

1.0 PROJECT PROPOSAL SUMMARY SHEET

PROJECT NAME: North Dakota Stockmen's Association - Environmental Services Program Phase VIII
NAME, ADDRESS, PHONE & E-MAIL OF LEAD PROJECT SPONSOR/SUBGRANTEE:

North Dakota Stockmen's Association
407 South 2nd Street
Bismarck, ND 58504

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STATE: North Dakota

WATERSHED: Statewide

PROJECT TYPE: Statewide financial and technical assistance for animal waste systems

WATERBODY TYPES: Lakes/Reservoirs, Rivers/Streams/Wetlands

NPS CATEGORY: Agriculture

PROJECT LOCATION: Statewide

SUMMARIZATION OF MAJOR GOALS:

Beef cattle represent the largest livestock industry in North Dakota, with more than 8,500 producers owning 1.5 million head of cattle. Cattle feeding is not a large segment of the beef industry in North Dakota but the interest in cattle feeding is expanding and the potential for growth is encouraging. The Environmental Services Director has close ties with the Feeder Council, which is comprised of a large percentage of cattle feeders in the state and provides a great contact for the director.

This is a continuation of Phase VIII of the successful North Dakota Stockmen's Association (NDSA) Environmental Services Program (ESP). These funds are directed to BMP's. The major goal is to maintain a statewide program that will reduce potential water quality impairments associated with livestock concentration areas by increasing producer understanding of the current state and federal rules and regulations and assisting them with the identification and implementation of cost-effective solutions that will improve manure management. Beef producers will voluntarily incorporate management techniques, improve facilities, and increase the utilization of manure as a valuable resource.

PROJECT DESCRIPTION:

The Environmental Services Director will assist 20 beef producers per year.

1. Identify the financial needs of producers that are necessary for Best Management Practices (BMP) and compliance measures.
2. Assist producers in developing and identifying BMPs to improve their feeding operation to reduce possible environmental hazards.
3. Encourage voluntary participation in BMP's.
4. Assist producers with the evaluation of current manure management practices and alternative management measures for their facilities. Make referrals to engineers, experts, etc.
5. Assist in filing the necessary documentation for planned facilities to obtain approval from the North Dakota Department of Environmental Quality.
6. Assist in identifying potential problems with an existing facility and recommending solutions or people who can assist in resolving their problems.
7. Identify potential sources of cost-share dollars to match 319 funds and other funds available that will lighten producers' financial burden.
8. Document the benefits of applied BMP's and project efforts.

FY 2023 319 funds: \$425,000

non-federal match: \$287,333

FY 2024 319 funds requested: \$420,000

non-federal match: \$280,000

TOTAL PROJECT BUDGET: \$1,132,331

2.0 STATEMENT OF NEED

The ESP was started in 2001 and has been implemented through several phases. Since the initiation of the current phase the NDSA has been one of the leaders in promoting BMP's while addressing livestock waste runoff on animal feeding operations (AFO's). The NDSA Environmental Services Director has been invited on several hundred beef cattle operations across the state to assess individual AFO's and to determine how those operations fit into the state and federal regulations for AFO's. There have been 81 Stewardship Support Program (SSP) and 58 Environmental Quality Incentive Program contracts developed for cost-share on the installation of animal waste systems. The location of the NDSA SSP systems installed through these contracts are shown in **attachment 3**. Phase VIII will simply continue the work on addressing nutrient reduction of nutrient loading on beef cattle animal feeding operations in North Dakota. To date the environmental services program has reduced nitrogen by 260,791 lbs. and phosphorus by 125,328 lbs. Additionally, there have been 134 comprehensive nutrient management plans developed.

The ESP has been successful in identifying outside money to help defray some of the out-of-pocket costs for the producers. North Dakota Legislature allocated \$50,000 per biennium to support project staff in 2023. Additionally, the NDSA signed a cooperative agreement with the USDA NRCS for \$200,000 for administration and engineering. The funds will be available until September 1, 2024. The annual NDSA Feedlot Tour continues to allow interested beef cattle producers the opportunity to see first-hand what conservation practices are involved in a permitted beef feedlot. The tour recently finished its 21st year with more than 100 interested cattle producers attending, over 2,000 people have attended since the beginning of the tours.

