QUESTAR RECLAMATION
on the
PINEDALE ANTICLINE

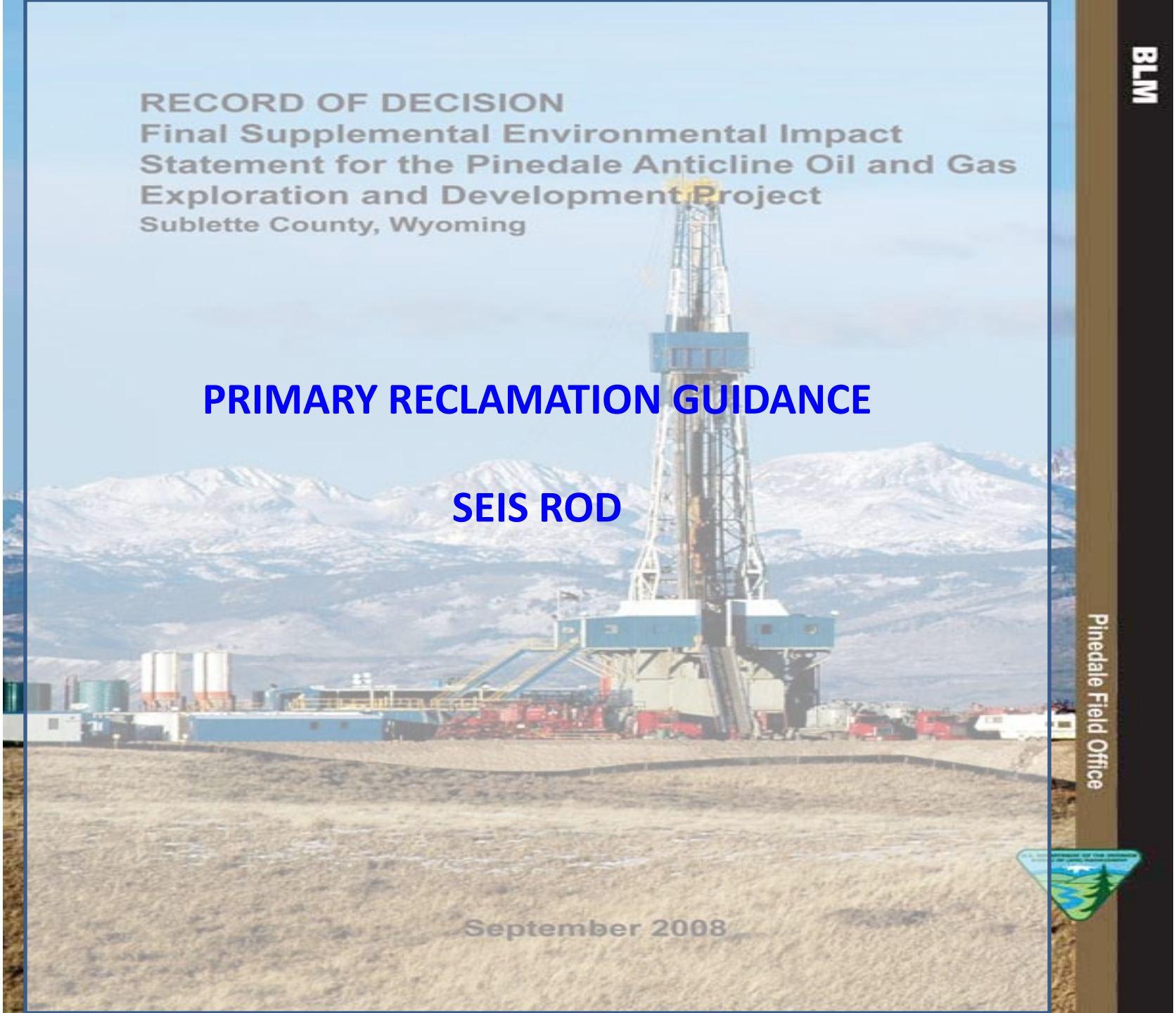
- Current Pad Disturbance/Reclamation Status
- Anticipated Future Development
- Reclamation Actions

CURRENT PAD RECLAMATION STATUS

- TOTAL PAD DISTURBANCE – 62 PADS, 640 AC
- TOTAL PAD RECLAMATION – 51 PADS, 176 AC
- TOTAL LONG-TERM DISTURBANCE – 464 AC

FUTURE DEVELOPMENT/RECLAMATION

- Primary Feature – “Once on a pad, stay on a pad”
- Development rate – about 4 new pads/year; about 7 expanded pads/year
- Reclamation – about 9 pads for full interim reclamation/year



PRIMARY RECLAMATION GUIDANCE

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PRIMARY RECLAMATION GUIDANCE

To: BLM Wyoming Reclamation Policy Reviewers

From: Tom Lahti, Landscape Architect

Subject: **DRAFT Wyoming BLM Reclamation Policy**

Program Areas: All Surface Disturbing Activities.

