway about the project area? Please identify who**
9 **provided those comments and provide a brief summary of them.**

10 A: GFP was initially contacted in October 2021 via a project submission to
11 our online environmental review tool, which provides information related to
12 wildlife and wildlife resources that may be present within a project area.
13 In January 2022, GFP met with wildlife consultants for NHG and
14 discussed potential wildlife species and habitat that may be present within
15 the project area based on the project footprint submitted to the
16 environmental review tool. I have also discussed project details with other
17 GFP biologists who have specialized expertise related to wildlife species
18 of concern or the project location. GFP and NHG discussed federal and
19 state listed species, potential survey methodology, proposed surveys and
20 timelines. After the meeting with wildlife consultants, GFP provided a siting
21 letter to NHG (Exhibit_HM-2). The siting letter described important wildlife
22 habitats (grasslands, wetlands, etc.), information about rare, endangered
23 or threatened species that could occur in the project area, and

1 recommendations to avoid and minimize impacts to wildlife. GFP was also
2 contacted via a website form submission by Environmental Solutions and
3 Innovations Inc. in December 2021 for a search of the South Dakota
4 Natural Heritage Database for threatened, endangered or sensitive
5 species records in the project area. GFP responded to the request by
6 providing species records within the project area. GFP was again
7 contacted in August of 2022 regarding the addition of two lateral lines
8 (Chancellor and Hudson) to the larger project area. NHG requested a
9 Natural Heritage Database search for the additional project area, and GFP
10 provided species records as well as a siting letter for the updated project
11 area (Exhibit_HM-3) in September of 2022. Information and
12 recommendations in the second siting letter sent in September of 2022
13 were similar to those included in the first siting letter referenced above.

14

15 **Q: Are there any sensitive wildlife areas crossed by the project?**

16 A: Yes. The NHG pipeline project crosses several waterbodies (streams,
17 rivers and wetlands), some of which are known to be occupied by the
18 federally endangered Topeka Shiner, areas of native prairie and
19 potentially suitable habitat for the state endangered lined snake. The
20 proposed pipeline route is also near Pallasades State Park (owned and
21 managed by SDGFP), the Aurora Prairie Property owned and managed by
22 The Nature Conservancy, as well as some Natural Resource

1 Conservation Service easement properties along the Big Sioux River near
2 Egan, SD.

3

4 Grasslands (particularly untilled native prairie) are of high
5 conservation value in South Dakota. Approximately 70% of the native
6 mixed-grass prairie has been lost in eastern South Dakota, and
7 approximately 32% has been lost in western South Dakota (Wright and
8 Wimberly 2013, Bauman et al. 2016). Across the Great Plains Region, it's
9 estimated that less than 5% of original tallgrass prairie remains intact
10 (Samson et al. 2004). A majority of the potentially undisturbed grasslands
11 in the project boundary occur near water bodies, particularly in and around
12 riparian areas.

13

14 A number of small streams and rivers are proposed to be crossed by the
15 NHG project. Installation of the NHG pipeline could temporarily impact
16 streams and wetlands where open trench installation will be used. NHG
17 proposes to restore any impacts to waterbodies where open trench
18 installation will be used.

19

20 **Q: Did GFP provide any recommendations to NHG on ways to avoid or**
21 **minimize impacts to wildlife and habitat impacts from construction of**
22 **the project? If yes, what were those recommendations?**

23

1 Yes, GFP provided recommendations in letters addressed to the applicant
2 (exhibit_HM-2 and exhibit_HM-3), as well as via email correspondence.
3 The primary recommendations were to route the pipeline and associated
4 infrastructure in previously disturbed areas (e.g. existing ROW), minimize
5 fragmentation, and utilize existing infrastructure. GFP further provided
6 recommendations to horizontally directional drill under streams that may
7 be occupied by the federally endangered Topeka Shiner, and
8 recommendations to minimize impacts to state endangered Lined Snakes.