The need and interest for permitted, contained animal waste systems continues to be requested from beef cattle producers in North Dakota. Primarily, the project will address nutrients such as nitrogen, phosphorus, and *E. coli* bacteria. The project plans to reduce annual concentration of nitrogen and phosphorus as well as the nutrient loading by 79% per system installed by the NDSA ESP. With 200 lakes and reservoirs and 56,027 miles of rivers and streams in North Dakota, the need for this project to address water quality is of great importance. Severe water quality impacts are associated with poor manure management. With 4,194 miles of rivers and streams affected by animal feeding operations there remains a need to address the lack of manure management. With construction of clay-lined holding ponds, beef cattle producers today are implementing containment animal waste systems and preventing excess runoff of nitrogen, phosphorus, and *E. coli* bacteria. The project benefits are two-fold; the beef producer and the environment both win when a needed animal waste system is constructed and properly maintained. The current state and federal animal feeding regulations continue to drive the interest from beef cattle producers.

One of the greatest successes has been the opportunity to provide information on the AFO-CAFO regulations to interested producers across the state, through a monthly column in the *North Dakota Stockman* magazine which reaches over 3,150 cattle producers in North Dakota.

3.0 PROJECT DESCRIPTION

Most of the program's focus will be one-on-one producer contact. The NDSA Board of Directors has established a process to schedule the delivery of technical and financial assistance, essentially the Environmental Services Director will prioritize projects based on level of environmental concern. The criteria will focus on those beef cattle operations that may be viewed as contributing more to an environmental problem based on location and size up to 1,000 animals. The actual site will be viewed by the Environmental Services Director and the producers to make a preliminary evaluation of potential problems and compile potential solutions. Rancher-to-rancher links can be established to demonstrate that solutions are available. A concerted effort will be made to accomplish a practice in a least-cost fashion. The ESP will continue to utilize the AFRIW to estimate annual nitrogen and phosphorus loadings. The worksheet was modeled after the State of Utah's worksheet. **(See attachment 2)**

3.1 PROJECT COMPONENTS

Goal: Maintain a statewide program that will reduce potential water quality impairments associated with livestock concentration areas by increasing producer understanding of the current rules and regulations and assisting them with the identification and implementation of cost-effective solutions that will improve manure management. Producers will voluntarily incorporate management techniques, improve facilities and increase utilization of manure as a valuable resource.

Objective 1: Increase producer awareness and understanding of current/pending rules and regulations addressing manure management, as well as potential solutions to water quality impacts associated with their livestock facilities.

Task 1. Employ an Environmental Services Director to deliver the program and complete project tasks.

Product: Environmental Services Director

Cost: This cost includes salary, fringe, travel, supplies, rent, utilities, telephone, postage, equipment, staffing and support. The associated costs can be found on part 2 of budget.

Task 2. Disseminate information on the compliance requirements and potential penalties associated with current or pending rules and regulations focusing on manure management in the state.

Product: Direct mailings, 20 contacts/year, 11 articles/year, 3 public presentations/year and 1 feedlot tour/year.

Cost: Included in Task 1.

Task 3. Assist producers with evaluations and assessments of their facilities to identify potential water quality concerns and the type of BMP's that could be implemented to improve their current feeding operations and downstream water quality.

Product: 20 animal feeding operation evaluations and ranch assessments and North Dakota animal feedlot runoff risk index worksheet per year. **(See attachment 2)**

Cost: Included in Task 1.

Task 4. Promote the voluntary implementation of BMP's designed to improve manure management within concentrated livestock feeding areas.

Product: 20 one-on-one contacts per year. Site-specific BMP recommendations based on the ranch assessments.

Cost: Included in Task 1.

Task 5. Provide cooperating producers with preliminary cost estimates for recommended BMP and potential sources for financial assistance.

Product: List of private/local/state/federal funding sources for manure management systems and three site-specific cost estimates per year.

Cost: Included in Task 1.

Objective 2: Provide financial and technical assistance to support the voluntary installation of 2 manure management systems.

Task 6. Provide technical assistance for the development of manure management plans for interested producers contacted under Task 5 and assist them in acquiring the engineering assistance to complete construction designs. Potential sources for engineering assistance include NRCS, Nonpoint Source Best Management Practice Team, or private consultants.

Product: Two system designs per year.

Cost: Included in Task 1. (If applicable, private consultant engineering costs will be included in the system implementation costs.)

Task 7. Provide Section 319 financial assistance available through the NDSA Stewardship Support Program (SSP) and/or assist the producer in applying for other state/federal funds to install the priority manure management systems.