Purpose: Circulate for Final Review: The Wyoming Reclamation Policy.

We are seeking an informal review and evaluation of our *DRAFT* BLM Wyoming Reclamation Policy. Our intent is to provide each of you an opportunity to review and comment on our efforts to standardize guidelines for reclamation efforts on BLM administered lands in Wyoming. When this Policy is finalized, we intend to develop more quantitative bond release guidelines, mirroring the standards in this Policy, to help standardize reclamation liability release activities on BLM lands across the State.

Successful reclamation efforts are critical in maintaining an effective multiple use land management program. Nearly all authorizations for surface disturbing actions are based upon the assumptions that an area can and ultimately will be successfully reclaimed. We recognize reclamation of approved activities is often a multi-step approach which includes short term stabilization and long-term reclamation. Early in the process, the Bureau of Land Management (BLM) will explain to those seeking approval to conduct surface disturbing activities on Public Lands to include reclamation planning as part of every permit application.

The level of reclamation success is becoming an increasing concern with new disturbances occurring in areas that are topographically or ecologically more challenging. Most landscapes can be reclaimed using established reclamation methods. However, under extreme conditions, innovative techniques beyond traditional practices must be developed to deal with these more challenging conditions. Landscapes having the most extreme reclamation challenges will be identified as having Low Reclamation Potential (LRP). These areas are often characterized by highly erosive soils, soils with severe physical or chemical limitations, extremely steep slopes, or areas having severely limiting precipitation rates. The LRP areas may require site specific reclamation standards and practices not specifically addressed in the Wyoming Reclamation Policy. Each Field Office shall delineate their LRP's and develop a unique set of reclamation standards for those areas within the framework of the attached policy.

This coordination and review of the attached Draft Wyoming Reclamation Policy has been initiated with: the WY BLM, several BLM field specialists, WO-310, the Wyoming Governor's

PRIMARY RECLAMATION GUIDANCE

PAST RECLAMATION SUCCESS DETERMINATIONS

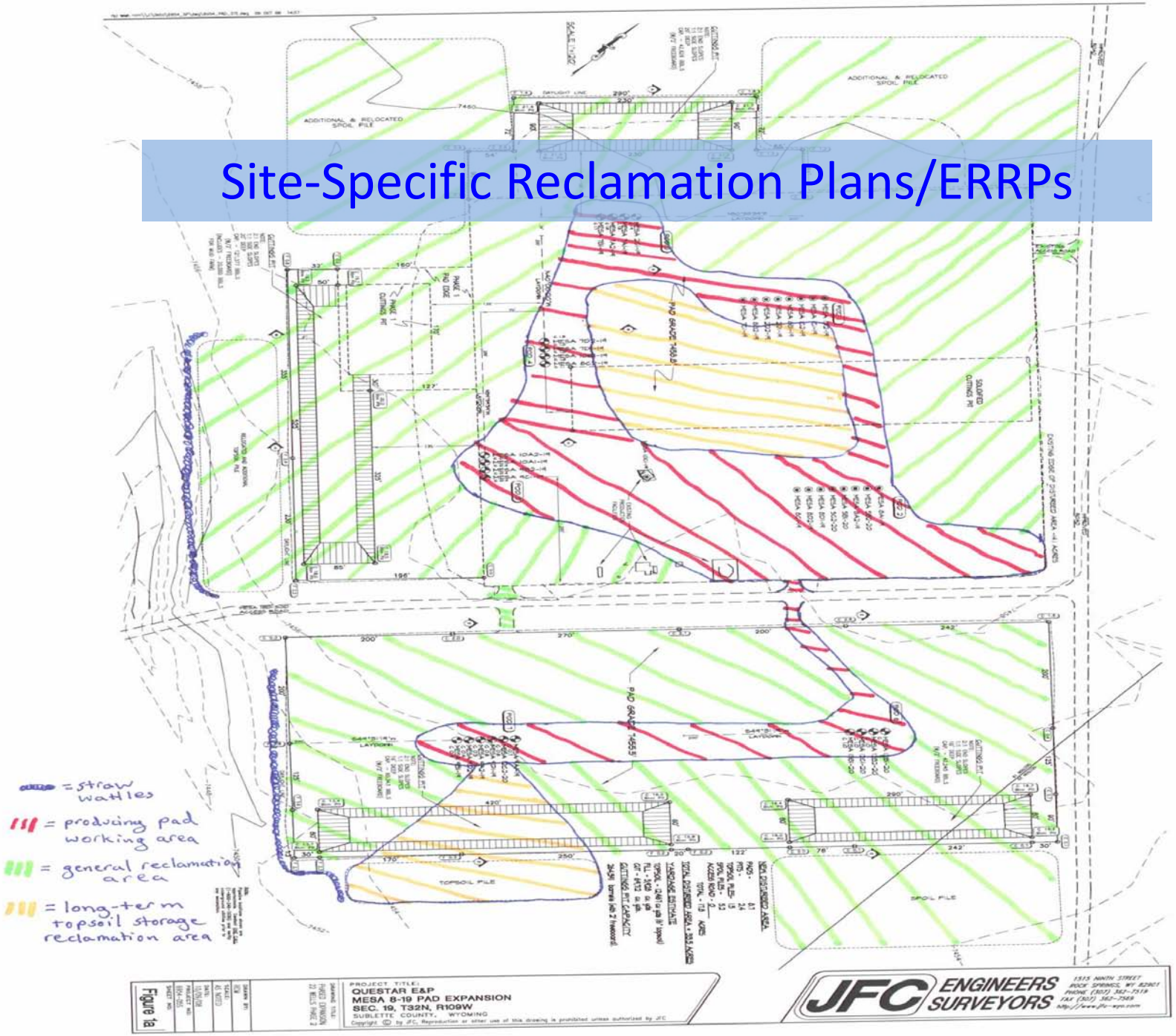
EROSION CONTROL, REVEGETATION, AND RESTORATION PLANNING GUIDANCE, QUESTAR LEASES, PINEDALE ANTICLINE PROJECT AREA