9

10 **Q: Based on the information provided in the Application, in your opinion**
11 **does the environmental survey work completed or in process of**
12 **being completed by Navigator properly identify potential impacts to**
13 **the terrestrial and aquatic environment?**

14 A: Proper wildlife surveys are important for determining if sensitive wildlife
15 habitats and/or protected species may be present within a project area,
16 and what potential avoidance, minimization or mitigation measures may
17 be needed to avoid impacts to those species (e.g. seasonal timing
18 restrictions for construction near eagle nests, tree removal outside of the
19 bat active season). NHG completed the proper desktop analysis to identify
20 potential sensitive and protected species present in the project area, as
21 well as identification of potential waterbodies and important wildlife
22 habitats within the project area.

23

1 Based on applicants' response to PUC staff's data requests, wildlife
2 survey work is pending for: bat acoustic surveys, eagle and raptor nest
3 surveys, Dakota Skipper habitat assessment survey and pollinator habitat
4 assessment survey. The applicant indicated that survey work is
5 anticipated to conclude in June of 2023. The list of proposed
6 species/species groups to be surveyed is appropriate; however no survey
7 methods were provided to GFP for review. It is our understanding that
8 Navigator is consulting with the US Fish and Wildlife Service on these
9 surveys and proper methodology.

10

11 At the time of filing of this testimony, one round of Lined Snake
12 presence/absence surveys has been completed (Fall 2022) with a second
13 round of surveys proposed for spring of 2023. GFP had the opportunity to
14 review and concur with the proposed survey methods for lined snakes in
15 2022 and 2023. The methodology that was proposed by NHG was
16 appropriate. Survey effort in 2022 for Lined Snake was very limited as
17 NHG did not have permission to survey for Lined Snakes on 11 of 15 sites
18 identified to contain potentially suitable habitat. In the absence of access
19 to private properties for lined snake surveys, GFP is presuming the
20 presence of lined snakes at the 11 un-surveyed sites identified in 2022
21 NHG Lined Snake Survey Report for the purpose of adopting avoidance
22 and minimization measures related to lined snakes.

23

1 **Q: What are the potential impacts to terrestrial wildlife and terrestrial**
2 **wildlife habitat as a result of the construction of a pipeline project?**

3 A: Potential impacts to wildlife associated with construction of the proposed
4 project could include habitat loss (temporary and permanent), alteration
5 and fragmentation of habitat. Some species of wildlife (e.g. fossorial or
6 ground dwelling) could potentially be crushed during ground disturbing
7 activities. Some bird species (e.g. raptors, eagles, waterfowl etc.) could be
8 disturbed by construction activity during sensitive life stages such as the
9 nesting and fledging periods.

10

11 Permanent habitat loss can occur from construction of access roads,
12 buildings, launcher/receiver sites and mainline valves. This is often a small
13 percent of the total project acreage. Temporary habitat loss occurs when
14 habitat is disturbed for a time during construction of the pipeline but is
15 restored after construction. Habitat fragmentation is the division of a block
16 of habitat into smaller, and at times into isolated patches. Habitat
17 fragmentation can decrease the overall value of the remaining habitat.
18 Identification and avoidance of contiguous blocks of habitat, especially in
19 altered landscapes, is an important component of grassland and wetland
20 bird conservation (Bakker 2020).

21

22 **Q: Can you suggest methods to address temporary and permanent**
23 **changes to terrestrial habitat?**

1 A: Temporary impacts to terrestrial habitat resulting from construction
2 activities likely can be reclaimed by restoring impacted areas by grading
3 and reseeding. We had previously provided the applicant with a
4 publication titled “Best Management Practices Guide for Restoration of
5 Native Grasslands and Sensitive Sites Resulting from Energy or Industrial
6 Development” (Bauman 2020) for their consideration in project planning
7 and referenced it in our October 2022 siting letter. In general, disturbed
8 areas should be restored using native seed sources to reduce the
9 introduction of new or discourage encroachment of already present exotic
10 and/or invasive species. Above ground, permanent facilities should be
11 sited in areas that have been previously disturbed.

