

**World Wildlife Fund
Northern Great Plains Program**

Comparative Agricultural Economic and Trends Assessment

Request for Proposals

World Wildlife Fund (WWF) is inviting experienced consultants to submit proposals to conduct an agricultural economic and trends assessment with the following two objectives.

1. To develop quantifiable, comparative information on the economics of a range of existing agricultural enterprises and the gap between conservation-compatible enterprises that sustain grasslands versus those that result in conversion to cropland. To identify the strongest performing, conservation compatible (grass-based) enterprises.
2. To identify which agricultural enterprises are expected to change within the next 5 to 20 years across the region, and explore why, where and how the gap between conservation compatible and other enterprises is likely to change in the future.

WWF will use this assessment to inform our strategy for how to conserve grasslands on private lands in the Northern Great Plains at scale.

Proposals must be submitted in accordance with the format described and received no later than February 22, 2019.

Scope of Work

See attached Terms of Reference (TOR). The TOR is intended to be a guideline, and the consultant(s) may suggest alternative approaches. The project will begin as early as March 2019 and be completed by December 2019.

General Evaluation Criteria

Applicants will be evaluated based on the following criteria:

- Expertise and experience/capability related to particular tasks, problems, or issues identified in the Terms of Reference (TOR)
- Previous experience in related fields
- Availability and ability to meet deadlines
- Reputation and references
- Requested fee and price breakdown, as appropriate

Preparation of Proposals

All applications will be evaluated based on the following sections of the proposal:

- | | |
|-----------------------------------|--|
| I. Applicant contact information: | The name and contact information of the applicant (address, phone, and email), date of submission, and the lead person to contact |
| II. Consultant and capabilities: | A brief description of the company and/or consultant(s) who will be responsible for implementing the activities, including examples of previous projects related to agricultural economic modeling. |

- III. Activities and timeline: A clear description of proposed activities to achieve the given objectives, providing a timeline for completion, including expected deliverables.
- IV. Proposed budget: (up to 1 page description, if needed, and budget table) A budget outlining the overall costs of the consultancy. Estimate the budget for each deliverable and include notes that provide a rationale for the fee and expense cost.
- V. References: The contact information for three references. *Note: Additional references may be requested.*

Proposals must be no more than five pages in length, excluding attached CV/resume(s).

Application Submission

Please submit one electronic copy of the proposal by **Feb 22, 2019** to Kellie Rolland at **kellie.rolland@wwfus.org**. In the text of the email, please include the name and contact information of the lead person who will be involved with the application process.

Application Review Process

WWF will select the applicant by mid-March 2019. Notification will be provided to all applicants, regardless of selection.

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Terms of Reference

I. Background and Introduction:

Comprising about 25% of the area of North America's Great Plains, the Northern Great Plains (NGP) is one of the few remaining areas of intact temperate grasslands in the world. This sweeping landscape in the heart of North America is home to 1,595 species of plants and habitat for 300 species of birds, 95 species of mammals and 28 species of reptiles. But populations of several of these unique faunas are experiencing rapid declines due to habitat loss. While more than two-thirds of the NGP's grasslands remain intact, they are threatened by agricultural expansion. About 1.2 million acres, or 0.91% of the area, are converted to cropland annually in the NGP—a rate exceeding conversion of rainforest in the Brazilian Amazon. More conversion is likely, as about 27 million acres, or 21%, of the remaining intact habitat, has soil quality that could sustain crop cultivation under current conditions, and many more acres could be at risk as climate and technology shifts. Climate change is predicted to drive additional conversion in the NGP as crops grown in the southern plains today shift north because of increasing temperatures and water shortages. Heat exhaustion and extreme heat days will also drive livestock agriculture north, increasing competition and the price of land. Overall hotter conditions and increasingly severe weather events will affect the productivity and predictability of ranching and farming.

Native grasslands, which evolved under varying conditions, are a warehouse of diverse plant life that can grow in hot, cold, wet or dry conditions and thus support wildlife and habitat connectivity, grazing animals and human communities. More than 75% of the remaining intact grasslands in the NGP are managed by private landowners as pasture for livestock (Fig. 1); thus, what happens on these private working lands will determine the future of the region and its wildlife.

We know that making a livelihood in ranching is a challenging business - land values are high, beef/feed prices fluctuate, and policies incentivize plow-up. What we seek to know is how conservation-compatible land uses (i.e. ranching) compare economically to non-compatible land uses (i.e. farming) – now, and in the future, in areas that are intact grasslands today (Fig. 1).

