

SPECIES: Scientific [common]	<i>Aechmophorus clarkii</i> [Clark's grebe]
Forest:	Bridger-Teton National Forest
Forest Reviewer:	Randall Griebel, James Wilder
Date of Review:	01/16/2018; reviewed 4/29/25
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	NO

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
Yes ___ No X
2. Rationale for not concurring is based on (check all that apply):
Species is not native to the plan area ___
Species is not known to occur in the plan area ___
Species persistence in the plan area is not of substantial concern X

FOREST REVIEW INFORMATION:

1. Is the Species Native to the Plan Area? Yes X No ___
If no, provide explanation and stop assessment.
2. Is the Species Known to Occur within the Planning Area? Yes X No ___
If no, stop assessment.

Table 1. All Known Occurrences, Years, and Frequency within the Planning Area

Year Observed	Number of Individuals	Location of Observations (USFS District, Town, River, Road Intersection, HUC, etc.)	Source of Information
1987	2	Pinedale Ranger District Freemont Lake	Wyoming Natural Diversity Database (January 2018)
1990	2	Jackson Ranger District Unknown location along 24.5 Breeding Bird Survey route along Gros Ventre River	Wyoming Natural Diversity Database (January 2018)
2005	1	Greys River District, Jackson District, and outside forest boundary (Occurrence within 91 km ² buffer area)	Wyoming Natural Diversity Database (January 2018)

- a. Are all Species Occurrences Only Accidental or Transient?
Yes ___ No X

If yes, document source for determination and stop assessment.

- b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes___ No__X_

If no, provide explanation and stop assessment

The 1990 and 2005 documented occurrences are at unknown locations and consist of large buffer areas that include land outside the Bridger-Teton National Forest (Map 3). For the 2005 occurrence record, the identified buffer that overlaps with the Forest does not have suitable habitat, and therefore it is unlikely that the Clark's grebe occurrence was located on the Bridger-Teton National Forest. It is more likely that the occurrence was located within the Palisades Reservoir near Afton, WY, or the adjacent wetland area to the south.

While the Forest is located within the breeding range of Clark's grebe (Map 1) and habitat is present on the Forest, areas with extensive suitable habitat exists adjacent to the BTNF (Map 2) and would potentially explain the low number of occurrences on the Forest. It is possible that the documented observations are located within the suitable habitat outside the Forest boundary, given the large buffer area, or they are transient individuals. Regardless of location (since exact locations are unknown), the low number of occurrences on the Forest and in the vicinity of the BTNF, and the time between observations, suggests there is not an established population of Clark's grebe.