12

13 **Q: Are there different types of grasslands?**

14 A: Yes.

15

16 **Q: Please describe the following: native prairie, hayland, pasture, CRP,
17 and cropland.**

18 A: Grasslands are areas that contain plant species such as graminoids and
19 are commonly used for grazing or set aside for conservation purposes.
20 They can also be areas which are planted to a mixture of grasses and
21 legumes for livestock grazing or feed. Native prairie is grassland upon
22 which the soil has not undergone a mechanical disturbance associated
23 with agriculture or any other type of development. Hayland is grassland

1 that is managed by frequent mowing and often contains non-native plant
2 species either intentionally or by encroachment. Pasture is grassland that
3 may contain non-native plant species either intentionally or by
4 encroachment and is managed through grazing. In some instances,
5 hayland and pasture could be native prairie; in other situations, hayland
6 and pasture could be land once cultivated and restored to grassland
7 habitat. Conservation Reserve Program acres (CRP) can be protection of
8 existing grassland or grassland that occurs on land that was once tilled
9 and used for crop production and has now been seeded to herbaceous
10 cover. The CRP program is intended to address soil loss, water quality,
11 and provide wildlife habitat. Cropland could be described as agricultural
12 lands cultivated and used to grow crops such as corn, soybeans, small
13 grains, and others.

14

15 **Q: Are there any areas of native prairie in the proposed project?**

16 A: Yes. Spatial analysis conducted by Bauman et al. (2016) has identified
17 potentially undisturbed lands within the proposed project, particularly in
18 riparian areas across the project. Bauman et al. (2016) is one of the best
19 available spatial data sets representing the location of untilled native
20 grasslands.

21

22 **Q: Do grasslands other than native prairie have conservation value?**

1 A: Yes. Working grasslands like pasture, hayland, and conservation
2 grassland plantings (e.g. CRP plantings) serve as surrogates for native
3 grasslands. Some grassland dependent species (prairie grouse, Baird's
4 sparrow, Northern Harriers) require grassland patches with relatively tall
5 (12 inches or more) vegetation and accumulation of residual litter
6 characterized by light grazing pressure. Other species (Ferruginous
7 Hawks, Burrowing Owl, Chestnut-collared Longspur) require open
8 expanses of grasslands characterized by short vegetation that is typical of
9 moderate to heavy grazing pressure. Sprague's Pipit, Long-billed Curlew,
10 Bobolink and Dickcissel require grasslands with moderate grass heights
11 and periodic disturbance from grazing, mowing or prescribed fire (Johnson
12 et al. 2010, Bakker 2005, Shaffer and DeLong 2019). Although various
13 patches of grassland habitat can appear in "better" or "worse" condition
14 based on vegetation height and plant species composition, GFP considers
15 all grassland habitat as important for wildlife based on the information
16 presented above. Grassland birds have evolved with a gradation of
17 grazing intensities. Grassland wildlife diversity can be maximized by
18 creating a heterogeneous landscape comprised of short, medium and tall
19 vegetation structures. Grazing (haying and burning) management can
20 provide this variation in vegetative structure.

21

22 **Q: One of the GF&P's recommendations was that efforts should be**
23 **made to avoid siting the project in grasslands, especially untilled**

1 **native prairie. Based on the information in the Application and the**
2 **proposed project route, did Navigator demonstrate efforts to address**
3 **this recommendation? Please explain.**

4 A: It appears that the majority of the proposed project will be sited in
5 previously disturbed areas (e.g. cropland). However, at the time of filing of
6 this testimony, the exact location of access roads, mainline valves and any
7 other associated infrastructure is not available for review.

8

9 **Q: Are there any areas of large (> 160 acre) contiguous grassland**
10 **habitat in the proposed project?**

11 A: No.

12

13 **Q: If the final project route changed from that provided in the**
14 **application, could the potential terrestrial environment impacts**
15 **change?**

16 A: Yes.

17

18 **Q: What are the potential impacts to aquatic wildlife and aquatic wildlife**
19 **habitat as a result of the construction of a pipeline project?**

20

21 A: Impacts to aquatic habitats (streams, lakes, rivers and wetlands) can be
22 temporary or permanent. Temporary impacts from construction of the
23 NHG pipeline project related to open trench installation across a

1 waterbody include: increase in sedimentation, changes in stream bottom
2 elevations, or disturbance to riparian habitats. Temporary impacts from
3 construction of the NHG pipeline project related to horizontal directional
4 drilling across a waterbody could include an unintentional release of
5 drilling fluid into a stream during horizontal drilling. Permanent impacts to
6 aquatic habitats from construction of the NHG pipeline project could
7 include conversion of palustrine forested wetlands and palustrine scrub-
8 shrub wetlands to palustrine emergent wetlands (e.g. permanent change
9 in vegetative community and resulting ecological function of a wetland).

