

Harlequin Duck Workshop

June 25, 2014

SUMMARY

Question 1 – What do we NOT know – where are the research gaps?

Question 2 – What do you NEED to know?

- Are Alberta populations associated with different coastal populations? If so, are there differing effects? How are they linked? 5
- Coastal disturbance – understanding effects 2
- Are Alberta populations linked to coastal populations? Are numbers related to incidents that occur on the coast? 1
- Connectivity of breeding and non-breeding areas 1
- Are populations separate? How do they mix, if at all?
- Improvement in satellite transmitter technologies, smaller/longer life span
- Potential staging areas

Collaboration

- More collaboration between studies, jurisdictions 1
- How do we link this initiative to others? (other recovery plans, conservation plans)
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- Take-home for different activities (mining, forestry, oil & gas etc.) – stream buffers, bridges, culverts, roads 5

- Management: what info? Cumulative effects, understanding on a landscape scale 3
- Regulator needs landscape level and local level information for understanding cumulative effects

Habitat Characterization

- Need to understand habitat needs (HSI) - regulators & industry 3
- Habitat characteristics – multi-site 2
- Can HADU presence be predicted from habitat analysis?
- What constitutes good HADU habitat? Can we use remote sensing to inventory habitat? 1

Response to Habitat Change

- How do they (harlequins) respond to disturbance? Flood/fire 1
- Recolonization after disturbance events (floods, reclamation, industry disturbance, fire) 2
- Can we reconstruct/restore habitat following disturbance? 1
- What conditions are required by ducks to recolonize vacant habitat?

Response to Disturbance Stimuli

- What disturbs Harlequin Ducks?
- What disturbs Harlequin Ducks? How close can we get without disturbing them? (e.g. pile-driving vs. close approach to creek)
- Acute – short-term, Chronic – long-term – do these disturbances have different effects on them?
- Do disturbances differ at different life stages? (brood, nesting, loafing)
- Activity thresholds
- Different individuals react differently
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Is Alberta's population stable? Why or why not? 4

Temporal and Spatial Distribution

- Where are they, how many, and what do I need to do in terms of mitigation – locally, for industry? 3
- Need to understand demographics/units (populations) around the province; re-do big surveys of the late 90s province-wide
- Need pre-activity surveys: presence/absence, breeding/non-breeding, seasonality – industry
- Movement of pre-breeders
- Distribution of sex/age classes

Demographics

- Overall population decrease: why?
- Why are recent population declines occurring? (e.g. Banff's poor recruitment: what can be done locally?)
- Recruitment/demographics – need long-term study over large area, annually 3
- Survival estimates annually – long-term, large scale