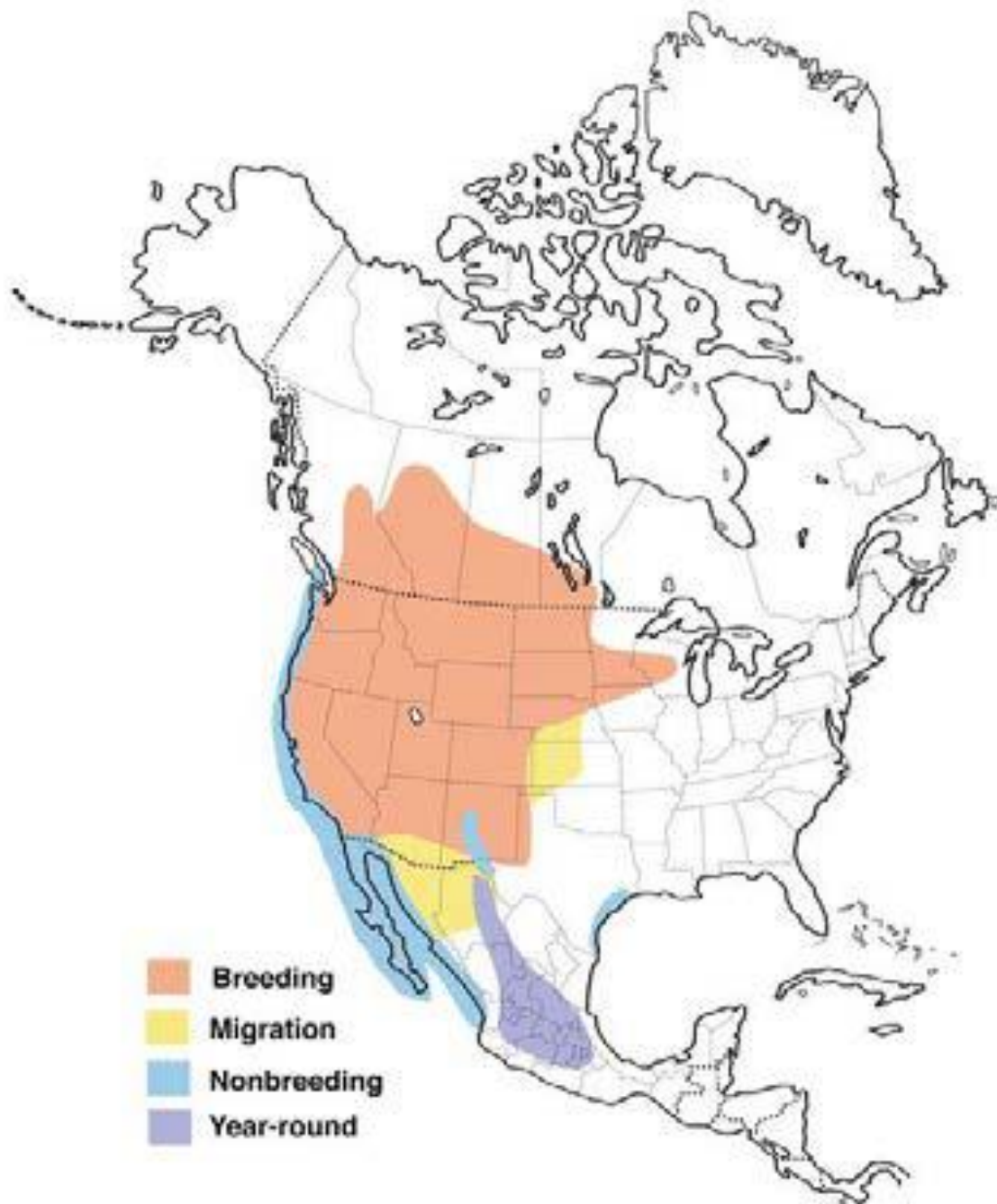
- c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

Yes___ No___

Provide explanation for determination

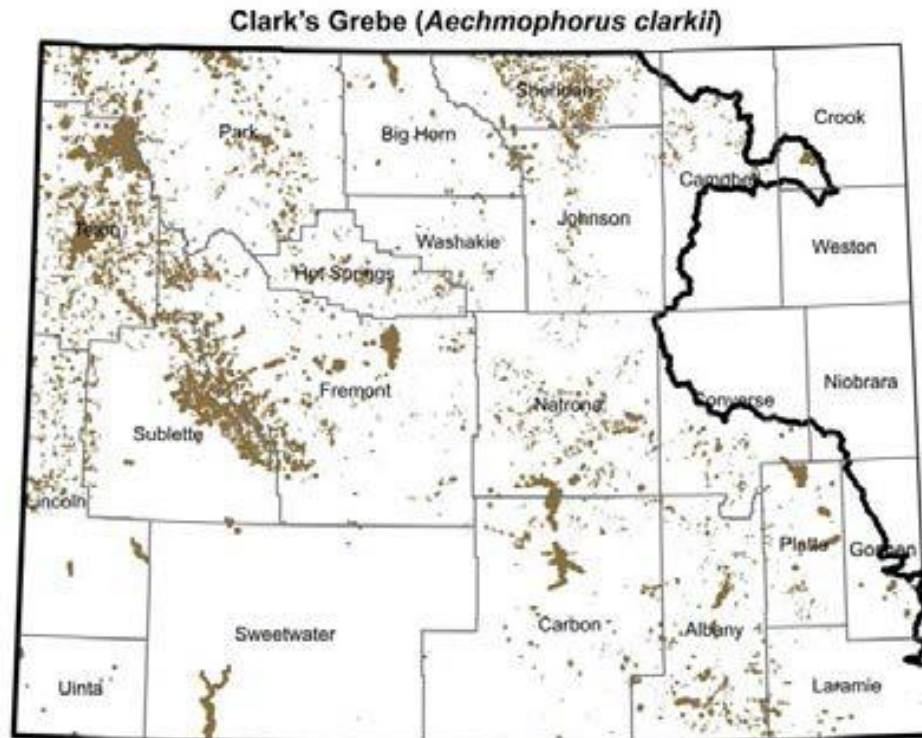
If determination is no, stop assessment

d. **Map 1**, Clark's grebe range map of North America



Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (*Aechmophorus clarkii*).