10

11 Aquatic species could be directly impacted by entrainment or impingement
12 during water pumping operations during construction of the NHG pipeline.
13 Aquatic invasive species (in particular zebra mussels) could inadvertently
14 be introduced to a new waterbody in the state by improperly
15 decontaminated construction equipment or improper discharge of water
16 for construction or hydrostatic testing (e.g. run off into a waterbody).

17

18 **Q: Can you suggest methods to address temporary and permanent**
19 **impacts to aquatic habitat?**

20 A: Open trench waterbody crossings should be conducted during periods of
21 low or no flow as much as is practicable and stream bottoms should be
22 returned to pre-construction elevations. GFP also recommends
23 maintaining seasonally appropriate flows as much as is practicable during

1 in-stream construction. To prevent the spread of aquatic invasive species,
2 GFP recommends using the U.S. Bureau of Reclamation Equipment
3 Inspection and Cleaning Manual (located at:
4 [https://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCl](https://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCleaningManual2021.pdf)
5 [eaningManual2021.pdf](https://www.usbr.gov/mussels/prevention/docs/EquipmentInspectionandCleaningManual2021.pdf)).

6
7 A contingency plan should be drafted to outline potential impacts and
8 response to an inadvertent release of drilling fluid for locations where
9 horizontal directional boring will occur. At the time of filing of this
10 testimony, no contingency plan has been provided.

11

12 **Q: If the final project route changed from that provided in the**
13 **application, could the potential aquatic environment impacts**
14 **change?**

15 A: Yes.

16

17 **Q: Do any State threatened or endangered species have the potential to**
18 **be impacted by the NHG project?**

19 A: Yes, the state endangered Lined Snake (*Tropidoclonion lineatum*), could
20 potentially be present within the project area. Lined snakes are a small,
21 fossorial snake species that typically inhabit undisturbed prairies along
22 woodland corridors. This species of snake is primarily nocturnal and can
23 be difficult to observe. Construction of the NHG pipeline could temporarily

1 impact lined snake habitat that is present within the project area. Direct
2 mortality (e.g. crushing) could occur during construction if lined snakes are
3 present within the project area, but were not detected with surveys. At the
4 time of filing this testimony, it is unclear whether above ground facilities
5 associated with the NHG will be constructed in or adjacent to potential
6 lined snake habitat.

7
8 The Topeka Shiner (*Notropis topeka*) a federally listed fish species could
9 also be impacted by construction of the NHG pipeline. The Topeka Shiner
10 is a small-bodied prairie stream fish. These fish typically inhabit mid-sized
11 prairie streams. Within the project area Topeka shiners are known to
12 inhabit: West Pipestone Creek, Brookfield Creek, Big Sioux River, Medary
13 Creek, Split Rock Creek, Beaver Creek, Long Creek and Four Mile Creek.
14 Impacts to Topeka Shiners (and other federally listed species) will be
15 addressed by a Biological Assessment prepared by NHG on behalf of the
16 U.S. Army Corps of Engineers. The Army Corps of Engineers will provide
17 the Biological Assessment to the USFWS for their review and subsequent
18 Biological Opinion. The Biological Assessment was not available to review
19 at the time of filing this testimony.

20

21 **Q: Does GFP have any recommendations on how to avoid, minimize or**
22 **mitigate impacts to listed species from the construction of the NHG**
23 **pipeline project?**

1 A: Yes. GFP recommended that NHG use horizontal directional drilling for
2 any stream crossings where Topeka Shiners could be present. However,
3 as mentioned above, the USFWS has authority over the federally listed
4 Topeka Shiner and mitigation measures will likely be outlined in the
5 biological assessment.

