

Appendix 3: Recreational Use Assessment and Attainability Analysis

Iowa Department of Natural Resources Recreational Use Assessment and Attainability Analysis

I. SITE INFORMATION

Waterbody Name: Squaw Creek
 Assessed Reach: Mouth (S12, T83N, R24W, Story Co.) to confluence with an unnamed tributary (NW ¼, S9, T85N, R25W, Boone Co.) (97,700 feet – 18.5 miles)
 NPDES Affected Facility: South Squaw Valley Association (39)
 Iowa State University Power Plant (52)
 Basin: Skunk
 Counties: Story & Boone
 Date of Field Study: 9/12/2005
 Site IDs: 6 sites (39 (1-6)) – See overall map for details

Field Work Performed by: Tetra Tech

Date: 2/18/2009

II. STREAM CHARACTERISTICS

a) Public Access:

The assessed portion of Squaw Creek flows through rural agricultural and forest ground as well as through the City of Ames. There are numerous bridge crossings along the assessed reach that would allow for access and there are numerous residences along the assessed reach within the city limits.

Public Lands:

There are numerous city parks and trails within the City of Ames that border Squaw Creek. Among these are Brookside Park, Stuart Smith Park, Moore Memorial Park, and Squaw Creek Path. There are no public lands along Squaw Creek outside of the City of Ames.

b) Physical Dimensions:

The assessment covered the distance starting at the mouth up to an unnamed tributary (NW ¼, S9, T85N, R25W, Boone Co.). The stream was primarily a run with few riffles and pools. The width varied between 23 feet wide at sites 39-3 and 39-6 to 61 feet wide at site 39-2. The maximum depth observed throughout the stretch was 40 inches (Site 39-2) and the average depth was between 3 and 21 inches. The stream flow conditions found are considered adequately representative for the sites assessed.

1. Average Width (Range): 23 – 61 feet
2. Average Depth (Range): 3 – 21 inches
3. Maximum Depth: 40 inches

c) Predominant Substrate:

Squaw Creek was primarily a sandy substrate with traces of cobble, gravel, and silt. The approximate percentages for Squaw Creek as a whole is 80% sand, 10% cobble, and 5% each for gravel and silt.

d) Flow:

Perennial Flow (streams that hold water throughout the year)



Intermittent Flow (stream that holds water during wet portions of the year)	<input type="checkbox"/>
Ephemeral Flow (channel that holds water only during and immediately after rain event)	<input type="checkbox"/>

e) Additional Comments:

All field measurements were recorded in meters. Those measurements have been converted to feet and inches (and rounded to the nearest foot or inch) for use in this report.

III. EVIDENCE OF RECREATIONAL USE

There was little evidence of recreational uses found at any of the assessed sites. Footprints were noted at 3 of the assessed sites, and ATV tracks were found at 1 of the sites. There were no forms of recreational evidence found at Sites 39-1, or 39-6.

Survey Responses:

In total there were 13 recreational use surveys completed for Squaw Creek. These surveys noted swimming, child's play, canoeing, and fishing to be common recreational activities in Squaw Creek. The majority of this surveys listed specific locations within the city limits of Ames including Brookside Park, Stuart Smith Park, Moore Memorial Park, Veenker Golf Course, and the Duff, 13th, and 4th Street road crossings. There were 2 comments received that noted wading had been witnessed at Cameron School Road.

There were 6 other public surveys submitted to the department. The surveys stated that activities such as canoeing, kayaking, swimming, fishing, trapping and children's play have occurred throughout the spring and summer of every year throughout the assessed area's of Squaw Creek.

IV. POTENTIAL USE/SURROUNDING CONDITIONS

There is a segment of Squaw Creek that flows through residential areas and parks within the City of Ames that would allow for numerous recreational activities. The remaining portions of Squaw Creek flow primarily through agricultural and forested areas with few residences. Access to the stream outside of the city limits would be restricted to road crossings or private property.

V. POINT SOURCES

Were there any point source dischargers on the stream segment: Yes No

South Squaw Valley Association and the Iowa State University Power Plant discharge to tributaries of Squaw Creek. There are no direct NPDES permitted point source dischargers noted in the assessed reach.

VI. CONCLUSION

Field work for preparation of this UA/UAA was conducted September 12, 2005. Squaw Creek is receiving effluent from South Squaw Valley Association and the Iowa State University Power Plant by indirect discharge. Squaw Creek is listed as a perennial stream throughout the assessed reach from the mouth (S12, T83N, R24W, Story Co.) to confluence with an unnamed tributary (NW ¼, S9, T85N, R25W, Boone Co.) according to the USGS 1:100,000 DLG Data Set. The creek has an overall drainage area of 230.56 square miles.

Squaw Creek passes through both urban and rural areas along the assessed reach. The city of Ames has many road crossings and public parks that would allow for access. The segment that flows through rural areas does have road crossings, but there are no public accesses or parks. The potential for recreational activities is diminished in the rural areas due to lack of access.

There were 2 points assessed for maximum and average depths at each of the 6 sites in the 18.5 mile affected reach of Squaw Creek, resulting in 12 sampling points. Only 1 site (39-2) had adequate depths for primary contact recreation with a maximum depth of 40 inches and average depths of 21 inches. The other five sites had an average maximum depth of 11 inches and an average overall depth of 7 inches.

There were a total of 19 recreational use surveys completed for Squaw Creek. These surveys noted swimming, child's play, canoeing, and fishing to be common recreational activities in Squaw Creek. The majority of this surveys listed specific locations within the city limits of Ames including Brookside Park, Stuart Smith Park, Moore Memorial Park, Weenker Golf Course, Duff, 13th, 4th, 120th, 140th and 150th, 160th E18, and County Hwy R-38, . There were 2 comments received that noted wading had been witnessed at Cameron School Road.

Several segments of Squaw Creek received comments regarding recreational activities. These comments noted child's play, swimming, canoeing, kayaking and fishing occurred on a regular basis throughout the summer months. Three of the six assessed sites were located in this segment of the creek and only one of the sites showed adequate depth to support Primary Contact Recreational uses.

The depth criteria guidelines used by the department to help determine if Primary Contact Recreational use (Class A1) is attainable typically will exclude streams that are not able to support a Class A1 use due to the overall lack of flow needed to support activities that result in direct and prolonged contact with the water, involving considerable risk of ingesting appreciable quantities of water sufficient to pose a health hazard. While these guidelines are effective in most situations, there are cases where a stream demonstrates that it can support the Class A1 use despite the lack of flow that typically distinguishes a stream that can support Primary Contact Recreational uses.

Despite the lack of flow; the comments received show that Squaw Creek does support Primary Contact Recreational uses throughout the recreation season.

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Based on analysis of the data from the assessed sites, the department recommends a Class A1 Primary Contact Recreational use designation apply from the mouth (S12, T83N, R24W, Story Co.) to confluence with an unnamed tributary (NW1/4, S9, T85N, R25W, Boone Co.). These recommendations are consistent with types of uses observed in these areas and the ability for the creek and surrounding areas to support such uses.

Class (A1) Primary Contact Recreational Use

“Waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risk of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.”

Recommended Recreational Use Designation:

- Primary Use - See description above
- Secondary Use
- Children’s Recreation
- No Recreational Use