Prepared for
Bureau of Land Management
Pinedale Field Office
Pinedale, Wyoming

Prepared by
Questar Exploration and Production Company
Pinedale, Wyoming

January 2009

Site-Specific Reclamation Plans/ERRPs



QUESTAR RECLAMATION TRACKING AND EROSION CONTROL, REVEGETATION, AND RESTORATION PLANNING GUIDANCE
PINEDALE ANTICLINE PROJECT AREA

KEYS TO SUCCESSFUL RECLAMATION TRACKING

Prepared for
Bureau of Land Management
Pinedale Field Office
Pinedale, Wyoming

- Develop a detailed database that others may use
- Identify future development/reclamation actions

Prepared by
Questar Exploration and Production Company
Pinedale, Wyoming

February 2009

KEYS TO SUCCESSFUL RECLAMATION TRACKING (continued)

- Document baseline/reference conditions

Mesa 9-7 Baseline Summary Data

Location:

Township: 32N Range: 109W

Section: 9 ¼, ¼: NESE

Datum: NAD 83 UTM Zone: 12

Easting: 592565 Northing: 4735010

Elevation: 7521 feet

Ecologic S[illegible]

Soil Classification: Jemdilon fine sandy loam

Topsoil Depth & Texture: 1-3", Sandy cla[illegible]

Soil Fertility (mg/kg): N=0 P=19 K=250

Percent Vegetative Cover: 63%

Percent Shrub Cover: 31%

Shrub [illegible]