6

7 GFP and NHG collaborated to outline avoidance and mitigation measures
8 related to potential impacts to lined snakes within the project area. As
9 mentioned above, GFP presumes presence of a species where potentially
10 suitable habitat occurs if adequate surveys could not be performed. The
11 following measures were discussed and agreed upon between the two
12 parties:

13

- 14 1. Silt fence will be installed at least one day prior to commencing
15 construction at a site during the lined snake active period (April-October)
16 and remain in-place until construction of that segment of the pipeline is
17 complete, and any excavation is backfilled.
- 18 2. Silt fence will be secured with wooden stakes and the lower edges
19 should be buried to prohibit snakes and other animals from crawling under
20 unsecured fencing.
- 21 3. A permitted wildlife monitor will visually survey the fenced off
22 construction area the morning prior to commencing construction or staging
23 construction materials for any lined snakes that may have emerged in the

1 fenced area. Lined snakes are primarily nocturnal, and could become
2 trapped if they were present prior to exclusion fencing being installed.

3 4. Construction crews and contractors working within the 15 areas
4 identified will be trained on how to identify lined snakes.

5 5. Construction will stop if lined snakes are encountered within the
6 area. The on-site wildlife monitor will remove and relocate lined snakes if
7 they are present within the construction area. Construction can commence
8 once snakes are removed.

9 6. If lined snakes are encountered during construction, GFP requires
10 sightings be reported as stipulated in the wildlife monitor's wildlife
11 collectors permit and threatened and endangered species authorization.
12 GFP also requests a photo voucher if possible.

13 7. We suggest that Navigator not use plastic erosion control mesh in
14 conjunction with silt fencing, as plastic mesh can entangle snakes.

15
16 **Q: Are there any GF&P owned lands or other public lands that may be**
17 **impacted by the project?**

18 A: Based on review of the application materials, it does not appear that any
19 GF&P owned lands will be directly impacted by the project. Pallasades
20 State Park is located near the project, however it does not appear that any
21 part of the construction of this project will impact this property.

22

1 **Q: Does the project route cross any walk-in areas that are open to**
2 **public hunting?**

3
4 A: Based on information provided in the application, one walk-in-area parcel
5 may be impacted by the project. Walk-in-areas are properties that are
6 privately owned and have an agreement with GFP which opens them to
7 free public access for hunting.

8

9 **Q: Does GF&P request Navigator to coordinate closure of walk-in areas**
10 **during construction activities? If yes, how would GF&P like**
11 **Navigator to coordinate closure of those areas.**

12

13 A: Yes. GFP requests that the applicant be required to
14 contact the department at least 60 days prior to the start of construction to
15 coordinate public access to walk-in areas that may be temporarily
16 disrupted due to construction activities. Game, Fish and Parks will then
17 determine if any action is required from our agency to notify the public of
18 any changes to public access. Possible actions by GFP include: updating
19 the public hunting atlas (if notified before May 1st of construction year),
20 updating the public access map in the GFP app and additional signage at
21 affected properties during construction activities. Providing up-to-date
22 information on timing of construction in or near walk-in areas will help
23 ensure the safety of construction crews and hunters.

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Q: You mentioned the applicant requested data from the Natural Heritage Database. What is the South Dakota Natural Heritage database? What type of information does it contain?

A: The South Dakota Natural Heritage database tracks species at risk. Species at risk are those that are listed as threatened or endangered at the state or federal level or those that are rare. Rare species are those found at the periphery of their range, those that have isolated populations or those for which we simply do not have extensive information on.

This database houses and maintains data from a variety of sources including site-specific surveys, research projects and incidental reports of species that cover a time period from 1979 to the present. It is important to note that the absence of data from this database does not preclude a species presence in the proposed project area.

Q: In summary, does GF&P offer any specific permit recommendations should the permit be granted?

A: GFP recommends memorializing the lined snake mitigation measures proposed above in the form of a permit condition.

Q: Does this conclude your testimony?

A: Yes.

1 Literature Cited

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