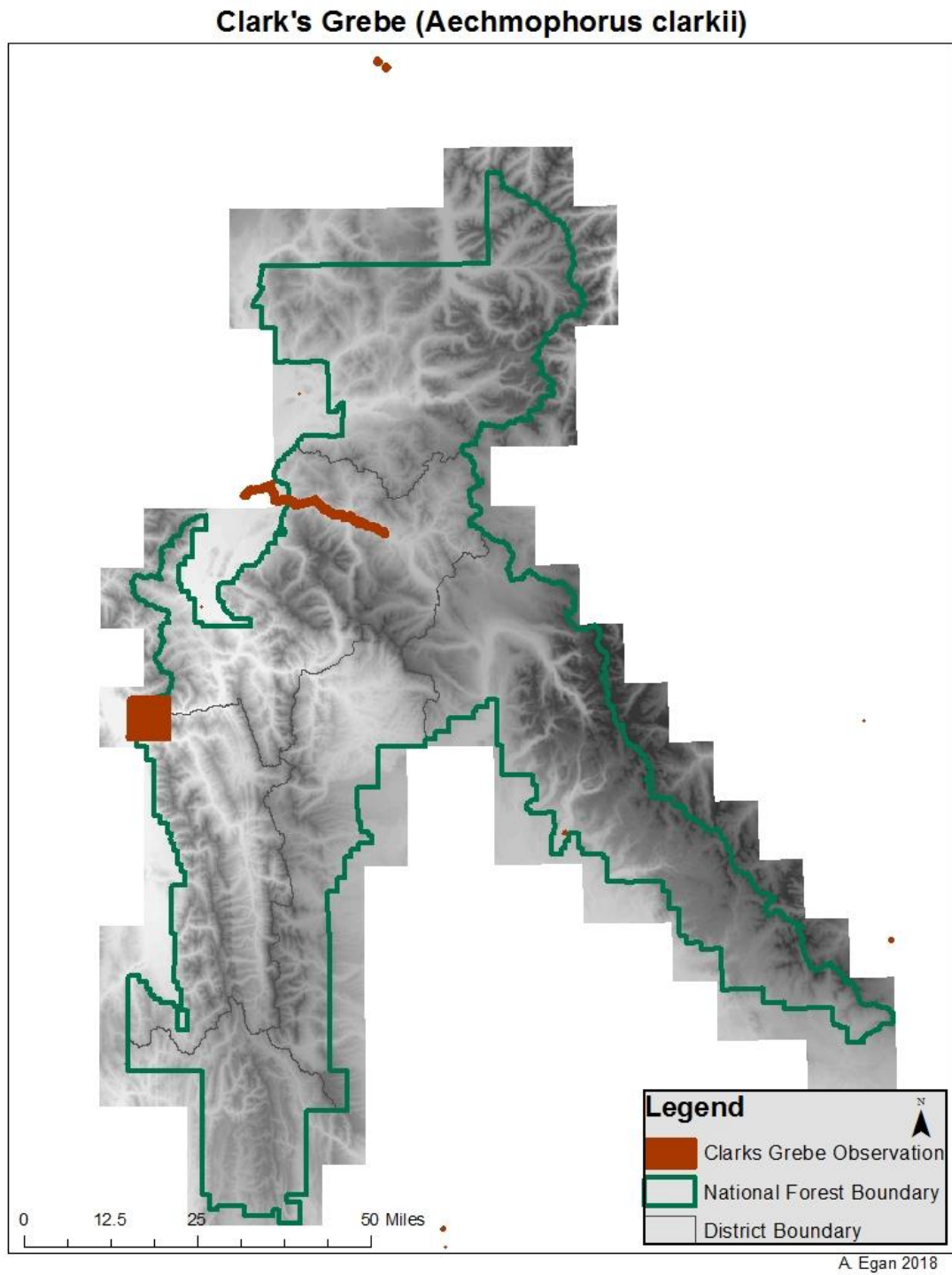
e. **Map 2**, Range and predicted distribution of *Aechmophorus clarkii* in Wyoming.



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: Sept. 2016. Wyoming Game and Fish Department and Wyoming Natural Diversity Database, University of Wyoming, Laramie, Wyoming. Note that brown indicates the predicted distribution of the species; heavy black lines indicate outermost boundaries of possible occurrence.

Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (*Aechmophorus clarkii*).