Product: 2 funded through SSP.

Cost: \$700,000 (\$420,000 in FY 2024 section 319 funds and \$280,000 in match) for SSP.

Task 8. Complete annual project reports per the Environmental Protection Agency and North Dakota Department of Environmental Quality requirements and final report at the end of the project.

Product: Two annual reports and one final report

Cost: Included in Task 1.

Objective 3: Facilitate improved grazing management on beef cattle operations across North Dakota.

Task 9 - Compile information on the local/state/federal organizations providing financial and/or technical support to plan and install grazing management practices/systems in ND.

Product: Compendium of organization programs; type of assistance; location; and contact person(s)

Costs: Included in Task 1

Task 10: Utilize existing organization social media outlets, web site and magazine as well as direct interaction with ND ranchers to connect them with potential sources of financial and technical assistance to improve grazing management on their operations.

Product: Web page; magazine articles and social media posts highlighting the various sources

Costs: Included in Task 1

3.2 PROJECT SPONSOR

The NDSA will be the lead project sponsor. North Dakota Department of Environmental Quality (NDDEQ) staff has expressed a need for a front-end salesperson. The Environmental Services Director would have credibility with producers because the association is viewed as non-regulatory. The Environmental Services Director will be rancher-friendly and can direct producers to the right people by giving information, contact people and advice to producers who will not initially contact government agencies directly. We will depend on Extension for educational information and the Department of Environmental Quality for regulatory information. NRCS, soil conservation districts, water resource districts, 319 engineering teams and private engineers will be called on for technical advice when appropriate. A network of producers and feeders with experience in various areas of expertise will also be utilized to increase the comfort level for producers needing to implement various environmental practices.

3.3 MILESTONE TABLE (See attachment 1)

3.4 PERMITS

Specific requirements for cultural resource inventories, ND Pollutant Discharge Elimination System and Approval to Operate permit will be determined on a case-by-case basis. In addition, 404 permits will be obtained, when needed. Operation and maintenance plans will be developed by the engineer for the livestock management systems during the design phase as well as after construction.

4.0 COORDINATION PLAN

The Environmental Services Director will coordinate with others to prevent duplication. In most cases, we see the position as being the first contact (a friendly face) for producers who would not feel comfortable approaching others with regulatory authority. Communicating ideas, needs and producer concerns to others will create an opportunity to find solutions as a group.

The NDSA Environmental Services Director will work closely with the North Dakota State University (NDSU) Nutrient Management Advisory Committee. The NDSA Environmental Services Director is part of the advisory committee to give direction and coordinate efforts. The committee is made up of the following organizations: U.S. Department of Agriculture Natural Resources and Conservation Services (NRCS), North Dakota Department of Environmental Quality, North Dakota Stockmen's Association, North Dakota Department of Agriculture (NDDA), NDSU Extension Service, NDSU Soil Science Department. This committee is expected to meet twice a year to, 1) provide overall program direction to the NDSU Extension livestock environmental management program, 2) identify additional research needs in this area, and 3) provide a conduit for effective communications and coordination among livestock groups and agencies working with livestock environmental management.

There will be involvement from various agencies and organizations to deliver the program. The NRCS will provide financial assistance through EQIP when appropriate. The NDDEQ will provide financial assistance to the NDSA through Section 319 funds. Local Section 319 dollars in prioritized watershed will be used when appropriate. Section 319 funded NPS BMP Team will provide engineering support to the ESP for facilities being planned throughout the state.

4.1 LOCAL SUPPORT

The NDDEQ, North Dakota State Legislature, North Dakota Governor, NDSU Extension Service, NRCS, North Dakota Ag Department, soil conservation districts and producers have all expressed an interest in this position. The NDSA has secured \$50,000 of state funds in the 2023 legislative session. The encouragement and feedback from legislators are a positive sign for the project.

The proactive approach taken by the NDSA has led to many positive comments from producers requesting assistance. The producer feedback mainly focuses on the fact that producers trust and appreciate the NDSA'S help on this sensitive issue.

There are numerous producer comments appreciating the confidentiality of the assistance provided by the NDSA. In addition, the producers have commended the organization for being the only non-governmental, non-regulatory organization providing professional consultation on livestock waste issues.

4.2 LETTERS OF SUPPORT

Project has always received strong support from the livestock community as well as legislative support.