Percent Forb Cover: 7%

Forb Frequency: 80%

Percent Grass Cover: 25%

Grass Frequency: 100%

Dominant Shrub: Wyoming big sage

Dominant Forb: Longleaf phlox

[illegible] grass

Average Grass Height: 3.82 inches

[illegible]age Residual Grass Ht.: 0.57 inches

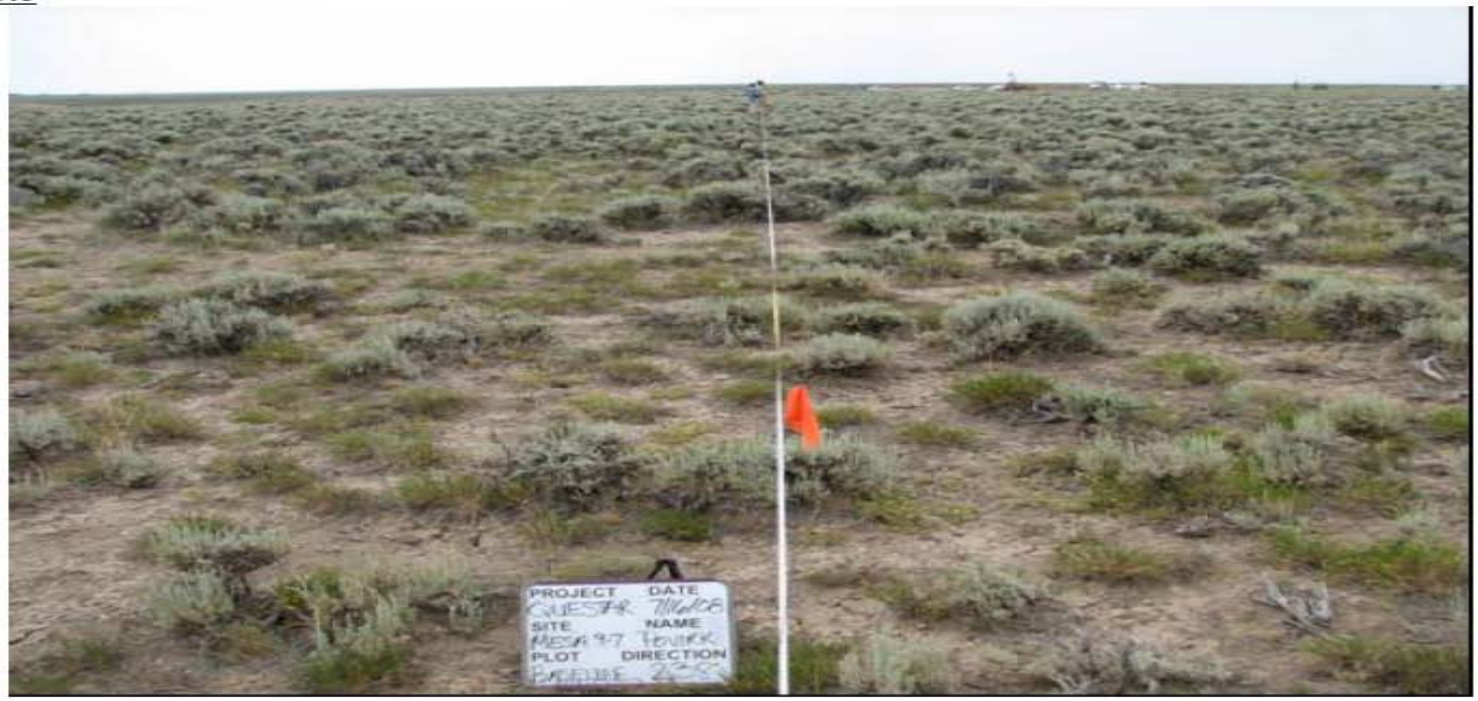
Shrub Density: 20,714 shrubs/acre

Average Live Shrub Height: 9.6 inches

Observed By: K. Povirk, R. Black, K. Downing.

[illegible] and an Excel spreadsheet with line-point intercept data, belt transect and grass heights can be found in Appendix A.

Photo



Stewart Point 11-33 Reclaim Summary Data

Location:

Township: 33N Range: 109W

Section: 11 ¼, ¼: NESW

Datum: NAD 83 UTM Zone: 12

Easting: 592123 Northing: 4737557

Elevation: 7533 feet

Ecologic Site: MLRA 34A, Loamy 10-14"

Soil Classification: Jemdilon fine sandy loam

Topsoil Depth & Texture: [illegible]

Soil Fertility (mg/kg): N=5 P=4 K=240

Percent Vegetative Cover: 53%

Percent Shrub Cover: 0%

Shrub Frequency: 0%

Photo

Percent Forb Cover: 35%

Forb Frequency: 100%

Percent Grass Cover: 18%

Grass Frequency: 100%

Dominant Shrub: N/A

Dominant Forb: Russian thistle

Dominant Grass: Indian ricegrass

Average Grass Height: 5.54 inches

Average Residual Grass Height: [illegible] inches

Shrub Density: 48.4 shrubs/acre

Average Live Shrub Height: 0.0 inches

Observed By: K. Povirk, R. Black, K. Downing.

Note: Digital photos and an Excel spreadsheet with line-point intercept data, belt transect and grass height can be found in Appendix A.

KEYS TO SUCCESSFUL RECLAMATION TRACKING (continued)

- Document reclamation status

EXISTING AND FUTURE RECLAMATION RESEARCH

- Shrub Planting Trial
- UW Topsoil Properties Study
- Internal evaluations
- Potential Future Reclamation Treatment Tests

Seedbed Preparations

MULCHING

HYDRO-MULCHING AND SEEDING

TOPSOIL STOCKPILING

FULL INTERIM RECLAMATION

PINEDALE 8 – Oldest Reclamation Area

CONCLUSION

- Increased understanding of baseline conditions
- Improved reclamation status evaluations
- Most importantly – increased rate at which lands are put into reclamation and the rate of return to functional habitat