- f. **Map 3**, Map of Clark's grebe occurrences on the Bridger-Teton National Forest since 1990 (Wyoming Natural Diversity Database [January 2018])



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

Table 2. Status summary based on existing conservation assessments

Entity	Status/Rank (include definition if Other)
NatureServe Global Status	G5— Secure (Common; widespread and abundant).
NatureServe State Status	S2— Imperiled At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
State of Wyoming	Protected Bird
WGFD	NSSU (U), Tier II
WYNDD	G5, S2S3 (Imperiled/Vulnerable); Wyoming Contribution: LOW
USDA Forest Service	Region 4: No Special Status
UDI FWS	Migratory Bird; No Special Status
WY BLM	No Special Status
IUCN	Least Concern
PIF Continental Concern Score	Not Ranked

Table 3. Status summary based on best available scientific information.

Species (Scientific and Common Name): <i>Aechmophorus clarkii</i> [Clark's grebe]		
Criteria	Rationale	Literature Citations
Distribution on Bridger-Teton National Forest	The Clark's grebe breeding range overlaps with the state of Wyoming including the Bridger-Teton National Forest and overlaps with its breeding distribution. (Map 1). The species migrate through Wyoming in the spring and is a summer resident (WGFD 2017). The range and predicted distribution for the Clark's grebe, as identified by WYNDD (Map 2), shows potential suitable habitat for this species throughout much of north west Wyoming in lake/marsh habitat. One current occurrence has been documented within a large buffer that	Wyoming Natural Diversity Database (January 2018) Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (<i>Aechmophorus clarkii</i>).

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	overlaps an area both inside and outside the BTNF boundary. The species appears to have low distribution throughout the forest with majority of the suitable habitat outside of the forest boundary. Therefore, it is more likely that the observation recorded is located in the marsh/wetland habitat outside the forest.	
Abundance on the Bridger-Teton National Forest	There are no robust estimates of abundance available for Clark's grebe in Wyoming (WGFD 2017). However, the North American Breeding Bird Survey (BBS) relative abundance for Clark's grebe is 1.32 for the state of Wyoming and 2.00 for the Northern Rockies. The Clark's grebe has an abundance rank of <i>Very Rare</i> state wide and it appears that the species is uncommon on the BTNF, although suitable habitat is available across the forest. Clark's grebe was not detected during surveys for the Integrated Monitoring in Bird Conservation Regions (IMBCR) program between 2009 and 2016. Additionally, the Rocky Mountain Aviation Datacenter did not have any records of Clark's grebe on the BTNF. There is only one documented Clark's grebe observation in 2005, according to WYNDD, that has a large buffer overlapping portion of the forest, private, and state land. Within the buffer, the habitat for this species is located outside of the forest boundary. It is likely that this observation was on or near the Palisades Reservoir just outside Alpine, Wyoming.	Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (<i>Aechmophorus clarkii</i>). White, C. M., M. F. McLaren, N. J. Van Lanen, D.C. Pavlacky Jr., J. A. Blakesley, R. A. Sparks, J. J. Birek, and B. J. Woiderski. 2017. Integrated Monitoring in Bird Conservation Regions (IMBCR): 2016 Field Season Report. Bird Conservancy of the Rockies. Brighton, Colorado, USA. Bird Conservancy of the Rockies. (2016) The Rocky Mountain Avian Data Center [web application], Brighton, CO. http://adc.rmbo.org .
Population Trend on the Bridger-Teton National Forest	Robust population trends are not available for Clark's grebe in Wyoming because the species is infrequently detected during monitoring efforts (WGFD 2017). North American Breeding Bird Survey (BBS) survey-wide trend data suggest that Clark's grebe numbers declined annually by 2.02% from 1966–2015 and increased annually by 2.21% from 2005–2015. Neither trend estimate is significant. North American BBS data indicate a non-significant, long-term (1966–2015) decrease of 2.12% per year and a non-significant, short-term (2005–2015) increase of 1.71% per year in populations across the US; corresponding data for Wyoming show non-significant increases of 0.57% and 0.28% per year,	Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (<i>Aechmophorus clarkii</i>). Sauer, J. R., D. K. Niven, J. E. Hines, D. J. Ziolkowski, Jr, K. L. Pardieck, J. E. Fallon, and W. A. Link. 2017. The North American Breeding Bird Survey, Results and Analysis 1966 - 2015. Version 2.07.2017 USGS Patuxent Wildlife Research Center, Laurel, MD