4.3 COORDINATION

- NDSU Nutrient Management Specialists – The NDSA Environmental Services Director works closely with the specialists on follow-up with beef producers who have implemented animal containment systems.
- NRCS – The NDSA Environmental Services Director works with the district conservationist when beef producers are interested in constructing animal containment systems through EQIP. The NDSA takes the lead on implementation of the project. In addition, EQIP provides funds for the development of comprehensive nutrient management plans which are used to develop on the ground projects. This funding source is a contribution agreement between NRCS and NDSA. This agreement will provide immediate funds to support beef producers develop CNMP's.
- NDDA - The NDSA Environmental Services Director works with the livestock pollution prevention program coordinator in identifying beef cattle operations that need to come into compliance. Duplication and/or completion is prevented between the two programs.
- Non-point source best management practice team, soil conservation district and local non-point source watershed projects - The NDSA Environmental Services Director works with these groups and agencies in identifying operations that are requesting engineering and financial cost share assistance.

5.0 EVALUATION PLAN

Evaluations, on-site surveys and statistics of contracts, projects and results will be compiled. The more producer contacts and referrals made will be a strong indication of success through acceptance of the program. As producers visit each other and word of the benefits of contacting the NDSA travels, we will be able to inform more producers of the benefits of a properly managed waste system. We will also be able to evaluate systems and compile statistics on facilities that comply but may not necessarily be permitted. A list of specific activities is included in objectives 1 and 2.

In addition, each permitted facility will be evaluated before and after with the aid of the AFRIW (**see attachment 2**). This worksheet will be used to estimate annual nitrogen and phosphorus load reductions for each manure management system. The information needed from each operation is as follows: lot description, lot size, surface type, animal type, number of animals, average weight, and days confined. In addition, the specific feedlot features needed for input are distance to water, percent slope in pen, type of vegetation outside the pens and whether the feeding operation has a clean water diversion.

The understanding is that the information collected through the project will be used to assist producers with personal decisions related to manure management. This information will be maintained by the Environmental Services Director. If there are requests for this information, approval will need to be obtained from the project sponsors and the appropriate producer(s) before it can be provided to the parties requesting the information.

6.0 BUDGET

The budget is detailed in the two budget tables. Part 1 details funding source by year. Part 2 is a more detailed line-item budget.

MILESTONE TABLE				NDSA ENVIRONMENTAL SERVICES PROGRAM-Phase VIII		
TASK	OUTPUT	YEAR 1	YEAR 2	YEAR 3		
Task 1 Employ Environmental Services Director to deliver program	1	1	1	1		
Task 2 Disseminate information on the compliance requirements with current regulations	60 contacts, 33 articles, 9 presentations, 3 feedlot tour	20 contacts, 11 articles, 3 presentations, 1 feedlot tour	20 contacts, 11 articles, 3 presentations, 1 feedlot tour	20 contacts, 11 articles, 3 presentations, 1 feedlot tour		
Task 3 Assist producers with evaluations and assessments of animal feeding operations	60 animal feeding operations evaluations	20	20	20		
Task 4 Promote voluntary implementation of BMP's	60 contacts	20	20	20		
Task 5 Provide cost estimates	9 estimates	3	3	3		
Task 6 Technical assistance for management plans	6 systems	2	2	2		
Task 7 Provide financial assistance	2 systems	1	1	1		
Task 8 Annual reports	3 reports	1	1	1		
Task 9 Grazing program information	1	1	1	1		
ATTACHMENT 1						
9						