II. Objectives:

1. To develop quantifiable, comparative information on the economics of a range of existing agricultural enterprises and the gap between conservation-compatible enterprises that sustain grasslands versus those that result in conversion to cropland. To identify the strongest performing, conservation compatible (grass-based) enterprises.
2. To identify which agricultural enterprises are expected to change within the next 5 to 20 years across the region, and explore why, where and how the gap between conservation compatible and other enterprises is likely to change in the future.

III. Activities

1. Identify the key set of agricultural (farming / livestock) alternatives at play in the NGP (or likely to be at play; see starting list in Appendix) and major economic drivers to be considered in a scenario analysis. Consultant will kick off this process via a brainstorming session with WWF.
2. Develop a comprehensive analysis to model the range of economic return profiles of each alternative if implemented in different areas of the NGP. This economic modelling will take into consideration major variables in each agricultural enterprise, including expected volumes (and ranges), prices, loss rates, land costs, etc. (See description of considerations in Appendix.)
 - The above economic model will provide several economic considerations, including: profit per acre, Net Present Value (NPV), Internal Rate of Return (IRR), and estimates of the amount of capital (and labor) investment required. The capital investment will also be broken down into components that can be financed with external (debt) capital such that the net amount and return on owner capital can be understood.
 - Based on an assessment of various land characteristics / soil types and precipitation trends and/or underground water supplies in the target region, the alternatives above will then be overlaid onto a geographic “heat map” that will show the areas under pressure for land conversion from new options, with some scoring of relative pressure such that we understand where the economic return differences are the greatest, and therefore the likelihood of conversion is the highest.
3. Conduct scenario analysis of key economic drivers (e.g. price variability, subsidies and risk management instruments, as well as precipitation and heat variability and extended growing seasons, etc.) to identify which variables are the most important in driving variability. To understand the best- and worst-case scenarios grain prices should reflect the average, ten year high and ten year low. Results should be presented to clearly show sensitivity to conversion and the break-even point.
4. Lastly, all of this will then be considered in the context of projected issues and trends (including climate change, risk reduction mechanisms, etc.) over multiple time horizons (5, 10, 20 years) based on macro-economic assumptions for base case returns and the outlook of major economic variables (such as global GDP rates, consumption of animal protein rates, and perhaps weather in the two largest markets—China and India).

III. Work Plan/Period of Performance

The project will begin as early as March 2019 and should be completed by December 2019.

IV. Deliverables

The following table outlines the expected deliverables within this scope of work.

1. Summary of brainstorming results. Final list of key agricultural alternatives to be analyzed and scenarios to be tested	April 2019
2. Short report summarizing methodology and results of economic model comparing returns from agricultural alternatives including spatial representation and presentation of findings to WWF	August 2019
3. Short report summarizing methodology and results of scenario analysis of key economic drivers	September 2019

4. Short report summarizing methodology and results of future issues and trends analysis and presentation of findings to WWF	October 2019
5. Draft report which includes recommendations on where and which grass-based agricultural systems will be most economically robust in the next 20 years and how they will compare against crop-based agriculture	November 2019
6. Final report	December 2019

V. Budget and Payment

WWF has a maximum of \$125,000 available to achieve the objectives described in this RFP.

Contractor fees:

This contract will be a fixed price contract, based on completion of specific deliverables.

Contractor expenses:

The budget for the Contractor's expenses is to be proposed by the consultant. Payment for Contractor expenses will be based on submission of receipts for actual expenses incurred, up to an established maximum.

Payment:

Payment for Contractor fees will be based on completion of deliverables, described above, to the satisfaction of WWF and submission of a corresponding invoice(s). The following table is a placeholder for delineating the fees associated with each group of deliverables.

Payment #1	Upon completion of deliverables #1 & #2	TBD
Payment #2	Upon completion of deliverable #3 & #4	TBD
Payment #3	Upon completion of deliverable #5 & #6	TBD

THE NORTHERN GREAT PLAINS INTACT HABITAT (2017)