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Criteria	Rationale	Literature Citations
	<p>respectively (Sauer et al. 2017). Analysis of BBS trends in surrounding states such as Idaho and Montana, show decreasing population trends unlike Wyoming. Annual bird counts such as the North American Breeding Bird Survey (BBS) have limitations for monitoring Clark's grebe.</p> <p>Note that data specific trends for the Forest is lacking.</p>	
Habitat Trend on the Bridger-Teton National Forest	<p>Clark's grebe breeds primarily on large, freshwater lakes and marshes with several square kilometers of open water and areas of flooded emergent vegetation (WGFD 2017). Clark's grebe colonies in Wyoming are found on large, deep, open-water lakes and reservoirs with emergent vegetation for nesting. Nests are floating platforms of aquatic vegetation, usually anchored to vegetation. Migrating individual may be observed at open, freshwater sites of various sizes, but are most common on large waterbodies (WGFD 2017). The Clark's grebe winters in coastal bays, estuaries, and sheltered marine shorelines, but may occasionally be found in freshwater lakes and rivers.</p> <p>Fresh water lakes comprise <2% of land areas on the Forest (Helmbrecht et al. 2012), and thus, provides potential breeding habitat. Although, much of the lakes across the Forest are smaller in size and depth, the Pinedale Ranger District has the most potential suitable habitat on the BTNF, containing most of the sizable waterbodies on the BTNF. Additionally, suitable habitat is present just north of the BTNF in Yellowstone National Park and west of the BTNF in the Snake River and Salt River Valley. These areas would provide higher quality habitat for the Clark's grebe than most of the BTNF.</p>	<p>Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (<i>Aechmophorus clarkii</i>).</p> <p>Helmbrecht, D., M. Williamson, and D. Abendroth. 2012. Bridger-Teton National Forest Vegetation Condition Assessment.</p>
Vulnerability of Habitats on the Bridger-Teton National Forest	<p>The Clark's grebe has moderate intrinsic vulnerability in Wyoming due to a narrow range of habitat requirements for breeding (e.g., expansive open water, sufficient water depth, rooted emergent or submerged vegetation), and colonial nesting and nest-building behaviors that can leave the species susceptible to disturbance (WGFD 2017). Natural or anthropogenic disturbance to breeding colonies can potentially affect large numbers of nesting individuals</p>	<p>Wyoming Game and Fish Department. 2017. State Wildlife Action Plan. Clark's grebe (<i>Aechmophorus clarkii</i>).</p>

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	<p>and negatively impact local populations of Clark's grebe. The style of nest this species uses is vulnerable to damage or loss from surface disturbance (i.e. weather events) and fluctuating water levels, which commonly occur on water bodies in Wyoming. Although the Clark's grebe has demonstrated the ability to adjust breeding phenology to changing habitat conditions in other parts of its range, and has been known to use man-made floating nest platforms, making them less susceptible to disturbances.</p> <p>The Clark's grebe aquatic and wetland habitat is potentially vulnerable to climate change and drought, invasive species, and infrastructure, energy, and agriculture development. Annual colony size is often dependent on water levels, and recent drought conditions in Wyoming have already led to the desertion of existing <i>Aechmophorus</i> colonies (WGFD 2017). Clark's grebe colonies are also vulnerable to abandonment or increased predation risk from frequent human-related disturbance. The Clarks' grebe may also be negatively affected due to the presence of environmental contaminants from feeding in polluted aquatic habitats.</p>	
<p>Summary and recommendations:</p> <p>While the Bridger-Teton National Forest (BTNF) is within the breeding range for Clark's grebe, there has only been two <i>potential</i> occurrence documented on the Forest since 1990 and one historic observation. According to multiple datasets, the species has not colonized the waterbodies in the surrounding area including those of the BTNF. While some potential habitat has been identified across the Forest (particularly in the south-east wind river range), the Forest offers very little breeding habitat (i.e. large, deep lakes and expansive marshlands). Based on the low occurrence records (exact locations unknown), low occupancy of the species in the vicinity, and the small portion of suitable habitat on the BTNF, the species is not likely to become established on the Forest. It is more likely that any Clark's grebe occurrence on the Forest are those of migratory or transient birds. For those reasons, it is recommended that the Clark's grebe is not a Species of Conservation Concern for the Bridger-Teton National Forest.</p> <p>Evaluator(s): Ashley Egan, Randall Griebel</p>		Date: January 4, 2018