***North Dakota Animal Feedlot Runoff Risk Index Worksheet**

Attachment 2

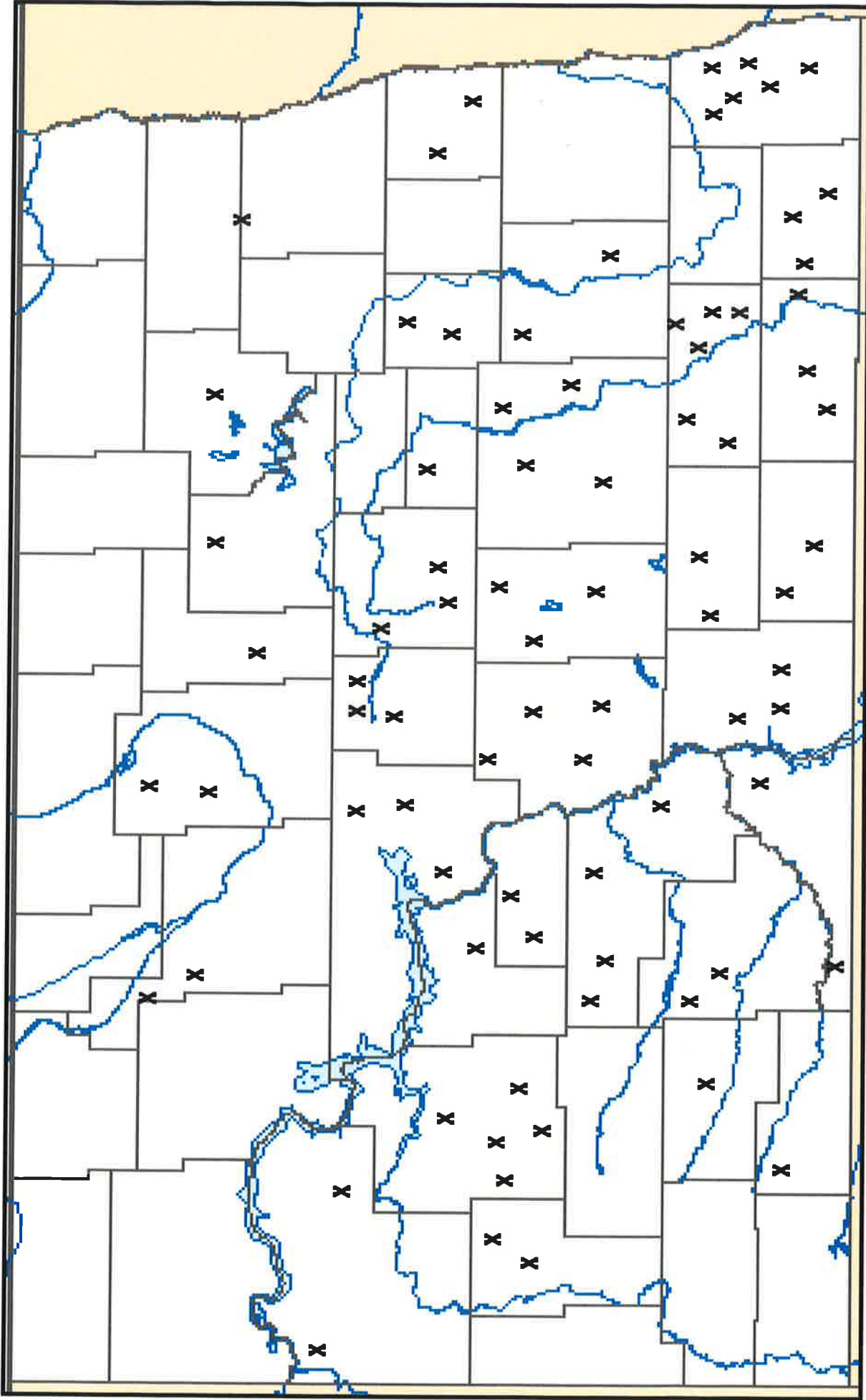
Landowner:
 Location:
 Planner:
 Date:

Weather Station:
 HUC:
 Precipitation:

Lot Description:				
Planning Scenario:	Before	After	Before	After
Lot Size (Sq. Ft.):				
Surface Type:				
Animal Type:				
No. of Animals:				
Avg. Weight:				
Days Confined:				
Sq.Ft./Animal:				
Feedlot Features				
Runoff Containment				
Distance to Water				
% Slope				
Vegetation				
Clean H₂O Diversion				
Index and Risk Level				
Index:				
Risk Level:				
Manure Management and Conservation Practices				
Haul/Scrape Frequency				
Practices to be implemented				
Loading Calculations				
Fresh Manure (tons)				
Total N Available (lbs)				
Total P Available (lbs)				
Total BOD₅ Available (lbs)				
Precipitation Factor				
Lot Surface Factor				
Risk Factor				
Total N Loading (lbs)				
Total P Loading (lbs)				
Total BOD₅ Loading (lbs)				

*Modified from Utah to fit North Dakota. Individual high risk features should be evaluated and conservation practices applied where possible. All runoff from a 25-year, 24-hour storm event must be contained on the lot.

Attachment 3



NDSA Animal Feeding Operations

X = 2002-2023 (81)