

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **Karen L. Thomas Living Trust
243 Springdale Ln
Hobson, MT 59452**
2. Type of action: **Application to Change a Water Right 41S 30065032**
3. Water source name: **Spring, Unnamed Tributary of Judith River (aka, Twin Springs)**
4. Location affected by project: **Sections 11 & 12 T14N R14E (Judith Basin County)**
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicant proposes to add a storage reservoir and convert historically flood-irrigated land to center pivot sprinkler irrigation. The claimed water right is Statement of Claim No. 41S 135254 and the source is Twin Springs. The proposal includes conversion to center pivot sprinkler irrigation on 135.5 acres, however, the majority of acres will be irrigated by contract water acquired from Ackley Lake, a state-owned off-stream storage facility. Irrigation will be commensurate with the flow and volume of water associated with historic flood use of 41S 135254 and converted to pivot application, which was found to be 460 gallons per minute (GPM) up to 65.8 acre-feet (AF) annually. The proposed storage reservoir will be 2.24 acre-feet in capacity and used to facilitate pumping to the center pivot.

The project will likely result in increased water management and reduced labor on acres under the center pivot compared to the acres previously flood irrigated.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

**Dept. of Environmental Quality Website - TMDL 303d listing
MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species
MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper
Montana Fish, Wildlife & Parks – MFISH Website**

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: **No Significant Impact**

The spring of interest in this application, an Unnamed Tributary to the Judith River also known as Twin Springs, is not listed as a dewatered concern by MT DFWP. The Judith River is listed as chronically dewatered by DFWP in the reach between river mile 69.1 and river mile 104.7; the reach Twin Springs water would contribute to the Judith. This project is located up-gradient and adjacent to the dewatered reach, however the Applicant is simply converting from flood irrigation to center pivot irrigation. Consumptive water use will match proposed pivot consumption with the historic flood irrigation volume to ensure consumptive use associated with new pivot irrigation will not increase over historic flood amounts.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: **No Significant Impact**

Neither Twin Springs nor the reach of the Judith River where Twin Springs water commingles with the Judith have been included on the 2012 DEQ 303d list. Water quality may improve slightly due to improved irrigation management under the center pivot and decreased leaching of salts, fertilizer and pesticides that would be associated with less manageable flood irrigation.

Groundwater - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

Determination: **No Significant Impact**

There should be no significant impact to groundwater quality or supply. Generally, the groundwater table may show slight increases in elevation under the center pivot acreage and decreases under retired flood acres. These minor impacts would occur chiefly during the irrigation season.

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

Determination: **No Significant Impact**

The diversion works will consist of a manifold box that allows diversion of spring water to either a pumping reservoir or a small natural drainage created by the spring source. If water is directed to the reservoir, an electric motor powering a pump site from a 2.24 AF reservoir will be used to sprinkler irrigate with a 135.5-acre center pivot. The flow regime in the natural drainage from Twin Springs will be modified somewhat because flood irrigation will be converted to center pivot irrigation and return flow from the new system will be less volume with modified timing. Operation and timing of return flows under the proposed change is not expected to have any major impacts; the Applicant will divert less water for pivot irrigation and consume the same volume of water historically used from the spring source.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

***Endangered and threatened species** - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”*

Determination: **No Significant Impact**

The Montana National Heritage Program lists one species as a Potential Species of Concern within Township 14 North Range 14 East, the Brassy Minnow. No Plant Species of Concern are listed in the area of interest. The USDI Fish & Wildlife Service Website shows that Judith Basin County has three species listed as proposed species or candidates for the Endangered Species Act; the proposed species is the Wolverine, while the candidate species are the Sprague’s Pipit and the Whitebark Pine. This project is not expected to impact any species listed above as the project will be located on acreage that has been previously disturbed by past agriculture practices.

***Wetlands** - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No Significant Impact**

The National Wetlands Inventory shows some small areas of Freshwater Emergent type wetlands along the ditch running east through the Applicant’s property. The wetland areas originate adjacent to the ditch and may see some minor impacts due to center pivot application compared to flood water application. No major impacts to the wetland resource are expected as a result of the method of irrigation change, the Applicant plans to divert less water from the source and realize increased management with the new system.

***Ponds** - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No Significant Impact**

The project may cyclically fluctuate water levels in the small reservoir/pond that regulates water for the requested center pivot irrigation. This new reservoir will have a surface area of about ¾ of an acre and although water levels will vary greatly, could have a minor beneficial impact to wildlife/waterfowl using the area.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No Significant Impact**

The predominant soil type under the pivot irrigation is the Danvers-Judith complex, with a well-drained clay-loam to gravelly-sandy-loam profile. This soil complex is largely nonsaline and should not cause saline seep, especially since this project will involve more manageable water application utilizing center pivot irrigation.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No Significant Impact**

No new disturbance of vegetative cover is expected. The acres under the new center pivot have been previously used for agriculture purposes. It is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **No Significant Impact**

No impacts to air quality have been identified. The pump will be powered by an electric motor.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: **No Significant Impact**

Not Applicable – Project not located on State or Federal Lands

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: **No Significant Impact**

No significant impacts are anticipated. There will be a increase in electrical energy consumption associated with the pivot operation.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

Determination: **No Significant Impact**

No local environmental plans or goals have been identified.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

Determination: **No Significant Impact**

The proposed action should not negatively affect recreational activities in the area.

HUMAN HEALTH - Assess whether the proposed project impacts on human health.

Determination: **No Significant Impact**

No impacts to human health have been identified.

PRIVATE PROPERTY - Assess whether there are any government regulatory impacts on private property rights.

Yes ___ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: **No Significant Impact**

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? **None**
- (b) Local and state tax base and tax revenues? **None**
- (c) Existing land uses? **Flood irrigation will be converted to sprinkler irrigation.**
- (d) Quantity and distribution of employment? **None**

- (e) Distribution and density of population and housing? **None**
- (f) Demands for government services? **None**
- (g) Industrial and commercial activity? **None**
- (h) Utilities? **Center pivot pump will be powered by electric motor.**
- (i) Transportation? **None**
- (j) Safety? **None**
- (k) Other appropriate social and economic circumstances? **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts:

As mentioned above, Department analysis finds less return flows are expected in the riparian zone along the natural drainage created by Twin Springs due to the conversion from flood to sprinkler irrigation. The Applicant proposes to divert less volume with the pivot system and as such, only the timing of the flow regime will be modified. Secondary impacts are expected to be minor, slightly more water will be available in the drainage during periods of pivot diversion and consumptive use for the new center pivot system as it relates to historic flood irrigation will not change.

Cumulative Impacts:

More and more historic flood acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after conversion from flood to pivot irrigation. Although conversion from flood to pivot irrigation has the potential to allow for increased consumption and significant cumulative impacts, this specific project should not change consumptive use or add to potential cumulative impacts.

3. *Describe any mitigation/stipulation measures:*

The Department may or may not deem specific conditions necessary to meet the statutory criteria for changes of water right set forth at § 85-2-402, MCA. These conditions would be required in the Departments' preliminary determination, if applicable.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the change application. This alternative would result in no change to the existing water rights for irrigation.

PART III. Conclusion

1. *Preferred Alternative*

The preferred alternative is the proposed alternative.

2. *Comments and Responses*

None Received.

3. *Finding:*

Yes ___ No X Based on the significance criteria evaluated in this EA, is an EIS required?

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524

Name of person(s) responsible for preparation of EA:

Name: **Douglas Mann**

Title: **Water Resources Specialist**

Date: **3/7/2013**