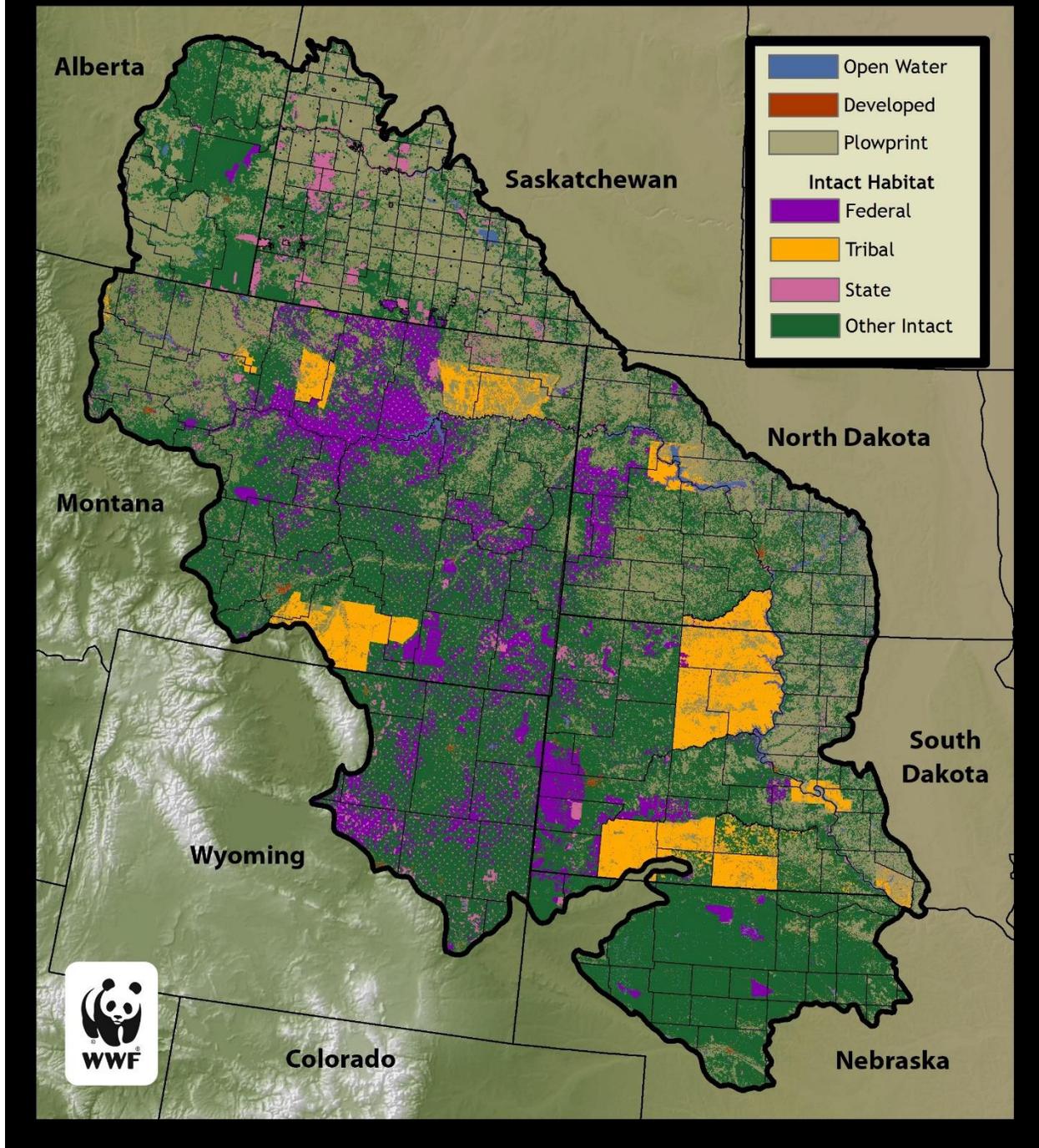


Figure 1. Ownership of intact habitat in the NGP

APPENDIX

Agricultural enterprise focus – starting list	
Livestock*	Crops*
Beef (conventional/other)	Corn
Bison	Soy
Beef & Sheep (mixed livestock)	Wheat
Dairy	Canola
	Lentils & pulses
	Alfalfa
	Other
Combined livestock and cropping	

**Consider whether conventional and/or other methods such as organic should be considered.*

For ranching, review the cost of land values (owned or leased), capital costs, input costs (fences, machinery, water and other infrastructure), labor costs, cattle input costs (feed, etc.), costs of cattle, carrying capacity of pastures by region, percentage weaned and percentage cows exposed to bulls, average age and weaning weight by region, rangeland insurance and average selling price by region. Consider showing ranges of productivity for livestock (low, medium and high) -- total pounds of calves produced per total number of cows (in the case of cow-calf operations).

For cash cropping, review the cost of farm land (owned or leased), capital needs, debt, access to capital, input costs (e.g., seed, herbicides, fertilizer) equipment), labor costs, average yield calculation, insurances costs and subsidies, average crop price and other income such as silage or post-harvest grazing. Describe ethanol economics and potential expansion of biofuels.